

Safety and Accident Prevention Plan – Drilling

Kansas Geological Survey
Exploration Services Section

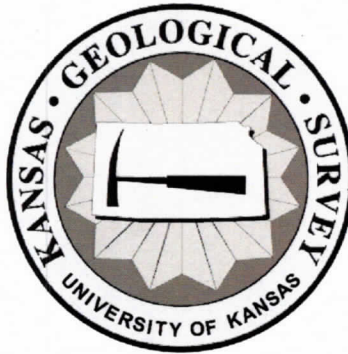
STATEMAP_PUR/NGMDB_CoreCM
Core Drilling
Livingston County
Near Chillicothe, MO

April 2023

Open-file Report 2023-22

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**Kansas Geological Survey
Exploration Services**



Safety and Accident Prevention Plan – Drilling

Project Name: STATEMAP_PUR/NGMDB_CoreCM, Livingston County, Missouri,
Core Drilling

Location: Near Chillicothe, Missouri

Date: From April 18 to April 28, 2023

Plan prepared by

Joe Imre
Signature

4/19/23
Date

Plan approved by

Kathy Shew
KGS Safety Officer

4/17/2023
Date

I (Name) Rick Mince, an employee of the Kansas Geological Survey, have read and understand this safety manual. I understand that there may be some areas that may have been inadvertently missed in this manual and will be added to or deleted as necessary. I also understand that if I have any questions concerning the handbook or safety in general, I must contact the drilling safety supervisor for clarification. I understand that safety is everyone's responsibility, including my own.

Signature

Date

4/17/23

I (Name) Brett Webb, an employee of the Kansas Geological Survey, have read and understand this safety manual. I understand that there may be some areas that may have been inadvertently missed in this manual and will be added to or deleted as necessary. I also understand that if I have any questions concerning the handbook or safety in general, I must contact the drilling safety supervisor for clarification. I understand that safety is everyone's responsibility, including my own.

Signature

Date

4/18/23

I (Name) Shelby Peterie, an employee of the Kansas Geological Survey, have read and understand this safety manual. I understand that there may be some areas that may have been inadvertently missed in this manual and will be added to or deleted as necessary. I also understand that if I have any questions concerning the handbook or safety in general, I must contact the drilling safety supervisor for clarification. I understand that safety is everyone's responsibility, including my own.

Signature

Date

4/18/23

I (Name) Cole Bunker, an employee of the Kansas Geological Survey, have read and understand this safety manual. I understand that there may be some areas that may have been inadvertently missed in this manual and will be added to or deleted as necessary. I also understand that if I have any questions concerning the handbook or safety in general, I must contact the drilling safety supervisor for clarification. I understand that safety is everyone's responsibility, including my own.

Signature

Date

4/18/23

I (Name) Connor Umbrell, an employee of the Kansas Geological Survey, have read and understand this safety manual. I understand that there may be some areas that may have been inadvertently missed in this manual and will be added to or deleted as necessary. I also understand that if I have any questions concerning the handbook or safety in general, I must contact the drilling safety supervisor for clarification. I understand that safety is everyone's responsibility, including my own.

Signature

Date

4/18/23

I (Name) Garrett Peterson, an employee of the Kansas Geological Survey, have read and understand this safety manual. I understand that there may be some areas that may have been inadvertently missed in this manual and will be added to or deleted as necessary. I also understand that if I have any questions concerning the handbook or safety in general, I must contact the drilling safety supervisor for clarification. I understand that safety is everyone's responsibility, including my own.

Signature

Date

4/19/23

I (Name) _____, an employee of the Kansas Geological Survey, have read and understand this safety manual. I understand that there may be some areas that may have been inadvertently missed in this manual and will be added to or deleted as necessary. I also understand that if I have any questions concerning the handbook or safety in general, I must contact the drilling safety supervisor for clarification. I understand that safety is everyone's responsibility, including my own.

Signature

Date

I (Name) _____, an employee of the Kansas Geological Survey, have read and understand this safety manual. I understand that there may be some areas that may have been inadvertently missed in this manual and will be added to or deleted as necessary. I also understand that if I have any questions concerning the handbook or safety in general, I must contact the drilling safety supervisor for clarification. I understand that safety is everyone's responsibility, including my own.

Signature

Date

**KANSAS GEOLOGICAL SURVEY EXPLORATION SERVICES
ACCIDENT PREVENTION PLAN – DRILLING**

I. PROJECT-SPECIFIC DESCRIPTION

Project Name: Livingston County, Missouri, STATEMAP_PNR/NGMDB_CoreCM,
Core Drilling

Location: Near Chillicothe, Missouri

Drill: Boart Longyear D90

Method: NQ Wireline Coring, diamond bit coring
Hole Products N2WL - Series 2 - Waterways 8 - Gauge Reaming Shell

Depths: Surface Casing: 0 ft – 50 ft
Sample Interval: 0 ft – 850 ft

Plugging: Bentonite grout 100% of hole

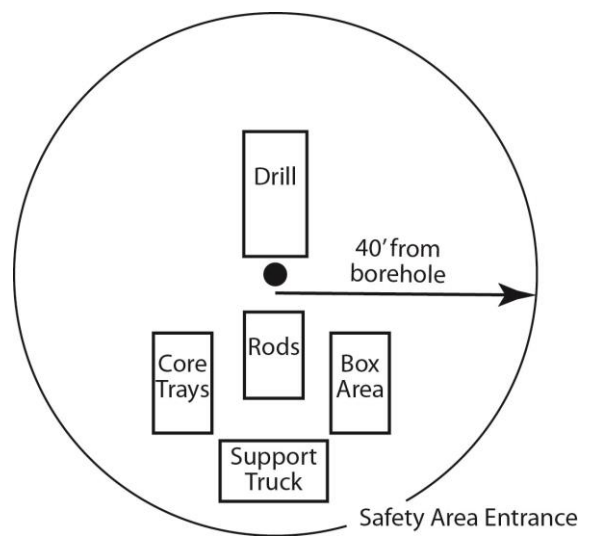
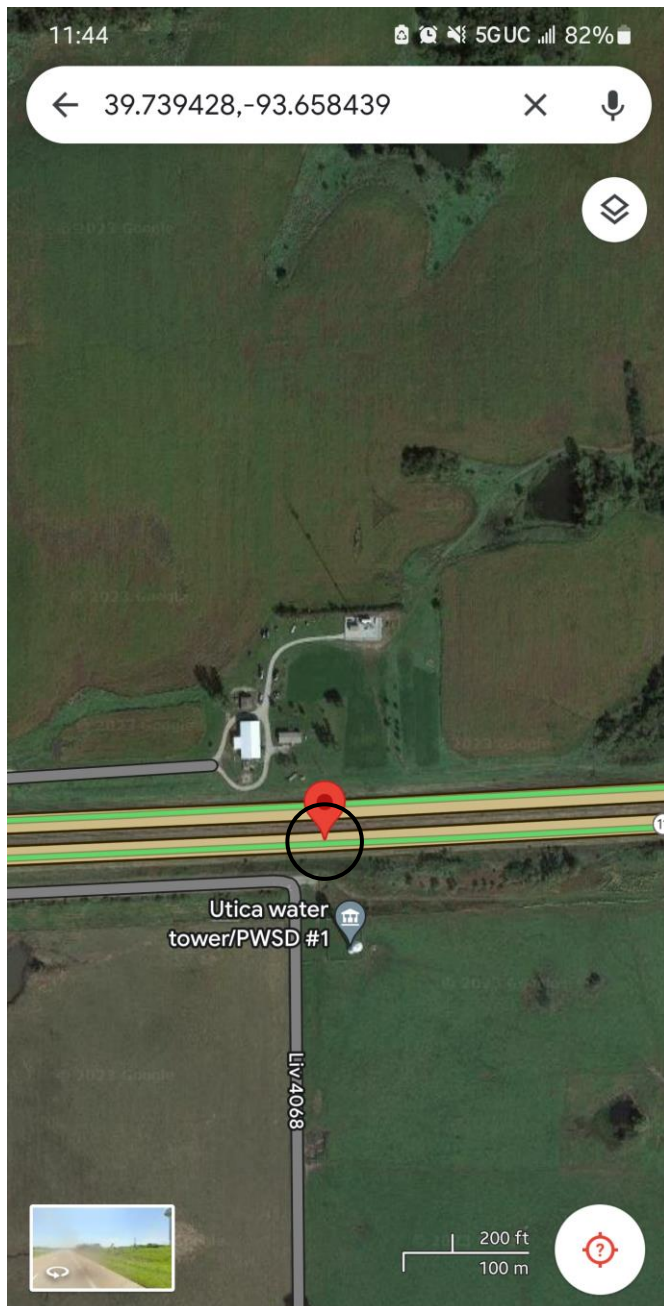
Mud Program: Freshwater with high viscous polymer additive

KGS Safety Officer: Kathy Sheldon

Plan Prepared by: Joe Anderson

Estimated Duration of Field Work: 10 days

II. DIAGRAM OF DRILL AREA



III. SAFETY PERSONNEL

Safety Personnel and Emergency Contacts

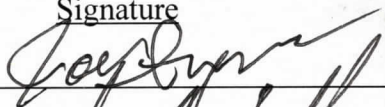
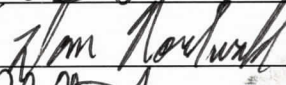
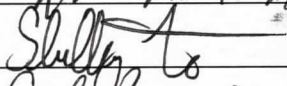
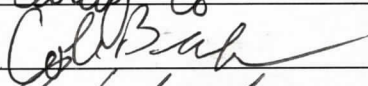
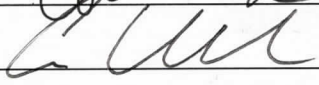
1. Shelby Peterie, Brett Wedel, and Rick Miller (KGS) — Site Safety Officers
2. Connor Umbrell and Cole Bunker (KGS) — Operations
3. Stephan Oborny and Alan Peterson (KGS) — Well site geologists
4. Dan Nordwald (MO DNR) — Missouri Representative [permit holder]

Daily Safety Meeting at Drill Site

Date: 4/19/23

- ☐ Environmental hazards (heat, plants, animals [snakes, etc.])
- ☐ Vehicle safety (road travel, warning signs, traffic control, water truck, service truck)
- ☐ Civilian/bystander safety (safe distances, visitor check-in, 40 ft stand-off distance, driller permission to access Restricted Area)
- ☐ Site requirements (PPC) (gloves, hard hats, boots, hearing protector, safety glasses, high visibility clothing)
- ☐ Emergency procedures (injuries, property damage, potential problems, contacts)
- ☐ Equipment hazards (safe use of pumps, breakouts, hoses, leaks)
- ☐ First Aid (heat stroke, frostbite, animal bites, etc.)
- ☐ Drill operation & core removal (cables, drill head, sample extraction, valves, connectors)

The following people were present today:

<u>Name (PRINT)</u>	<u>Company</u>	<u>Signature</u>
Joe Anderson	KGS	
Dan Nordwald	MOB/NR	
Shelby Peterie	KGS	
Cole Bunker	KGS	
Connor Umbrell	KGS	

Site Safety Officer

Date: 4/20/23

- The following people were present today:

Signature

Gold Bank

2000

Slipst Ex 11

Tom Howard

Alan Petersen


Site Safety Officer

Date: 4/21/23

- The following people were present today:

Company

Signature _____

KG5

Signature

RGS

Alan Peterson

~

Shelly B

DNR

Slattery the
don't know

KG 5

Cole Breen


Site Safety Officer

Date: 4/22/23

- The following people were present today:

Signature

[Signature]

Thy

Non Technical

Alan P. Lusk +

C. J. Bent

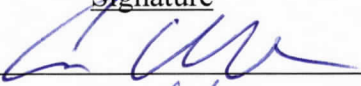
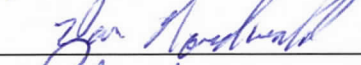
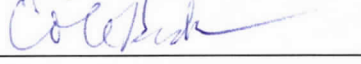

Site Safety Officer

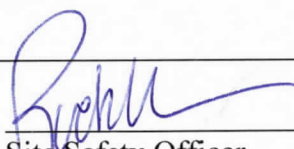
Daily Safety Meeting at Drill Site

Date: 4/23/23

- ☐ Environmental hazards (heat, plants, animals [snakes, etc.]) *barbed wire, bank, holes*
- ☐ Vehicle safety (road travel, warning signs, traffic control, water truck, service truck)
- ☐ Civilian/bystander safety (safe distances, visitor check-in, 40 ft stand-off distance, driller permission to access Restricted Area)
- ☐ Site requirements (PPC) (gloves, hard hats, boots, hearing protector, safety glasses, high visibility clothing)
- ☐ Emergency procedures (injuries, property damage, potential problems, contacts)
- ☐ Equipment hazards (safe use of pumps, breakouts, hoses, leaks) *trip & fall, cables, spinning drill head, horses, pipes*
- ☐ First Aid (heat stroke, frostbite, animal bites, etc.) *Cuts, broken bones, breaking rod*
- ☐ Drill operation & core removal (cables, drill head, sample extraction, valves, connectors) *Smashed limbs*

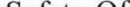
The following people were present today:

<u>Name (PRINT)</u>	<u>Company</u>	<u>Signature</u>
Connor Untzell	KGS	
Alan Peterson	RGS	
Dan Nordwald	DNR	
Rick Miller	KGS	
Cole Bunker	KGS	


Site Safety Officer

Date: 4/24/23

- The following people were present today:


Site Safety Officer

Date: 4/25/23

- The following people were present today:

Signature _____

KG5

Signature _____

UG5

Signature _____

MGS

Alan Fordwick

KGS

Cole Beane

K69



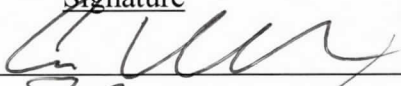
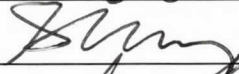
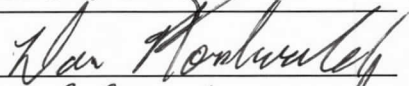
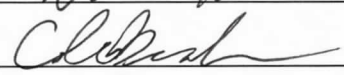
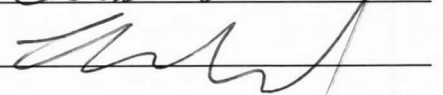
April 2023

Daily Safety Meeting at Drill Site

Date: 4/26/23

- ☐ Environmental hazards (heat, plants, animals [snakes, etc.])
- ☐ Vehicle safety (road travel, warning signs, traffic control, water truck, service truck)
- ☐ Civilian/bystander safety (safe distances, visitor check-in, 40 ft stand-off distance, driller permission to access Restricted Area)
- ☐ Site requirements (PPC) (gloves, hard hats, boots, hearing protector, safety glasses, high visibility clothing)
- ☐ Emergency procedures (injuries, property damage, potential problems, contacts)
- ☐ Equipment hazards (safe use of pumps, breakouts, hoses, leaks)
- ☐ First Aid (heat stroke, frostbite, animal bites, etc.)
- ☐ Drill operation & core removal (cables, drill head, sample extraction, valves, connectors)

The following people were present today:

<u>Name (PRINT)</u>	<u>Company</u>	<u>Signature</u>
Connor Umbrell	KGS	
Stephen Chang	WGS	
Dan Nordmark	MGS	
Cole Bunker	KGS	
Brett Wefel	KGS	

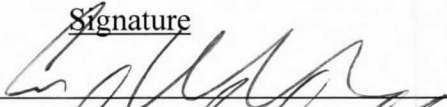
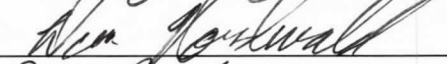
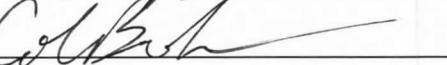
B.W.
Site Safety Officer

Daily Safety Meeting at Drill Site

Date: 4/27/23

- ☐ Environmental hazards (heat, plants, animals [snakes, etc.])
- ☐ Vehicle safety (road travel, warning signs, traffic control, water truck, service truck)
- ☐ Civilian/bystander safety (safe distances, visitor check-in, 40 ft stand-off distance, driller permission to access Restricted Area)
- ☐ Site requirements (PPC) (gloves, hard hats, boots, hearing protector, safety glasses, high visibility clothing)
- ☐ Emergency procedures (injuries, property damage, potential problems, contacts)
- ☐ Equipment hazards (safe use of pumps, breakouts, hoses, leaks)
- ☐ First Aid (heat stroke, frostbite, animal bites, etc.)
- ☐ Drill operation & core removal (cables, drill head, sample extraction, valves, connectors)

The following people were present today:

<u>Name (PRINT)</u>	<u>Company</u>	<u>Signature</u>
Connor Umrell	KGS	
Don Nordwald	MGS	
Colde Bunler	KGS	

Site Safety Officer

Daily Safety Meeting at Drill Site

Date: _____

- ❑ Environmental hazards (heat, plants, animals [snakes, etc.])
- ❑ Vehicle safety (road travel, warning signs, traffic control, water truck, service truck)
- ❑ Civilian/bystander safety (safe distances, visitor check-in, 40 ft stand-off distance, driller permission to access Restricted Area)
- ❑ Site requirements (PPC) (gloves, hard hats, boots, hearing protector, safety glasses, high visibility clothing)
- ❑ Emergency procedures (injuries, property damage, potential problems, contacts)
- ❑ Equipment hazards (safe use of pumps, breakouts, hoses, leaks)
- ❑ First Aid (heat stroke, frostbite, animal bites, etc.)
- ❑ Drill operation & core removal (cables, drill head, sample extraction, valves, connectors)

The following people were present today:

Name (PRINT)Company

Signature

[illegible]

Site Safety Officer

Daily Safety Meeting at Drill Site

Date: _____

- ❑ Environmental hazards (heat, plants, animals [snakes, etc.])
- ❑ Vehicle safety (road travel, warning signs, traffic control, water truck, service truck)
- ❑ Civilian/bystander safety (safe distances, visitor check-in, 40 ft stand-off distance, driller permission to access Restricted Area)
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- ❑ Equipment hazards (safe use of pumps, breakouts, hoses, leaks)
- ❑ First Aid (heat stroke, frostbite, animal bites, etc.)
- ❑ Drill operation & core removal (cables, drill head, sample extraction, valves, connectors)

The following people were present today:

Name (PRINT)Company

Signature

[illegible]

Site Safety Officer

IV. **EMERGENCY INFORMATION**

Emergency / Ambulance	<u>911; police/fire dispatch</u>
Chillicothe Police Department Police Chief, Jon Maples	<u>24-hr (660) 646-2121 / alt (877) 646-2185</u> <u>613 Walnut Street, Chillicothe, MO 64601</u>
Livingston County Sheriff Sheriff Steve Cox	<u>24-hr (660) 646-2121 / Administrative (660) 646-0515</u> <u>919 Jackson St, Chillicothe, MO 64601</u>
Chillicothe Fire Department	<u>(660) 646-2139</u> <u>700 2nd Street, Chillicothe, MO 64601</u>
Hedrick Medical Center	<u>(660) 646-1480; open 24 hours</u> <u>2799 Washington St, Chillicothe, MO 64601</u>

Site Contacts

Cole Bunker	<u>(913) 314-3636</u>
Connor Umbrell	<u>(785) 592-1231</u>
Shelby Peterie	<u>(785) 640-6442</u>
Brett Wedel	<u>(785) 766-7216</u>
Rick Miller	<u>(785) 393-1412</u>
Dan Nordwald, MO DNR	<u>(573) 368-2451</u>

KGS Emergency Contacts

Safety Coordinator
Brett Wedel, Shelby Peterie, Rick Miller
Kansas Geological Survey

KGS Safety Officer
Kathy Sheldon, Kansas Geological Survey
Office: 785-864-2109
Cell: 785-766-0120

Lodging

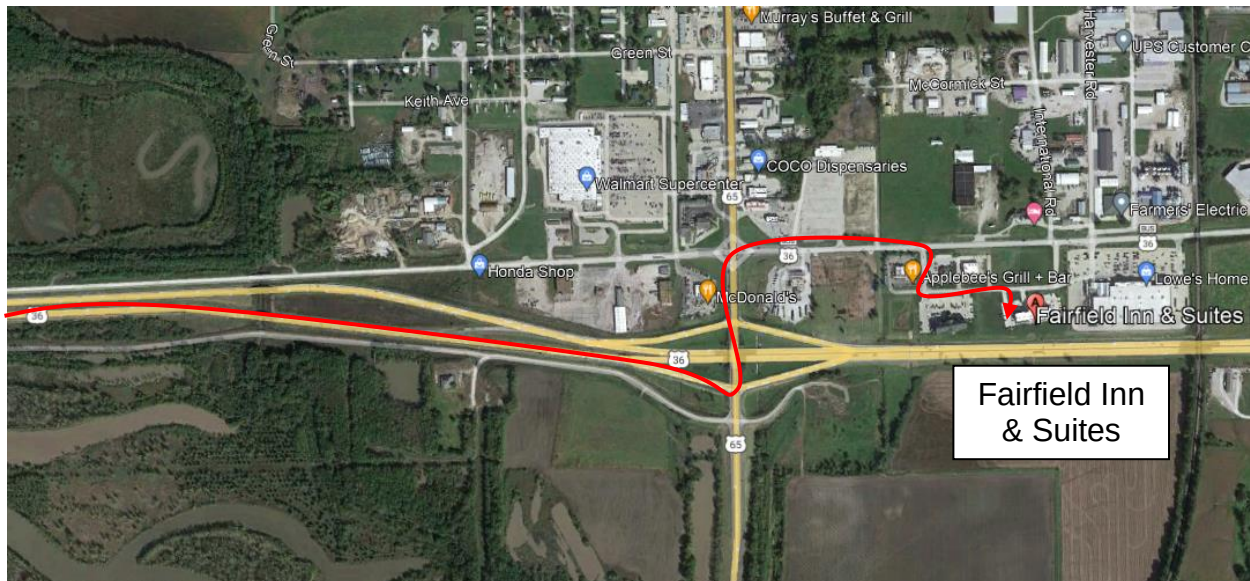
Fairfield Inn & Suites Marriott 220 W Business 36 Highway Chillicothe, MO 64601	<u>ph (660) 646-3100</u>
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General Maps

Map to
Fairfield Inn & Suites Marriott
220 W Business 36 Highway
Chillicothe, MO 64601

The project site is on US 36 Highway west of Chillicothe.

Follow US 36 to the intersection with US 65 in Chillicothe (a major intersection). Go north on US 65 to Business 36. Turn right (to the east)



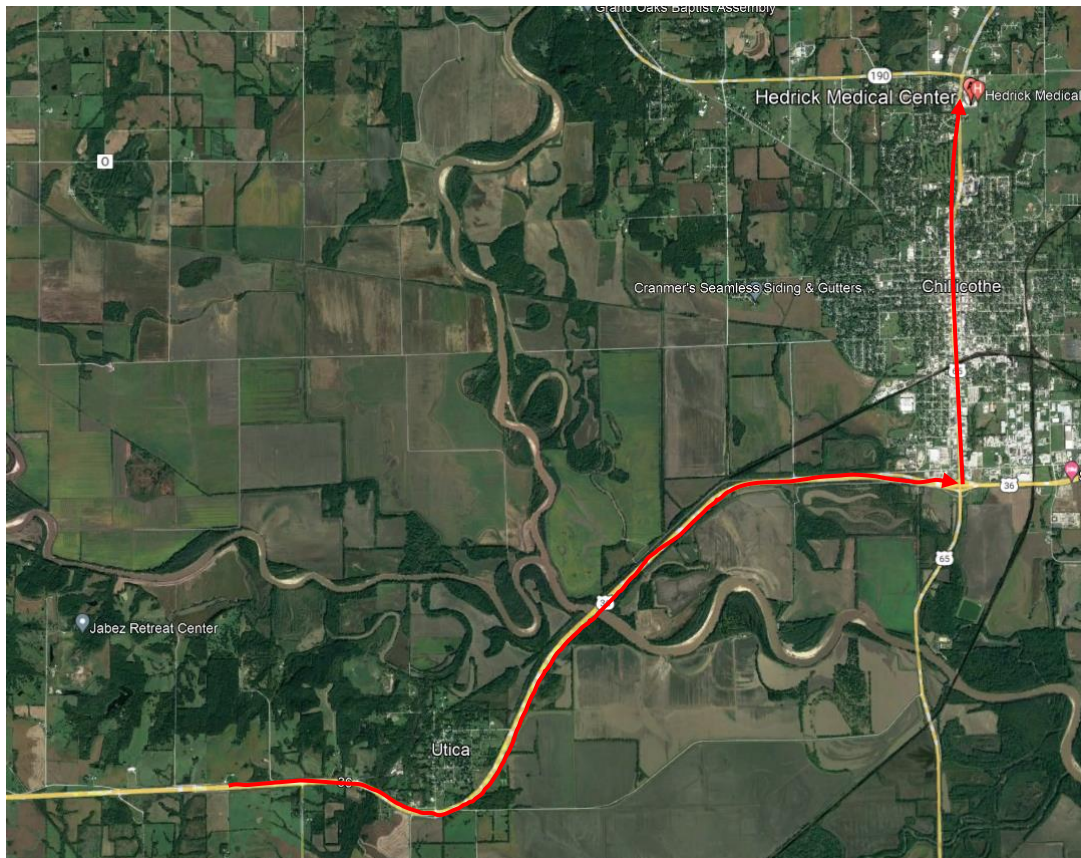
Emergency Route to Hospital

From the drill site to Hedrick Medical Center (the nearest ER) is approx. 10 miles.

Follow MO-110/US-36 E from drill site heading east to the US-65 N/Washington St exchange in Chillicothe (approx. 7 miles).

Use the right lane to take the US-36 BUS/US-65 ramp to Chillicothe/Carrollton (0.1 mi).

Turn left (north) onto US-36 BUS/US-65 N/Washington St. Go north for approx. 3 miles; Hedrick Medical Center is on the right side of the street. There is a sign directing you to the Emergency Room (see next page).





Hedrick Medical Center, Emergency entrance.

Procedures

Accidents/Injury: If any serious injury does occur, the appropriate authorities shall be notified immediately. All accidents will also be reported.

Members of the KGS crew have certification in CPR/First Aid. This certification was received through participation in the “First Aid Basics” and “Adult CPR” programs presented by the Red Cross of Lawrence, Kansas. These classes are approved by the U.S. Department of Labor, Mine Safety, and Health Administration and meet or exceed OSHA requirements. OSHA certifications are provided by Genesis Environmental (formerly EPIC Training) and meet or exceed 29 CFR 1910.120; the 10hr Construction OSHA certification provided by OSHA Training Institute, American Safety Council, and University of South Florida.

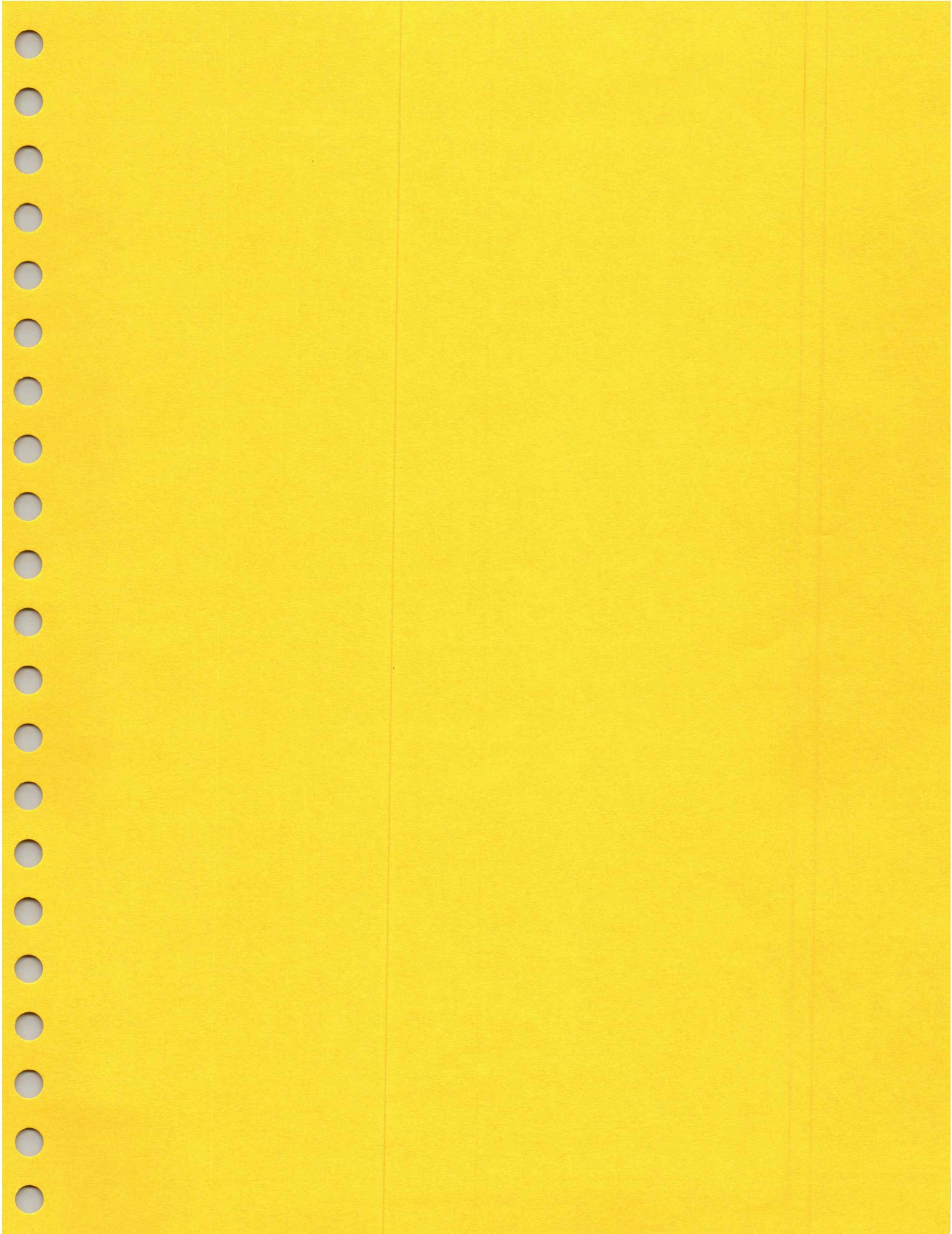
The following persons are certified as indicated (strikethrough denotes no current certification):

Certified in:	First Aid	CPR	40hr OSHA	10hr OSHA	<u>Rick Miller</u>
Certified in:	First Aid	CPR	40hr OSHA	10hr OSHA	<u>Brett Wedel</u>
Certified in:	First Aid	CPR	40hr OSHA		<u>Shelby Peterie</u>
Certified in:	First Aid	CPR			<u>Connor Umbrell</u>
Certified in:	First Aid	CPR			<u>Cole Bunker</u>

Fire/Explosion: Upon notification of a fire or accidental explosion on site, the fire department or appropriate first responders shall be notified and all personnel shall leave the area. Since only flammable liquids at quantities below reportable will be used as part of the program, local fire, police, and other governing authorities will not be contacted prior to the use of equipment.

At least one KGS (owned or rented) vehicle will be on-site during the performance of all work. This vehicle will be used for medical evacuation of project personnel, if necessary.

Permits: All necessary and appropriate permits, fees, and licenses will be obtained by Stephan Oborny with copies available on-site for inspection by local authorities.



**Kansas Geological Survey
Incident Report Form**

Date of incident: _____

Location of incident: _____

Was anyone injured? Yes ☐ No ☐ If yes, name(s) of injured person(s):

Uninjured person(s) involved in incident: _____

Other witnesses (not involved): _____

Equipment involved in incident: _____

Narrative of what happened (continue on reverse of this page and draw a diagram if it helps explain what happened):

Site Safety Officer

**Kansas Geological Survey
Incident Report Form**

Date of incident: _____

Location of incident: _____

Was anyone injured? Yes ☐ No ☐ If yes, name(s) of injured person(s):

Uninjured person(s) involved in incident: _____

Other witnesses (not involved): _____

Equipment involved in incident: _____

Narrative of what happened (continue on reverse of this page and draw a diagram if it helps explain what happened):

Site Safety Officer

**Kansas Geological Survey
Incident Report Form**

Date of incident: _____

Location of incident: _____

Was anyone injured? Yes ☐ No ☐ If yes, name(s) of injured person(s):

Uninjured person(s) involved in incident: _____

Other witnesses (not involved): _____

Equipment involved in incident: _____

Narrative of what happened (continue on reverse of this page and draw a diagram if it helps explain what happened):

Site Safety Officer

Certificate of Training <i>GES Training Services</i> <i>Hereby Certifies</i> RICK MILLER Has Completed OSHA's 29 CFR 1910.120 <i>HAZWOPER Refresher Training</i> <u>24 March 2023</u> Expiration Date <i>Robert J. McChan</i> Director of Training	Certificate of Training <i>GES Training Services</i> <i>Hereby Certifies</i> BRETT WEDEL Has Completed OSHA's 29 CFR 1910.120 <i>HAZWOPER Refresher Training</i> <u>24 March 2023</u> Expiration Date <i>Robert J. McChan</i> Director of Training
Certificate of Training <i>GES Training Services</i> <i>Hereby Certifies</i> KATHY SHELTON Has Completed OSHA's 29 CFR 1910.120 <i>HAZWOPER Refresher Training</i> <u>24 March 2023</u> Expiration Date <i>Robert J. McChan</i> Director of Training	Certificate of Training <i>GES Training Services</i> <i>Hereby Certifies</i> SHELBY PETERIE Has Completed OSHA's 29 CFR 1910.120 <i>HAZWOPER Refresher Training</i> <u>24 March 2023</u> Expiration Date <i>Robert J. McChan</i> Director of Training
Certificate of Training <i>GES Training Services</i> <i>Hereby Certifies</i> JOE M. ANDERSON Has Completed OSHA's 29 CFR 1910.120 <i>HAZWOPER Refresher Training</i> <u>24 March 2023</u> Expiration Date <i>Robert J. McChan</i> Director of Training	

Certificate Of Training

Environmental Protection
Instruction/Consulting

Hereby Certifies that

Richard D. Miller

has successful

OSHA's HAZARDOUS WASTE OPERATIONS

work practices standard 1910.120

OSHA Compliance Training 40 hour

in witness whereof this certificate is awarded

on the **17th**

day of **Jan., 1992**

J. C. Farnley
Director of Training

Robert W. Miller
Educational Administrator

John J. Hunsfeldt
Instructor



Certificate of Training

Genesis Environmental Solutions

Hereby Certifies that

Brett Wedel

Has successfully completed

***OSHA's Hazardous Waste Operations and Emergency
Response***

Work practices standard 29 CFR 1910.120

40 Hour Hazardous Waste Operation Training

In witness whereof this certificate is awarded

On the 8th day of June, 2007

Robert L. McChan II

Director of Training

Michael S. Thomas

Director of Operations

Robert L. McChan II

Instructor



This is to Certifi

That

Shelby Peterie

Has Successfully Completed

**HAZWOPER
40 hrs
Training**

Certificate: #10092009-1

Training Dates: 10/05 – 10/09/2009

Location of Training: National Starch & NKC Library Training Center
North Kansas City, Missouri

Level of Training: HAZWOPER Initial Site Worker & Emergency Response

Provider of Training: DA Shafer, EHS Management Services LLC, KC Mo.

Directives: OSHA 29CFR 1910.120 Appendices E-Q
OSHA 29CFR 1926.65
OSHA 29CFR 1910.38
OSHA 29 CFR 1910.134
EPA/RCRA 40CFR 260-265
PHMSA 49CFR 172-173 Awareness
DHS/DOT Security Awareness
NIMS Incident Management
WISER 2009
ERG 2008/2009 Resource Disk

Instructor: _____


Donald A. Shafer
CET, CIPS, CSEM, CEA, CCCHST

Certificate Of Training

EPIC Training
Environmental Service

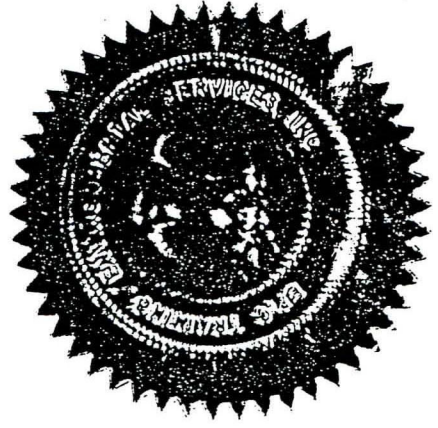
Hereby Certifies that
Joe M. Anderson

has successfully completed
OSHA's HAZARDOUS WASTE OPERATIONS
work practices standard 1910.120
40 Hour Hazardous Waste Operations
in witness whereof this certificate is awarded

on the **18th** day of **February 1994**

Jack Hunsfeld
Director of Training
W.C. Fawcett
Educational Administrator

Jack Hunsfeld III
Instructor



Certificate of Completion

Presented to:
RICK MILLER

On 3/11/2011, RICK MILLER successfully completed the 10-Hour OSHA
Outreach Training Course for the Construction Industry.

Taylor Alan Sika

OSHA Authorized Trainer

USF UNIVERSITY OF
SOUTH FLORIDA

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Certificate of Completion

Presented to:
BRETT WEDEL

On 3/11/2011, BRETT WEDEL successfully completed the 10-Hour OSHA
Outreach Training Course for the Construction Industry.

Taylor Alan Sika

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Certificate of Completion

Richard Miller
has completed the requirements for:
Adult First Aid/CPR/AED
conducted by
American Red Cross
Date Completed: 2022-12-08
Valid Period: 2 Years
Certificate ID: 0132NFO

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Certificate of Completion

Cole Bunker
has completed the requirements for:
Adult First Aid/CPR/AED
conducted by
American Red Cross
Date Completed: 2022-12-08
Valid Period: 2 Years
Certificate ID: 0132NFE

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Certificate of Completion

Connor Umbrell
has completed the requirements for:
Adult First Aid/CPR/AED
conducted by
American Red Cross
Date Completed: 2022-12-08
Valid Period: 2 Years
Certificate ID: 0132NFR

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Certificate of Completion

Brett Wedel
has completed the requirements for:
Adult First Aid/CPR/AED
conducted by
American Red Cross
Date Completed: 2022-12-08
Valid Period: 2 Years
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Certificate of Completion

Shelby Peterie
has completed the requirements for:
Adult First Aid/CPR/AED
conducted by
American Red Cross
Date Completed: 2022-12-08
Valid Period: 2 Years
Certificate ID: 0132NEA

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Certificate of Completion

Joe Anderson
has completed the requirements for:
Adult First Aid/CPR/AED
conducted by
American Red Cross
Date Completed: 2022-12-08
Valid Period: 2 Years
Certificate ID: 0132NGD

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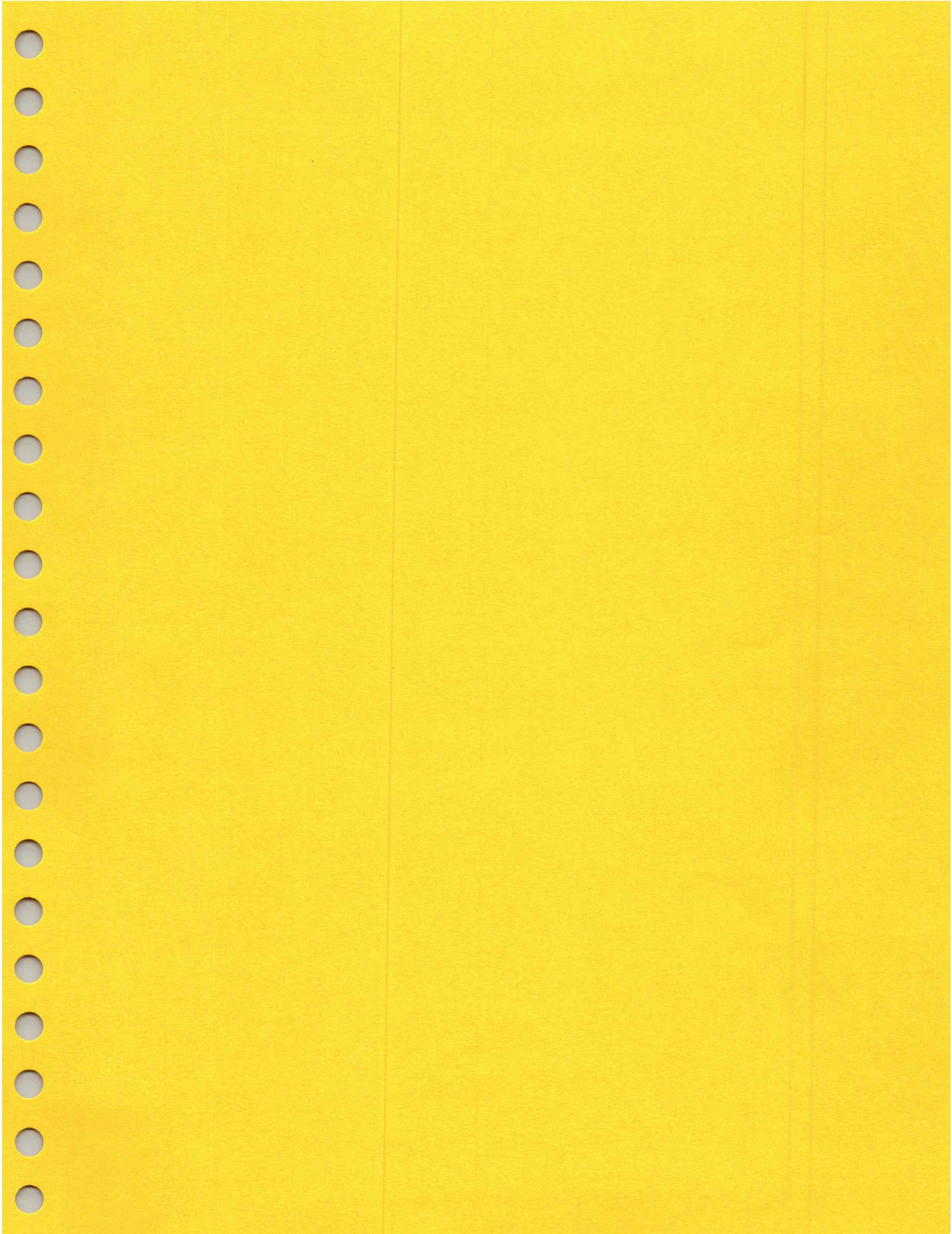


Certificate of Completion

Kathleen Sheldon
has completed the requirements for:
Adult First Aid/CPR/AED
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American Red Cross
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KANSAS GEOLOGICAL SURVEY DRILLING SAFETY GUIDE

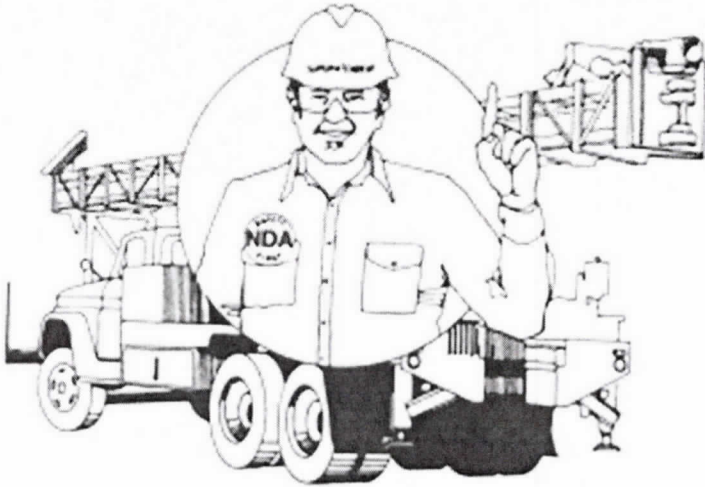
This KGS Drilling Safety Guide has been prepared using the combined publications of the Diamond Core Drill Manufacturers Association (DCDMA), the National Drilling Association (NDA) and the National Ground Water Association – Drill Rig/Heavy Equipment Product Group and Safety Subcommittee (NGWA) and KGS staff for use by KGS drilling and field service staff.

This guide contains suggested safety procedures. It is not intended to set forth any standard industry procedures or requirements. This manual is to be used as a guideline for the safe operation of drilling equipment. Many aspects of drilling safety cannot be expressed in detail and cannot be met by mechanical means; drilling safety can only be accomplished with the exercise of intelligence, care and common sense.

DRILLING SAFETY GUIDE

1. An Introduction To Drilling Safety

The Kansas Geological Survey is interested in your safety. Your employer cares about your safety not only when you are working on or around a drill rig, but also when you are traveling to and from a drilling site, moving the drill rig and tools from location to location on a site or providing maintenance on a drill rig or drilling tools. This safety guide is for your benefit. Failure to heed the safety procedures contained in this manual could result in serious injury or death.



Every drill crew should have a designated safety supervisor who has the authority to enforce safety on the drilling site. A rig worker's first safety responsibility is to obey the directions of the safety supervisor.

2. Governmental Regulations

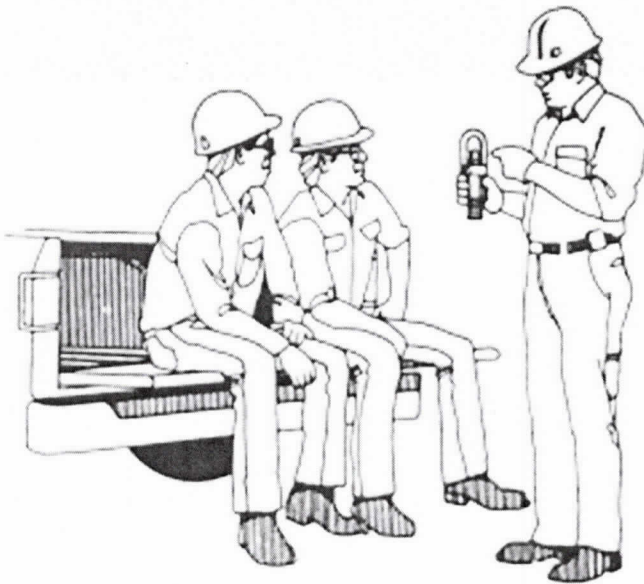
All local, state and federal regulations or restrictions, currently in effect or effected in the future, take precedence over the recommendations and suggestions that follow. Government regulations will vary from country to country and from state to state. Those who operate, maintain and work on drill rigs must be trained in the operation and maintenance of the drill. They must have read and understood the manufacturer's instruction manual and know the ratings and capabilities of the drill they are using. They must be licensed if required by law.

3. The Safety Supervisor

The safety supervisor for the drill crew will, in most cases, be the drill rig operator. The safety supervisor must:

- Consider the "responsibility" for safety and the "authority" to enforce safety to be a matter of first importance.
- Be the leader in using proper personal safety gear and set an example in following the rules that are being enforced on others.
- Enforce the use of proper personal protective safety equipment and take appropriate corrective action when proper personal protective safety equipment is not being used.
- Understand that proper maintenance of tools and equipment and general "housekeeping" on the drill rig will provide an environment that will promote and enhance safety.

- Before drilling is started with a particular drill, ensure that anyone who operates the drill has had adequate training and is thoroughly familiar with the drill rig, its controls and its capabilities.
- Inspect the drill rig at least daily for structural damage, loose bolts and nuts, proper tension in chain drives, loose or missing guards or protective covers, fluid leaks, damaged hoses and/or damaged pressure gauges and pressure relief valves.
- Check and test all safety devices, such as emergency shut-down switches, at least daily and preferably at the start of a drilling shift. Drilling must not be permitted until all emergency shut-down and warning systems are working correctly. Do not allow any emergency device to be bypassed or removed.
- Check that all gauges, warning lights and control levers are functioning properly and listen for unusual sounds each time an engine is started.
- Ensure that every drill rig worker is informed of safe operating practices on and around the drill rig. Provide every drill rig worker with a copy of the organization's drilling operations safety manual, and when appropriate, the drill rig manufacturer's operations and maintenance manual. Ensure that every employee reads and understands the safety manual.



- Carefully instruct a new worker in drilling safety and observe the new worker's progress towards understanding safe operating practices.
- Assess the mental, emotional and physical capability of each worker to perform the assigned work in a proper and safe manner. Remove any worker from the drill site whose mental and physical capabilities might cause injury to the worker or co-workers.
- Ensure that a first aid kit and a fire extinguisher, which are properly maintained, are on each drill rig and each additional vehicle.
- Be well trained in and capable of using first aid kits, fire extinguishers and all other safety devices and equipment. Train crew members.
- Maintain a list of addresses and telephone numbers of emergency assistance units (ambulance services, police, hospitals, etc.) and inform other members of the drill crew of the existence and location of the list.
- In order to mitigate emergency situations, it may be appropriate to coordinate communication methods (cellular telephone, two-way radio, etc.) at remote sites.

4. Individual Protective Equipment

For most geotechnical, mineral and/or groundwater drilling projects, individual protective equipment must include a safety hat, safety shoes, safety glasses and close-fitting gloves and clothing. The clothing of the individual drill rig worker is not generally considered protective equipment; however, the worker's clothing should be comfortable but must be close fitting, without loose ends, straps, draw strings, belts or otherwise unfastened parts that might catch on some rotating or translating component of the drill rig. Rings and jewelry must not be worn during a work shift. Hair should be tied back as loose or long hair can catch in mechanical equipment.

- **Safety Head Gear.** Safety hats (hard hats) must be worn by everyone working or visiting at or near a drilling site. All safety hats must meet the requirements of ANSI Z89.1. All safety hats must be kept clean and in good repair with the headband and crown straps properly adjusted for the individual drill rig worker or visitor.
- **Safety Shoes or Boots.** Safety shoes or boots must be worn by all drilling personnel and all visitors to the drill site who observe drilling operations within close proximity of the drill rig. All safety shoes or boots must meet the requirements of ANSI Z41.1.
- **Gloves.** All drilling personnel must wear gloves for protection against cuts and abrasions that could occur while handling wire rope or cable and from contact with sharp edges and burrs on drill rods and other drilling or sampling tools. All gloves must be close fitting and not have large cuffs or loose ties that can catch on rotating or translating components of the drill rig.
- **Safety Glasses.** All drilling personnel must wear safety glasses. General prescription glasses and/or sunglasses are not safety glasses. All safety glasses must meet the requirements of ANSI Z87.1 -1989.
- **Other Protective Equipment.** For some drilling operations, the environment or regulations may dictate that other protective equipment be used. The requirement for such equipment must be determined jointly by the management of the drilling organization and the safety supervisor. Such equipment might include face shield, respirator, reflective clothing and hearing protection. When appropriate, each drill rig worker must wear noise-reducing hearing protection that meets the requirements of ANSI S3.19 – 1974.

When drilling is performed in chemically or radiologically contaminated environment, special protective equipment and clothing may, and probably will, be required. The design and composition of the protective equipment and clothing must be determined jointly by the management and the client who requests the drilling services and under some circumstances, with the concurrence of a health and safety professional.

5. Housekeeping On and Around the Drill Rig

The first requirement for safe field operations is that the safety supervisor understand and fulfill the responsibility for maintenance and “housekeeping” on and around the drill rig. The safety supervisor must:

- Provide suitable storage locations for all tools, materials and supplies so that these items can be conveniently and safely handled without hitting or falling on a member of the drill crew or a visitor.
- Avoid storing or transporting tools, materials or supplies within or on the mast (derrick) of the drill rig, unless designed for this purpose.
- Stack pipe, drill rods, casing, augers and similar drilling tools in orderly fashion on racks or sills to prevent spreading, rolling or sliding.
- Place penetration or other driving hammers at a safe location on the ground or secure them to prevent movement when not in use.
- Keep work areas, platforms, walkways, scaffolding and other accessways free of materials, debris, obstructions and substances such as ice, grease or oil that could cause a surface to become slick or otherwise hazardous.

- Keep all controls, control linkages, warning and operation lights and lenses free of oil, grease and/or ice.
- Store gasoline only in a nonsparking, red container with a flame arrester in the fill spout and having the word "gasoline" easily visible.
- All fluid/material containers should be clearly labeled to avoid improper use. Hazardous materials should be labeled and handled accordingly. Refer to MSDS sheets.
- Keep all cabs clean. Mud, cans, bottles, tools and other debris can jam pedals and other controls and can cause falls.

6. Maintenance

Good maintenance will make drilling operations safer. Also, maintenance must be performed safely. The following points are essential to safety:

- Wear safety glasses when performing maintenance on a drill rig or on drilling tools.
- Shut down the drill rig engine to make repairs or adjustments to a drill rig or to lubricate fittings (except repairs or adjustments that can only be made with the engine running). Take precautions to prevent accidental starting of an engine during maintenance by removing or tagging the ignition key. Refer to lock-out/tag-out rules spelled out by OSHA.
- Block the wheels or tracks and set parking brakes before working under a drill rig.
- Release all pressure on the hydraulic systems, the drilling fluid system and the air pressure systems of the drill rig – when possible and appropriate – prior to performing maintenance. In other words, reduce the drill rig and operating systems to a "zero energy state" before performing maintenance. Use extreme caution when opening drain plugs and



radiator caps and other pressurized plugs and caps.

- Do not touch an engine or the exhaust system of an engine following its operation until the engine and exhaust system have had adequate time to cool.
- Never climb the mast (derrick) to do maintenance or make repairs. Lower mast, stop engine and de-energize rig before starting maintenance or repair on mast.
- Never weld or cut on or near a fuel tank.
- Do not use gasoline or other volatile or flammable liquids as cleaning agents on or around a drill rig.
- Follow the manufacturer's recommendations for applying the proper quantity and quality of lubricants, hydraulic oils and/or coolants.
- Replace all caps, filler plugs, protective guards or panels and high pressure hose clamps and chains or cables that have been removed for maintenance before returning the drill rig to service.

- Watch for broken hydraulic or air hoses. Replace them before they cause damage or a fire.
- Tighten or replace loose or broken fittings, bolts or other connections before operating the drill.
- Do not replace a hose with one of lesser strength or capacity. Breakage or leakage could result.
- Never remove cooler fan guards unless the drill is shut down and locked out.
- When testing fan speed, do so with the guard in place.
- Relieve all pressure in receiver tank and lines before working on compressor system.

7. Hand Tools

Since there are almost an infinite number of hand tools that can be used on or around a drill rig and in repair shops, there are an equal number of instructions for proper use. "Use the tool for its intended purpose" is the most important rule. The following suggestions apply to safe use of several hand tools that frequently are used on and around drill rigs:

- When a tool becomes damaged, either repair it before using it again or get rid of it.
- When using any kind of hammer for any purpose, wear safety glasses and require all others around you to wear safety glasses.
- When using any kind of chisel or punch for any purpose, wear safety glasses and require all others around you to wear safety glasses.
- Keep all tools cleaned and stored appropriately when not in use.
- Use wrenches on nuts – not pliers.
- Use screwdrivers with blades that fit the screw.
- Keep all pipe wrenches clean and in good repair. Use a wire brush frequently to clean the jaws of pipe wrenches. An accumulation of dirt and grease can cause wrenches to slip.
- Never use pipe wrenches in place of a rod-holding device.
- Replace hook and heel jaws when they become visibly worn.
- When breaking tool joints on the ground or on a drilling platform, position your hands so that your fingers will not be pinched between the wrench handle and the ground or the platform should the wrench slip or the tool joint suddenly let go.

8. Clearing the Work Area

Prior to drilling, adequately clear and level the site to accommodate the drill rig and supplies and provide a safe

working area. Do not begin drilling if tree limbs, unstable ground or site obstructions cause unsafe tool handling conditions.

9. Start-Up

- Instruct all drill rig personnel and visitors to “stand clear” of the drill rig immediately prior to starting the engine.
- Make sure all brakes are set, all gear boxes are in neutral, all hoist levers are disengaged, all hydraulic levers or air controls are in the correct positions and the cathead rope is not on the cathead before starting a drill rig engine.
- Start all engines according to the manufacturer's instructions.
- Check for warning or lock-out tags on the controls. If there is a tag attached to the switch, do not start the engine until the warning tag has been removed by the person who installed it.

10. Drilling Operations

Safety requires the attention and cooperation of every worker and site visitor.

- Do not drive the drill rig from hole to hole with the mast (derrick) in the raised position.
- Before raising the mast (derrick), look up to check for overhead obstructions. (Refer to Section 11 on Overhead and Buried Utilities.)
- Before raising the mast (derrick), clear all drill rig personnel (with exception of the operator) and visitors from the areas immediately to the rear and the sides of the mast. Inform all drill rig personnel and visitors that the mast is being raised prior to raising it.
- Before the mast (derrick) of a drill rig is raised and drilling is begun, the drill rig must first be leveled and stabilized with leveling jacks and/or solid cribbing. Re-level the drill rig if it settles after initial set up. Lower the mast (derrick) only when the leveling jacks are down and do not raise the leveling jack pads until the mast (derrick) is lowered completely.
- Before starting drilling operations, if required, secure and/or lock the mast (derrick) according to the drill manufacturer's recommendations.
- Do not stand on the elevated deck of a truck-mounted or all-terrain-mounted drill rig while the drill rig is in operation unless necessary for special tasks and the operator has been notified.
- Only operate a drill rig from the position of the controls. Before leaving the area of the controls, shift the transmission controlling the rotary drive into neutral and place the feed lever in neutral. Before leaving the vicinity of the drill, shut down the drill engine.
- Throwing or dropping tools must not be permitted. Carefully pass tools by hand between personnel or use a hoist line.
- Do not consume alcoholic beverages, other depressants or chemical stimulants prior to starting work on a drill rig or while on the job.
- If it is necessary to drill within an enclosed area, make certain that exhaust fumes are conducted out of the area. Exhaust fumes are toxic and some cannot be detected by smell.
- Clean mud and grease from boots before stepping on a drill platform and use hand holds and railings. Watch for slippery ground when stepping down from the platform.
- During freezing weather, do not touch any metal parts of the drill rig with exposed flesh. Freezing of moist skin to metal can occur almost instantaneously.
- Drain all air and water lines and pumps when not in use if freezing weather is expected.

- Adequately cover or protect all unattended boreholes to prevent drill rig personnel, site visitors or animals from stepping or falling into the hole. On completion of the drilling project, cover, protect or backfill all open boreholes according to local or state regulations.
- Never allow "horsing around" within the vicinity of the drill rig or tool and supply storage areas even when the drill rig is shut down.
- When using a ladder on a drill rig, face the ladder and grasp either the side rails or the rungs with both hands while ascending or descending. Do not attempt to use one or both hands to carry a tool while on a ladder. Use a hoist line and a tool "bucket" or a safety hook to raise or lower hand tools.
- Terminate drilling operations during an electrical storm and move the whole crew away from the drill rig.
- Check all safety devices. Report any defect immediately. • Never drill without having another person present.
- Before raising the mast (derrick), make sure it is clear of all objects that could fall. Check that all hydraulic and air hoses do not become snagged during raising. Watch all hoist cables and keep them clear or unspooled properly while raising derricks.
- Use the proper tools for the job. Do not attempt to lift pipes, subs, stabilizers or bits without the proper lifting devices.
- Use the proper technique in loading and unloading the drill pipe. If a lifting bail is used, make sure it can be detached while standing on the ground. Use a pipe handling tool if the carousel needs to be filled. Make sure the safety clip is in place (if so equipped).
- Never ride the rotary head for any reason. It is not meant to be an elevator.
- If heavy objects must be manually lifted, exercise care to avoid injury.
- Before lifting an object without using a hoist, make sure that the load is within your personal lifting capacity. If it is too heavy, ask for assistance.
- Before lifting a relatively heavy object, approach the object by bending at the knees, keeping the back vertical and unarched while obtaining a firm footing. Grasp the object firmly with both hands and stand slowly and squarely while keeping the back vertical and unarched. In other words, perform the lifting with the muscles in the legs, not with the muscles in the lower back.
- If a heavy object must be moved some distance without the aid of machinery, keep the back straight and unarched. Change directions by moving the feet, not by twisting the body.
- Move heavy objects with the aid of hand carts whenever possible.

An elevated derrick platform should be used with the following precautions:

- When working on a derrick platform, use a safety harness and refer to OSHA REG CFR 1926.502 for specific requirements.
- Use a safety device when climbing to a derrick platform that is higher than 6 ft. (1.8 m) and refer to OSHA REG CFR 1926.501 for specific requirements.
- When on a derrick platform, fasten the lifeline to the derrick just above the derrick platform and to a structural member that is not attached to the platform or to other lines or cables supporting the platform.
- When first arriving at a derrick platform, immediately inspect for broken members, loose connections, loose tools or other loose materials.
- Securely attach tools to the platform with safety lines. Do not attach a tool to a line attached to one's wrist or any other part of the body.
- When working on a derrick platform, do not guide drill rods or pipe into racks or other supports by taking hold of a moving hoist line or a traveling block.

- Do not leave loose tools and similar items on the derrick platform or on structural members of the derrick.
- A derrick platform or operator's platform over 4 ft. (1.2 m) above ground surface must have toe boards and safety railing that are in good condition. Refer to OSHA REG CFR 1910.23 for specific requirements.
- Avoid being under rig workers on elevated platforms whenever possible.

11. Overhead and Buried Utilities

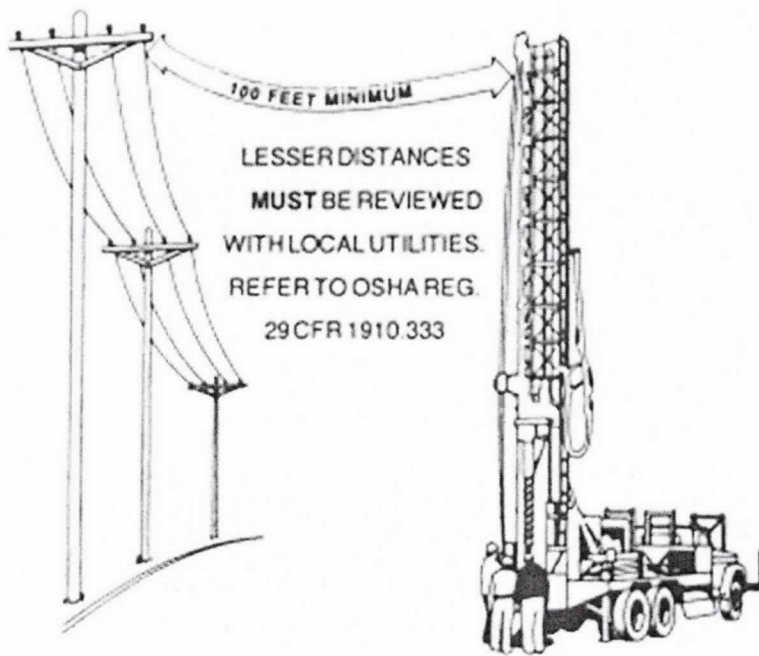
Both supervisors and members of the exploration crew must take special precautions when a drill rig will be used on a site or project within the vicinity of electrical power lines and other utilities. Electricity can shock; it can burn; and it can cause death.

- Locate, note and emphasize overhead and buried utilities on all boring location plans and boring assignment sheets.
- When overhead electrical power lines exist at or near a drilling site or project, consider all wires to be alive and dangerous.
- Watch for sagging power lines before entering a site. Do not lift power lines to gain entrance. Call the utility and ask them to lift or raise the lines or de-energize (turn off) the power.



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- Before raising the drill rig mast (derrick) on a site in the vicinity of power lines, walk completely around the drill rig. Determine the minimum horizontal distance from any point on the drill rig to the nearest power line when the mast is raised and/or being raised. If this horizontal distance is less than 100 ft. (30 m), first consult the local utility company and refer to OSHA REG 29 CFR 1910.333 before commencing operations.



- Keep in mind that both hoist lines and overhead power lines can be moved toward each other by the wind.
- In order to avoid contact with power lines, only move the drill rig with the mast (derrick) down.
- If there are any questions concerning the safety of drilling on sites in the vicinity of overhead power lines, call the power company. The power company will provide expert advice at the drilling site as a public service and at no cost.
- Electricity is as dangerous underground as overhead. Be aware of and always suspect the existence of underground utilities such as electrical power, gas, petroleum, telephone, sewer and water.
- If a sign warning of underground utilities is located on a site boundary, do not assume that underground utilities are located on or near the boundary or property line under the sign. Call the utility and check it out. The underground utilities may be a considerable distance away from the warning sign.
- Always contact the owners of utility lines or the nearest underground utility location service before drilling. Determine jointly with utility personnel the precise location of underground utility lines, mark and flag the locations and determine what specific precautions must be taken to ensure safety.

12. Supplying Power to the Job Site

Drilling projects sometimes require around-the-clock operations and, therefore, require temporary electrical lighting. In general, all wiring and fixtures used to provide electricity for drilling operations should be installed by qualified personnel in accordance with the National Electrical Code (NFPA701999) with consideration of the American Petroleum Institute's recommended practices for electrical installations for production facilities (API RP 500B). Lights should be installed and positioned so that the work area and operating positions are well lit without shadows or blind spots. The following are specific recommendations for land-based drilling operations:

- Before working on an electrical power or lighting system, lock-out the main panel box with your own lock and keep the key on your person at all times.

- Install all wiring using high quality connections, fixtures and wire. Be sure that the wiring is insulated and protected with consideration for the drilling environment. Do not use makeshift wiring and equipment.



- Place all lights positioned directly above working areas in cages or similar enclosures to prevent loose or detached lamps or vapor-tight enclosures from falling on workers.
- Install lights so as to eliminate glare or "blind spots" on tools, ladders, walkways, platforms and the complete working area.
- Locate and guard electrical cables to prevent damage by drilling operations or by the movement of personnel, tools or supplies.
- Use only three-prong, U-blade, grounded-type plug receptacles and have adequate current carrying capacity for the electrical tools that may be used.
- Use only electrical tools that have three-prong, U-blade, ground wire plugs and cords.
- Do not use electrical tools with lock-on devices.
- Provide adequate grounding for all electrical welders, generators, control panels and similar devices.
- Provide secure protective enclosures on control panels, fuse boxes, transformers and similar equipment.
- Avoid attaching electrical lighting cables to the derrick or other components of the drill rig. If this must be done, use only approved fasteners. Do not "string" wire through the derrick.
- Do not use poles used to hold wiring and lights for any other purpose.
- Turn power off before changing fuses or light bulbs.
- Require all workers in a drilling area illuminated with electrical lighting to wear safety head gear that protects the worker's head, not only against falling or flying objects, but also against limited electrical shock and burns according to ANSI Z89.1 and Z89.2.
- Allow only trained, designated personnel to operate electrical equipment.
- Do not permit unqualified field personnel to work on or near electric lines or devices.

13. Contact with Electricity

If a drill rig makes contact with electrical wires, it may or may not be insulated from the ground by the tires of the carrier. Under either circumstance, if the human body simultaneously comes in contact with the drill rig and the ground, electrocution can result, causing death or serious injury. If a drill rig or a drill rig carrier makes contact with

overhead or underground electrical lines:

- Under most circumstances, the operator and other personnel on the seat of the vehicle should remain seated and not leave the vehicle. They should not move or touch any part, particularly a metallic part, of the vehicle or the drill rig.
- If it is determined that the drill rig should be vacated, all personnel must jump clear and as far as possible from the drill. Personnel must not step off – but must jump off. Do not hang on to the vehicle or any part of the drill when jumping clear.
- If you are on the ground, stay away from the vehicle and the drill rig. Do not allow others to get near the vehicle and the drill rig. Seek assistance immediately from local emergency personnel such as the police or fire department.
- When an individual is injured and in contact with the drill rig or with power lines, attempt rescue with extreme caution. If a rescue is attempted, use a non-conductive material, such as a dry nylon rope. Keep as far away from the victim as possible and do not touch the victim until the victim is completely clear of the drill rig or electrical lines.
- Do not attempt to administer first aid unless the victim is completely clear of the electrical source. Begin cardio pulmonary resuscitation (CPR) immediately if a heart beat (pulse) cannot be detected.

14. Wire Line Hoists, Wire Rope and Hoisting Hardware

Use wire line hoists, wire rope and hoisting hardware only as stipulated by the American Iron and Steel Institute Wire Rope Users Manual.

- Visually inspect all wire ropes and fittings, during use and thoroughly inspect them at least once a week for abrasion, broken wires, wear, reduction in rope diameter, reduction in wire diameter, fatigue, corrosion, damage from heat, improper reeving, jamming, crushing, bird caging, kinking, core protrusion and/or damage to lifting hardware. Replace wire ropes when inspection indicates excessive damage.
- Thoroughly inspect all wire ropes that have not been used for a period of a month or more.
- Install all connections and end fittings, which consist of spliced eyes and various manufactured devices, according to the manufacturer's specifications. Do not exceed ratings specified by the manufacturer.
- If a ball-bearing type hoisting swivel is used to hoist drill rods, inspect and lubricate swivel bearing daily to assure that the swivel freely rotates under load.
- If a rod slipping device is used to hoist drill rods, do not drill through or rotate drill rods through the slipping device. Do not hoist more than 1 ft. (0.3 m) of the drill rod column above the top of the mast (derrick). Do not hoist a rod column with loose tool joints. Do not make, tighten or loosen tool joints while the rod column is being supported by a rod slipping device. If drill rods should slip back into the borehole, do not attempt to break the fall of the rods by hand or by tensioning the slipping device.
- Most sheaves on drill rigs are stationary with a single part line. Never increase the number of parts of line without first consulting with the manufacturer of the drill rig.
- Wire ropes must be properly matched with each sheave. If the rope is too large, the sheave will pinch the wire rope. If the rope is too small, it will groove the sheave. Once the sheave is grooved, it will severely pinch and damage larger-sized wire ropes.
- Always use proper lifting devices.

The following procedures and precautions must be understood and implemented for use of wire ropes and rigging hardware:

- Use tool handling hoists only for vertical lifting of tools (except when angle hole drilling). Do not use tool handling hoists to pull on objects away from the drill rig. Drills may be moved, however, using the main hoist of the drill if

the wire rope is spooled through proper sheaves according to the manufacturer's recommendations.

- When stuck tools or similar loads cannot be raised with a hoist, disconnect the hoist line and connect the stuck tools directly to the feed mechanism of the drill. Do not use hydraulic leveling jacks for added pull to the hoist line or to the feed mechanism of the drill.
- When attempting to pull out a mired vehicle or drill rig carrier, only use a winch on the front or rear of the vehicle and stay as far as possible away from the wire rope. Do not attempt to use tool hoists to pull out a mired vehicle or drill rig carrier.
- Apply loads smoothly and steadily to minimize shock loading of a wire rope.
- Avoid sudden loading in cold weather.
- Never use frozen ropes.
- Protect wire rope from sharp corners or edges. • Replace faulty guides and rollers.
- Replace worn sheaves or worn sheave bearings. • Replace damaged latches on hooks before using.
- Know the working load of the equipment and tackle being used. Never exceed this limit.
- Periodically inspect and test hoist clutches and brakes.
- Know and do not exceed the rated capacity of mast hooks rings, links, swivels, shackles and other lifting aids.
- Always wear gloves when handling wire ropes. • Do not use hands to guide wire rope on hoist drums.
- Following the installation of a new wire rope, first lift a light load to allow the wire rope to adjust.
- Never conduct any hoisting operations when weather conditions are such that hazards to personnel, the public or property are created.
- Never leave a load suspended in the air when the hoist is unattended.
- Keep hands away from hoists, wire rope, hoisting hooks, sheaves and pinch points while slack is being taken up or when the load is being hoisted.
- Never hoist the load over the head, body or feet of any personnel.
- Never use a hoist line to "ride" up the mast (derrick) of a drill rig.
- Use replacement wire ropes that conform to the drill rig manufacturer's specifications.

15. Cathead and Rope Hoists

Follow these procedures when using a cathead hoist:

- Keep the cathead clean and free of rust, oil and grease. Rust should be removed from the cathead with a wire brush having a handle.
- Check the cathead periodically when the engine is not running, for rope wear grooves. If a rope groove forms to a depth greater than 1/8 in. (3 mm), replace the cathead.
- Always use a clean, dry, sound rope. A wet or oily rope may "grab" the cathead and cause drill tools or other items to be rapidly hoisted to the top of the mast.
- Should the rope "grab" the cathead or otherwise become tangled in the drum, release the rope and sound an

appropriate alarm for all personnel, including the operator, to rapidly back away and stay clear. If the rope "grabs" the cathead and tools are hoisted to the sheaves at the top of the mast, the rope will often break, releasing the tools. If the rope does not break, stay clear of the drill rig until the operator cautiously returns to turn off the drill rig engine and appropriate action is taken to release the tools. Keep careful watch on the suspended tools and quickly back away after turning off the engine.

- Always protect the rope from contact with chemicals. Chemicals can cause deterioration of the rope that may not be detected visibly.

- Never wrap the rope from the cathead (or any other rope, wire rope or cable on the drill rig) around a hand, wrist, arm, foot, ankle, leg or any other part of the body.

- Always maintain a minimum of 18 inches (46 cm) of clearance between the operating hand and the cathead drum when driving samplers, casing or other tools with the cathead and rope method. Be aware that the rope advances toward the cathead with each hammer blow as the sampler or other drilling tool advances into the ground.

- Never operate a cathead (or perform any other task around a drill rig) with loose, unbuttoned or otherwise unfastened clothing or when wearing gloves with large cuffs or loose straps or lacing.

- Do not use a rope that is any longer than necessary. A rope that is too long can form a ground loop or become entangled with the operator's legs.



- Do not use more rope wraps than are required to hoist a load.

- Do not leave a cathead unattended with the rope wrapped on the drum.

- Position all other hoist lines to prevent contact with the operating cathead rope.

- When using the cathead and rope for driving or back-driving, make sure that all threaded connections are tight. Stay as far away as possible from the hammer impact point.

- Only operate the cathead standing on a level surface with good, firm footing conditions without distraction or disturbance.

16. Auger Drilling

Follow these general procedures when starting a boring with continuous flight or hollow-stem augers:

- Start an auger boring with the drill rig level, the clutch or hydraulic rotation control disengaged, the transmission in

low gear and the engine running at low RPM.

- Apply an adequate amount of down pressure prior to rotation to seat the auger head below the ground surface.
- Look at the auger head while slowly engaging the clutch or rotation control and starting rotation. Stay clear of the auger.
- Slowly rotate the auger and auger head while continuing to apply down pressure. Keep one hand on the clutch or on the rotation control at all times until the auger has penetrated about one foot or more below ground surface.
- If the auger head slides out of alignment, disengage the clutch or hydraulic rotation control and repeat the hole starting process.
- An auger guide can facilitate the starting of a straight hole through hard ground or a pavement.
- Establish a system of responsibility for the operator and tool handler to follow during the series of activities required for auger drilling, such as connecting and disconnecting auger sections and inserting and removing the auger fork. The operator must ensure that the tool handler is well away from the auger column and that the auger fork is removed before starting rotation.
- When rotating augers, stay clear of the rotating auger and other rotating components of the drill rig. Never reach behind or around a rotating auger for any reason whatsoever.
- Only use the manufacturer's recommended method for securing the auger or drive adapter to the power coupling. Do not use an over length pin or bolt. Do not touch the coupling or the auger with hands, a wrench or any other tools during rotation.
- Whenever possible, use tool hoists to handle auger sections.
- Never place hands or fingers under the bottom of an auger section when hoisting the auger over the top of the auger section in the ground or other hard surfaces such as the drill rig platform.
- Never allow feet to get under the auger section that is being hoisted.
- Use a long-handled shovel to move auger cuttings away from the auger. Never use hands or feet to move cuttings away from the auger.
- Do not attempt to remove earth from rotating augers. Clean augers only when the drill rig is in neutral and the augers are stopped from rotating.

17. Rotary and Core Drilling

Check rotary drilling tools prior to drilling.

- Lubricate and check for frozen bearings before using water/air swivels and hoisting plugs. Water/air swivel bearings must be free before using. Stay clear of water/air swivel hose when rotating.
- Check drill rod chuck jaws periodically and replace when necessary.
- Check the capacities of hoists and sheaves against the anticipated weight to the drill rod string plus other expected hoisting loads.

During rotary or core drilling, follow these special precautions that involve chucking, joint break, hoisting and lowering of drill rods.

- Only the operator of the drill rig should be allowed to brake or set a manual chuck so that rotation of the chuck will not occur prior to removing the wrench from the chuck.
- Drill rods should not be braked during lowering into the hole with drill rod chuck jaws.

- Do not lower drill rods into the hole with pipe wrenches.
- If a string of drill rods is accidentally or inadvertently released into the hole, do not attempt to grab the falling rods by hand or with a wrench.
- In the event of a plugged bit or other circulation blockage, relieve the high pressure in the piping and hose between the pump and the obstruction before breaking the first tool joint.
- When drill rods are hoisted from the hole, clean them only with a wiper made of rubber or other suitable material. Do not use hands to clean drilling fluid from drill rods.
- If work must progress above a portable drilling fluid (mud) pit, do not attempt to stand on narrow sides or cross members. Equip the mud pit with rough-surfaced, fitted cover panels of adequate strength to hold drill rig personnel.
- Do not lift or lean unsecured drill rods against the mast. Either provide some method of securing the upper ends of the drill rod sections for safe vertical storage or lay the rods down.

18. Air Drilling

Compressed air is dangerous and explosive in nature. High pressure air can cause serious injuries.

- Do not allow tools or air-powered equipment to be connected to the drill hoses. They must be attached to the service regulator and the pressure adjusted to the working capacity of the tool being used.
- Turn off drill air and exhaust drill string before unscrewing drill pipe at the table.
- Do not turn on high pressure air too quickly when air hoses are in the vicinity of people. Hoses can jump and injure people, especially if there is water or oil inside them.
- Make sure air line safety cables or chains are in good working order on all lines that could whip in event of fitting failure.
- Do not remove or alter air system safety valve.
- Do not operate compressed air system at pressure above rated pressure.
- Do not operate compressed air system with broken or inoperable safety controls.
- Never point an air nozzle at anyone.
- Exposure to crystalline (free) silica during rock drilling can cause serious or fatal respiratory disease.

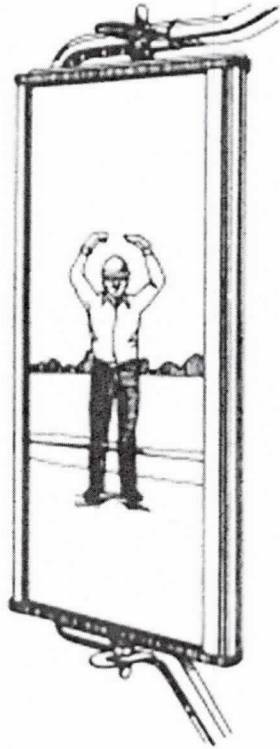
19. Transporting a Drill Rig

When transporting a drill rig on and off a drilling site:

- Allow only licensed individuals to operate the vehicle. Comply with all federal, state, local and DOT regulations.
- Know the traveling height (overhead clearance), width, length and weight of the drill rig with carrier and know the highway and bridge load, width and overhead limits. Allow adequate margins and make sure that they are not exceeded.
- Never move a drill rig unless the vehicle brakes are in sound working order.

- Allow for mast overhang when cornering or approaching other vehicles or structures.

- Be aware that the canopies of service stations and motels are often too low for a drill rig mast to clear with the mast in the travel position.



- Watch for low hanging electrical lines, particularly at the entrances to drilling sites, restaurants, motels or other commercial sites.

- Never travel on a street, road or highway with the mast (derrick) of the drill rig in the raised or partially-raised position.

- Remove all ignition keys when a drill rig is left unattended.

- Do not permit passengers to ride on the drill rig.

- Driving equipment with a high center of gravity such as a portable drill rig requires special precautions, especially in turning and stopping. Allow for the increased and higher weight by slowing down while turning and allowing for more stopping distance.

- Know where your helper or oiler is at all times. Do not move drill if they are not in sight.

- Know and use proper signals when moving a drill. Establish signals in advance of operations.

20. Loading and Unloading

When loading or unloading a drill rig on a trailer or a truck:

- Use ramps of adequate design that are solid and substantial enough to bear the weight of the drill rig with carrier including tooling.
- Load and unload on level ground.
- Use the assistance of someone on the ground as a guide.
- Check the brakes on the drill rig carrier before approaching loading ramps.
- Distribute the weight on the drill rig, carrier and tools on the trailer so that the center of weight is approximately on

the centerline of the trailer and so that some of the trailer load is transferred to the hitch of the pulling vehicle. Refer to the trailer manufacturer's weight distribution recommendations.

- Secure the drill rig and tools to the hauling vehicle with ties, chains and/or load binders of adequate capacity.

21. Off-Road Movement

Follow these procedures during off-road movement:

- Before moving a drill rig, first walk the route of travel, inspecting for depressions, stumps, gullies, ruts and similar obstacles.
- Always check the brakes of a drill rig carrier before traveling, particularly on rough, uneven or hilly ground.
- Check the complete drive train of a carrier at least weekly for loose or damaged bolts, nuts, studs, shafts and mountings.
- Discharge all passengers before moving a drill rig on rough or hilly terrain.
- Engage the front axle (for 4 x 4, 6 x 6, etc. vehicles or carriers) when traveling off highway on hilly terrain. If equipped with multiple speed transfer case, operate in low range. (Refer to manufacturer's recommendations.)
- Use caution when traveling side-hill. Conservatively evaluate side-hill capability of drill rigs because the arbitrary addition of drilling tools may raise the center of mass. When possible, travel directly uphill or downhill. Increase tire pressures before traveling in hilly terrain and do not exceed rated tire pressure.
- Attempt to cross obstacles such as small logs and small erosion channels or ditches squarely rather than at an angle.
- Use the assistance of someone on the ground as a guide when lateral or overhead clearance is close.
- Set all brakes and/or locks after the drill has been moved to a new drilling site. When grades are present, block the wheels.
- Never travel off-road with the mast (derrick) of the drill rig in the raised or partially-raised position.

22. Tires, Batteries and Fuel

- Check tires on the drill daily for safety and, during extended travel, for loss of air. Maintain air pressures for travel on streets, roads and highways according to the manufacturer's recommendations. Only repair truck and off-highway tires with the required special tools and follow the recommendations of the tire manufacturer's repair manual.
- If tires on all-terrain drills are deflated to reduce ground pressure for movement on soft ground, reinflate the tires to normal pressures before movement on firm or hilly ground or on streets, roads and highways. Underinflated tires are not stable on firm ground.

During air pressure checks, inspect for:

- Missing or loose wheel lugs.
- Objects wedged between duals or embedded in the tire casing.
- Damaged or poorly fitting rims or rim flanges.
- Abnormal or uneven wear and cuts, breaks or tears in the casing.

Batteries contain strong acid. Use extreme caution when servicing batteries.

- Service batteries only in a ventilated area and while wearing safety glasses.
- In addition to safety glasses, it is recommended personnel wear protective clothing, gloves and acid resistant

aprons when servicing batteries.

- When a battery is removed from a vehicle or service unit, disconnect the battery ground clamp first.
- When installing a battery, connect the battery ground clamp last.
- When charging a battery with a battery charger, turn off the power source to the battery before either connecting or disconnecting charger leads to the battery posts. Loosen cell caps before charging to permit the escape of gas.
- Spilled battery acid can burn skin and should be immediately flushed with lots of water. If battery acid gets into someone's eyes, flush immediately with large amounts of water and see a physician at once.
- To avoid battery explosions, keep the cells filled with electrolyte, use a flashlight (not an open flame) to check electrolyte levels and avoid creating sparks around the battery by shorting across a battery terminal. Keep lighted or smoking materials and flames away from batteries.
- Keep battery covers in place at all times.

Take special precautions for handling fuel and refueling the drill rig or carrier.

- Only use the type and quality of fuel recommended by the engine manufacturer.
- Use only a DOT approved portable fuel container. • Refuel in a well-ventilated area.
- Do not fill fuel tanks while the engine is running. Turn off all electrical switches.
- Do not spill fuel on hot surfaces. Clean any spills before starting an engine.
- Wipe up spilled fuel with cotton rags or cloths. Do not use wool or metallic cloth.
- Keep open lights, lighted smoking materials, flames or sparking equipment well away from the fueling area.
- Turn off heaters in carrier cabs when refueling the carrier or the drill rig.
- Do not fill portable fuel containers completely full to allow expansion of the fuel during temperature changes.
- Keep the fuel nozzle in contact with the tank being filled to prevent static sparks from igniting the fuel.
- Do not transport portable fuel containers in the vehicle or carrier cab with personnel.
- During travel store fuel containers and hoses so they are in contact with a metal surface. This should prevent the build-up of static charge.
- Never mix any other fuel with diesel fuel as an explosion may result.

23. First Aid

Train at least one member of the drill crew, and if only one, preferably the drilling and safety supervisor, to perform first aid. First aid must be taught on a person-to-person basis, not by providing or reading a manual. Manuals should only provide continuing reminders and be used for reference. Courses provided or sponsored by the American Red Cross or a similar organization best satisfy the requirements of first aid training for drill crews.

For drilling operations, it is particularly important that those responsible for first aid should be able to recognize the symptoms of and be able to provide first aid for electrical shock, heart attack, stroke, broken bones, eye injury, snake bite and cuts or abrasions to the skin. Again, first aid in these situations is best taught to drill crew members by instructors qualified by an agency such as the American Red Cross.

Keep a first aid kit available and well maintained on each drill site. This kit should meet DOT specifications for Interstate Commerce Commission requirements.

24. Drill Rig Utilization

Do not attempt to exceed the manufacturer's ratings of speed, force, torque, pressure, flow, etc. Only use the drill rig and tools for the purposes for which they are intended and designed.

25. Drill Rig Alterations

Alterations to a drill rig, drill rig carrier or drilling tools must only be made by qualified personnel and only after consultation with the manufacturer.

26. Shut-Down

- Before shutting a drill down, move it away from a high wall or face before shutting down for the day.
- Don't leave a drill parked near an unstable slope or overhang.
- Never park a drill on an incline without carefully blocking to prevent movement.
- Place all controls in the neutral or park position before leaving the drill.
- Lock the ignition, remove keys or install panel cover before leaving the drill.

27. Welding and Cutting Torch Safety

- Welding or cutting should never be performed in a confined location.
- Never weld or cut near a fuel tank.
- Wear protective clothing including flame resistant gloves, aprons, safety shoes, welding helmets, goggles and shaded glasses.
- When arc welding, ensure work and equipment is properly grounded. Check condition of cables, clamps and electrode holders. Damp clothing and wet working conditions should be avoided.
- Electrode stubs should be disposed of in a fire-resistant container.
- Only welding and cutting equipment in first-class operating condition should be used.
- Store gas welding cylinders in an upright position and away from heat, flames, sparks, ice and snow.
- Always secure cylinders to prevent tipping.
- Protective cap should be in place over valves and the valve turned to the closed position when being stored or transported.

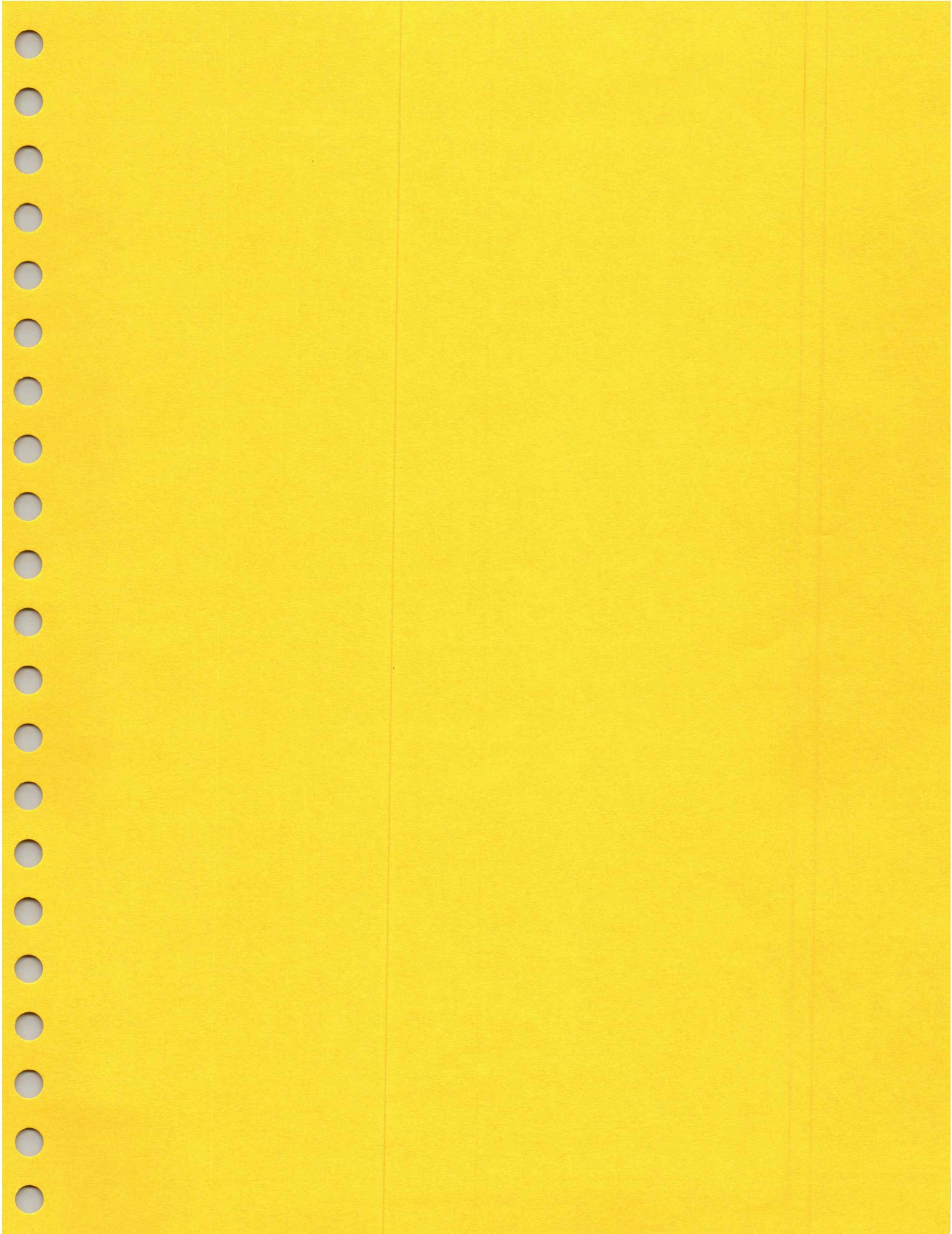
28. Fire on the Rig

Always carry an approved Class ABC fire extinguisher on the drill rig that meets the requirements of DOT regulation 49 CFR 393.95. The fire extinguisher should be located to permit visual determination of whether it is fully charged and is readily accessible for use.

29. Drilling Equipment Safety Labels

Drilling equipment safety labels have been developed through the combined efforts of NDA and its DCDMA Committee with input from the NGWA Heavy Equipment Product Group and Safety Subcommittee and in accordance with the American National Standards Institute (ANSI) guidelines for Product Safety Signs and Labels.

Never remove safety labels. Always replace damaged or illegible safety labels as soon as possible.





Material Safety Data Sheets

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123455-29 DIESEL #2, OFF ROAD (LOW SULFUR)
MATERIAL SAFETY DATA BULLETIN

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: DIESEL #2, OFF ROAD (LOW SULFUR)
SUPPLIER: EXXONMOBIL OIL CORPORATION
3225 GALLOWES RD.
FAIRFAX, VA 22037

24 - Hour Health and Safety Emergency (call collect): 609-737-4411

24 - Hour Transportation Emergency:
CHEMTREC: 800-424-9300 202-483-7616
LUBES AND FUELS: 281-834-3296

Product and Technical Information:
Lubricants and Specialties: 800-662-4525 800-443-9966
Fuels Products: 800-947-9147
MSDS Fax on Demand: 613-228-1467
MSDS Internet Website: <http://emmsds.ihssolutions.com/>

2. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL NAMES AND SYNONYMS: HYDROCARBONS AND ADDITIVES

GLOBALLY REPORTABLE MSDS INGREDIENTS:

Substance Name Approx. Wt%

DIESEL FUEL (68334-30-5) 95-100

COMPONENT(S) OF PRODUCT INGREDIENTS INCLUDE:

NAPHTHALENE (91-20-3) 0.5

ETHYL BENZENE (100-41-4) 0.5

NOTE: Composition may contain up to 0.5% performance additive.

See Section 8 for exposure limits (if applicable).

3. HAZARDS IDENTIFICATION

This product is considered hazardous according to regulatory guidelines
(See Section 15).

EMERGENCY OVERVIEW: Red Liquid. Material is combustible. Liquid can release vapors that readily form flammable mixtures at or above the flash point. Product can accumulate a static charge which may cause a fire or explosion. DOT ERG No. : 128

POTENTIAL HEALTH EFFECTS: Respiratory irritation, headache, dizziness, nausea, loss of consciousness, and in cases of extreme exposure, possibly death. Diesel exhaust may cause lung cancer. Prolonged, repeated skin contact may result in skin irritation or more serious skin disorders. Low viscosity material-if swallowed may enter the lungs and cause lung damage. Note: This product contains polycyclic aromatic hydrocarbons, some of which have been reported to cause skin cancer in test animals and in humans under conditions of poor personal hygiene and prolonged repeated contact.

POTENTIAL ENVIRONMENTAL EFFECTS: Toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment.

For further health effects/toxicological data, see Section 11.

4. FIRST AID MEASURES

EYE CONTACT: Flush thoroughly with water. If irritation occurs, call a physician.

SKIN CONTACT: Remove contaminated clothing. Dry wipe exposed skin and cleanse yourself with waterless hand cleaner and follow by washing thoroughly with soap and water. For those providing assistance, avoid further contact to yourself or others. Wear impervious gloves. Launder contaminated clothing separately before reuse. Discard contaminated articles that cannot be laundered. (See Section 16 - Injection Injury)

INHALATION: Remove from further exposure. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with mechanical device or use mouth-to-mouth resuscitation.

INGESTION: Seek immediate medical attention. Do not induce vomiting.

NOTE TO PHYSICIANS: Material if aspirated into the lungs may cause chemical pneumonitis. PRE-EXISTING MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED BY EXPOSURE: Hydrocarbon Solvents/Petroleum Hydrocarbons- Skin contact may aggravate an existing dermatitis.

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA: Carbon dioxide, foam, dry chemical and water fog.

SPECIAL FIRE FIGHTING PROCEDURES: Water may be ineffective, but water should be used to keep fire-exposed containers cool. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

SPECIAL PROTECTIVE EQUIPMENT: For fires in enclosed areas, fire fighters must use self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Material is combustible. Liquid can release vapors that readily form flammable mixtures at or above the flash point. Product can accumulate a static charge which may cause a fire or explosion.

COMBUSTION PRODUCTS: Fumes, smoke, carbon monoxide, sulfur oxides, aldehydes and other decomposition products, in the case of incomplete combustion.

Flash Point C(F): > 55(131) (ASTM D-93).

Flammable Limits (approx.% vol.in air) - LEL: 0.6%, UEL: 7.0%

NFPA HAZARD ID: Health: 1, Flammability: 2, Reactivity: 0

6. ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES: Report spills/releases as required to appropriate authorities. U.S. Coast Guard and EPA regulations require immediate reporting of spills/releases that could reach any waterway including intermittent dry creeks. Report spill/release to Coast Guard National Response Center toll free number (800)424-8802. In case of accident or road spill notify CHEMTREC (800) 424-9300.

PROCEDURES IF MATERIAL IS RELEASED OR SPILLED:

LAND SPILL: Eliminate sources of ignition. Shut off source taking normal safety precautions. Take measures to minimize the effects on ground water. Recover by pumping using explosion-proof equipment or contain spilled liquid with sand or other suitable absorbent and remove mechanically into containers. If necessary, dispose of adsorbed residues as directed in Section 13.

WATER SPILL: Eliminate sources of ignition and warn other ships in the vicinity to stay clear. Notify port and other relevant authorities. Confine with booms if skimming equipment is available to recover the spill. Otherwise disperse in unconfined waters, if permitted by local authorities and environmental agencies. If permitted by regulatory authorities the use of suitable dispersants should be considered where recommended in local oil spill procedures.

ENVIRONMENTAL PRECAUTIONS: Prevent material from entering sewers, water sources or low lying areas; advise the relevant authorities if it has, or if it contaminates soil/vegetation.

PERSONAL PRECAUTIONS: See Section 8

7. HANDLING AND STORAGE

HANDLING: Keep product away from high energy ignition sources, heat, sparks, pilot lights, static electricity, and open flame.

Harmful in contact with or if absorbed through the skin. Avoid inhalation of vapors or mists. Use in well ventilated area away from all ignition sources. See Section 8 for additional personal protection advice when handling this product. PORTABLE

CONTAINERS approved for storing fuel must be placed on the ground and the nozzle must stay in contact with the container when filling to prevent build up and discharge of static electricity.

STORAGE: Store in a cool area. Avoid sparking conditions. Ground and bond all transfer equipment.

SPECIAL PRECAUTIONS: To prevent and minimize fire or explosion risk from static accumulation and discharge, effectively bond and/or ground product transfer system. Do not use electronic devices (including but not limited to cellular phones, computers,

calculators, pagers, etc.) in or around any fueling operation or storage area unless the devices are certified intrinsically safe by an approved national testing agency and to the safety standards required by national and/or local laws and regulations. Electrical equipment and fittings must comply with local fire prevention regulations for this class of product. Use the correct grounding procedures. Refer to national or local regulations covering safety at petroleum handling and storage areas for this product.

EMPTY CONTAINER WARNING: Empty containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to refill or clean container since residue is difficult to remove. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OCCUPATIONAL EXPOSURE LIMITS:

ExxonMobil recommends an 8-hour time-weighted average (TWA) exposure of 500 mg/m³ total vapor (approx. 100 ppm) or 5 mg/m³ stable aerosols.

---TWA--- ----STEL--- NOTE

Substance Name (CAS-No.) Source ppm mg/m³ ppm mg/m³

NAPHTHALENE (91-20-3)

OSHA 10 50 15 75

ACGIH 10 52 15 79

ETHYL BENZENE (100-41-4)

OSHA 100 435 125 545

ACGIH 100 434 125 543

NOTE: Limits shown for guidance only. Follow applicable regulations.

VENTILATION: Use in well ventilated area with local exhaust ventilation. Ventilation equipment must be explosion proof. Use away from all ignition sources.

RESPIRATORY PROTECTION: Approved respiratory equipment must be used when airborne concentrations are unknown or exceed the recommended exposure limit. Self-contained breathing apparatus may be required for use in confined or enclosed spaces.

EYE PROTECTION: If splash with liquid is possible, chemical type goggles should be worn.

SKIN PROTECTION: Impervious gloves must be worn. If contact is likely oil impervious clothing must be worn. Good personal hygiene practices should always be followed.

9. PHYSICAL AND CHEMICAL PROPERTIES

Typical physical properties are given below. Consult Product Data Sheet for specific details.

APPEARANCE: Liquid
COLOR: Red
ODOR: Hydrocarbon
ODOR THRESHOLD-ppm: NE
pH: NA
BOILING POINT C(F): > 149(300)
MELTING POINT C(F): NA
FLASH POINT C(F): > 55(131) (ASTM D-93)
FLAMMABILITY (solids): NE
AUTO FLAMMABILITY C(F): NE
EXPLOSIVE PROPERTIES: NA
OXIDIZING PROPERTIES: NA
VAPOR PRESSURE-mmHg 20 C: 0.5
VAPOR DENSITY: > 2.0
EVAPORATION RATE: NE
RELATIVE DENSITY, 15/4 C: 0.82-0.87
SOLUBILITY IN WATER: Negligible
PARTITION COEFFICIENT: > 3.5
VISCOSITY AT 40 C, cSt: > 1.0
VISCOSITY AT 100 C, cSt: NE
POUR POINT C(F): < -7(20)
FREEZING POINT C(F): NE
VOLATILE ORGANIC COMPOUND: NE
DMSO EXTRACT, IP-346 (WT.%): NA
NA=NOT APPLICABLE NE=NOT ESTABLISHED D=DECOMPOSES

FOR FURTHER TECHNICAL INFORMATION, CONTACT YOUR MARKETING REPRESENTATIVE

10. STABILITY AND REACTIVITY

STABILITY (THERMAL, LIGHT, ETC.): Stable.
CONDITIONS TO AVOID: Extreme heat and high energy sources of ignition.
INCOMPATIBILITY (MATERIALS TO AVOID): Halogens, strong acids, alkalies, and oxidizers.
HAZARDOUS DECOMPOSITION PRODUCTS: Product does not decompose at ambient temperatures.
HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL DATA

---ACUTE TOXICOLOGY---
ORAL TOXICITY (RATS): Practically non-toxic (LD50: greater than 2000 mg/kg). ---Based on testing of similar products and/or the components.
DERMAL TOXICITY (RABBITS): Practically non-toxic (LD50: greater than 2000 mg/kg). ---Based on testing of similar products and/or the components.
INHALATION TOXICITY (RATS): Practically non-toxic (LC50: greater than 5 mg/l). ---Based on testing of similar products and/or the components.
EYE IRRITATION (RABBITS): Practically non-irritating. (Draize score: greater than 6 but 15 or less). ---Based on testing of similar products and/or the components.
SKIN IRRITATION (RABBITS): Practically non-irritating. (Primary

Irritation Index: greater than 0.5 but less than 3). ---Based on testing of similar products and/or the components.

---SUBCHRONIC TOXICOLOGY (SUMMARY)---

Repeated dermal application of middle distillates, heating oils and diesel oils to rabbits for 2-4 weeks at up to 1 gm/kg resulted in strong to severe skin irritation with some weight loss at the higher dose. Toxic effects ranging from weight loss to mortality was observed in rabbits treated repeatedly with very high doses (6 gm/kg) of these oils. Repeated inhalation exposure of middle distillate and diesel vapor and aerosol to rats for 2-4 weeks at up to 6 mg/l resulted in respiratory tract irritation, lung changes/infiltration/accumulation, and some reduction in lung function.

---REPRODUCTIVE TOXICOLOGY (SUMMARY)---

Diesel fuel vapors were tested in an inhalation teratology (developmental toxicity) study in rats and when only minimal maternal toxicity was observed, no fetotoxic or developmental effects were observed. A developmental toxicity study of dermally applied middle distillates did indicate fetotoxicity (reduced litter size, litter weight, increased resorptions) at doses that also caused significant maternal toxicity.

---CHRONIC TOXICOLOGY (SUMMARY)---

Diesel fuel, heating oil and middle distillates have been shown to be carcinogenic in lifetime mouse skin painting bioassays. While in some cases, the tumor incidence is low in the test populations and possibly associated with skin irritation, concurrent evidence from short-term predicative tests (Modified Ames) does indicate some level of mutagenic activity associated with levels of polycyclic aromatic compounds in certain test samples.

---SENSITIZATION (SUMMARY)---

Middle distillate oils were not skin sensitizers when tested in a Modified Buehler Guinea Pig Sensitization Assay.

---OTHER TOXICOLOGY DATA---

Overexposure to diesel exhaust fumes may result in eye irritation, headaches, nausea, and respiratory irritation. Animal studies involving lifetime exposure to high levels of diesel exhaust have produced variable results, with some studies indicating a potential for lung cancer. Limited evidence from epidemiological studies suggest an association between long-term occupational exposure to diesel engine emissions and lung cancer. Diesel engine exhaust typically consists of gases and particulates, including carbon dioxide, carbon monoxide, nitrogen compounds, oxides of sulfur, and hydrocarbons. Diesel exhaust composition will vary with fuel, engine type, load cycle, engine maintenance, tuning and exhaust gas treatment. Use of adequate ventilation and/or respiratory protection in the presence of diesel exhaust is recommended to minimize exposures. This product contains ethylbenzene. The International Agency for Research on Cancer (IARC) has evaluated ethylbenzene and classified it as possibly carcinogenic to humans (Group 2B) based on sufficient evidence for carcinogenicity in experimental animals, but inadequate evidence for cancer in exposed humans.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE AND EFFECTS:

In the absence of specific environmental data for this product, this assessment is based on information for representative substances.

ECOTOXICITY: Based on test results for similar products, this substance may be toxic to aquatic organisms such as algae and daphnia (EL50/ IrL50 =1-10 mg/L). This substance has also been shown to be toxic to specific fish species (LL50 = 1-10 mg/L for rainbow trout, Atlantic silverside).

MOBILITY: Dissolution of the higher molecular weight hydrocarbon components in water will be limited, but losses through sediment adsorption may be significant.

PERSISTENCE AND DEGRADABILITY: The majority of the components in this product are expected to be inherently biodegradable. The constituents of diesel fuels/heating oil which are volatilized will photodegrade in the atmosphere. The less volatile, more water-soluble components which are aromatic hydrocarbons will also undergo aqueous photodegradation.

BIOACCUMULATIVE POTENTIAL: Not established.

13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: Product is suitable for burning for fuel value in compliance with applicable laws and regulations.

RCRA INFORMATION: Disposal of unused product may be subject to RCRA regulations (40 CFR 261). Disposal of the used product may also be regulated due to ignitability, corrosivity, reactivity, or toxicity as determined by the Toxicity Characteristic Leaching Procedure (TCLP).

FLASH: > 55(131) C(F)

14. TRANSPORT INFORMATION

NOTE:The flash point of this material is > 131F. Regulatory classifications vary as follows:

DOT: Flammable Liquid OR Combustible Liquid - (49CFR 173.120(b)(2))

OSHA: Combustible Liquid

IATA/IMO: Flammable Liquid

USA DOT:

SHIPPING NAME: Diesel Fuel

HAZARD CLASS & DIV: COMBUSTIBLE LIQUID

ID NUMBER: NA1993

ERG NUMBER: 128

PACKING GROUP: PG III
STCC: NE
DANGEROUS WHEN WET: No
POISON: No
LABEL(s): NA
PLACARD(s): Combustible
PRODUCT RQ: NA
MARPOL III STATUS: NA

RID/ADR:
HAZARD CLASS: 3
PACKING GROUP: III
LABEL: 3
DANGER NUMBER: 30
UN NUMBER: 1202
SHIPPING NAME: Gas Oil
REMARKS: NA

IMO:
HAZARD CLASS & DIV: 3
UN NUMBER: 1202
PACKING GROUP: PG III
SHIPPING NAME: Gas Oil
LABEL(s): Flammable Liquid
MARPOL III STATUS: NA

ICAO/IATA:
HAZARD CLASS & DIV: 3
ID/UN Number: 1202
PACKING GROUP: PG III
SHIPPING NAME: Gas Oil
SUBSIDIARY RISK: NA
LABEL(s): Flammable Liquid

STATIC ACCUMULATOR (50 picosiemens or less): YES

15. REGULATORY INFORMATION

US OSHA HAZARD COMMUNICATION STANDARD: Product assessed in accordance with OSHA 29 CFR 1910.1200 and determined to be hazardous.

EU Labeling: Product is dangerous as defined by the European Union Dangerous Substances/Preparations Directives.

Symbol: Xn Harmful.

Risk Phrase(s): R40-65-66-51/53.
Limited evidence of a carcinogenic effect. Harmful: may cause lung damage if swallowed. Repeated exposure may cause skin dryness or cracking. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrase(s): S24-2-36/37-62-61.
Avoid contact with skin. Keep out of the reach of children. Wear suitable protective clothing and gloves. If swallowed, do not

induce vomiting: seek medical advice immediately and show this container or label. Avoid release to the environment. Refer to special instructions/Safety data sheets.

Contains: Gas oil - unspecified.

Governmental Inventory Status: All components comply with TSCA, EINECS/ELINCS, AICS, METI, DSL, KOREA, and PHILIPPINES.

U.S. Superfund Amendments and Reauthorization Act (SARA) Title III: This product contains no "EXTREMELY HAZARDOUS SUBSTANCES".

SARA (311/312) REPORTABLE HAZARD CATEGORIES:
FIRE CHRONIC ACUTE

This product contains the following SARA (313) Toxic Release Chemicals:

CHEMICAL NAME CAS NUMBER CONC.

POLYNUCLEAR AROMATIC 0.1%
HYDROCARBONS(COMPONENT ANALYSIS)
ETHYL BENZENE(COMPONENT 100-41-4 0.5%
ANALYSIS)

The following product ingredients are cited on the lists below:
CHEMICAL NAME CAS NUMBER LIST CITATIONS *

NAPHTHALENE (COMPONENT ANALYSIS) 91-20-3 16, 22
(0.50%)
ETHYL BENZENE (COMPONENT ANALYSIS) 100-41-4 1, 8, 24
DIESEL OIL..C9-20 68334-30-5 21, 26

--- REGULATORY LISTS SEARCHED ---

1=ACGIH ALL 6=IARC 1 11=TSCA 4 16=CA P65 CARC 21=LA RTK
2=ACGIH A1 7=IARC 2A 12=TSCA 5a2 17=CA P65 REPRO 22=MI 293
3=ACGIH A2 8=IARC 2B 13=TSCA 5e 18=CA RTK 23=MN RTK
4=NTP CARC 9=OSHA CARC 14=TSCA 6 19=FL RTK 24=NJ RTK
5=NTP SUS 10=OSHA Z 15=TSCA 12b 20=IL RTK 25=PA RTK
26=RI RTK

* EPA recently added new chemical substances to its TSCA Section 4 test rules. Please contact the supplier to confirm whether the ingredients in this product currently appear on a TSCA 4 or TSCA 12b list.

Code key:CARC=Carcinogen; SUS=Suspected Carcinogen; REPRO=Reproductive

16. OTHER INFORMATION

USE: DIESEL FUEL

NOTE: PRODUCTS OF EXXON MOBIL CORPORATION AND ITS AFFILIATED COMPANIES ARE NOT FORMULATED TO CONTAIN PCBS.

Health studies have shown that many hydrocarbons pose potential human

health risks which may vary from person to person. Information provided on this MSDS reflects intended use. This product should not be used for other applications. In any case, the following advice should be considered:

INJECTION INJURY WARNING: If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

Precautionary Label Text:

CONTAINS DIESEL OIL.. C9-20

WARNING!

COMBUSTIBLE LIQUID AND VAPOR. RESPIRATORY IRRITATION, HEADACHE, DIZZINESS, NAUSEA, LOSS OF CONSCIOUSNESS, AND IN CASES OF EXTREME EXPOSURE, POSSIBLY DEATH. LOW VISCOSITY MATERIAL-IF SWALLOWED, MAY BE ASPIRATED AND CAN CAUSE SERIOUS OR FATAL LUNG DAMAGE.

MAY CAUSE SKIN CANCER ON PROLONGED, REPEATED SKIN CONTACT. ANIMAL SKIN ABSORPTION STUDIES RESULTED IN INCREASED MORTALITY, EFFECTS ON BODY WEIGHT, THE IMMUNE SYSTEM AND THE UNBORN CHILD. PROLONGED, REPEATED SKIN CONTACT MAY CAUSE IRRITATION. DIESEL EXHAUST MAY CAUSE LUNG CANCER.

Keep away from heat and flame. Avoid prolonged or repeated overexposure by skin contact or inhalation. Use with adequate ventilation. Keep container closed. Keep out of reach of children.

FIRST AID: If inhaled, remove from further exposure. If respiratory irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation. In case of contact, remove contaminated clothing. Dry wipe the exposed skin and cleanse with waterless hand cleaner and follow by washing thoroughly with soap and water. For those providing assistance, avoid further skin contact to yourself and others. Wear impervious gloves. If swallowed, seek immediate medical attention. Do not induce vomiting. Only induce vomiting at the instruction of a physician.

This warning is given to comply with California Health and Safety Code 25249.6 and does not constitute an admission or a waiver of rights. This product contains a chemical known to the State of California to cause cancer, birth defects, or other reproductive harm. Chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm are created by the combustion of this product. Refer to product Material Safety Data Sheet for further safety and health information.

For Internal Use Only: MHC: 1* 1* 1* 1* 1*, MPPEC: C, TRN: 123455-29,
CMCS97: EMGF29, REQ: PS+C, SAFE USE: C

EHS Approval Date: 04JUN2003

Information given herein is offered in good faith as accurate, but without guarantee. Conditions of use and suitability of the product for particular uses are beyond our control; all risks of use of the product are therefore assumed by the user and WE EXPRESSLY DISCLAIM ALL WARRANTIES OF EVERY KIND AND NATURE, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE IN RESPECT TO THE USE OR SUITABILITY OF THE PRODUCT. Nothing is intended as a recommendation for uses which infringe valid patents or as extending license under valid patents. Appropriate warnings and safe handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, republication or retransmission of this document, in whole or in part, is not permitted. Exxon Mobil Corporation and its affiliated companies assume no responsibility for accuracy of information unless the document is the most current available from an official ExxonMobil distribution system. Exxon Mobil Corporation and its affiliated companies neither represent nor warrant that the format, content or product formulas contained in this document comply with the laws of any other country except the United States of America.

Prepared by: ExxonMobil Oil Corporation
Environmental Health and Safety Department, Clinton, USA

Emergency Numbers

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Trade Name : Normal Gasoline**1. Chemical and Company Identification**

Trade Name	All normal Gasoline Fuels
Product Code	None applicable
Supplier	Gulf Oil International, 3rd Floor, 16 Charles II Street, London SW1Y 4QU, U.K.
Routine Enquiries	(44) 20 7839 2402
Fax	(44) 20 7839 2399
Emergency Contact	GMT 0900 – 1800: (44) 20 7839 2402; IST 09.30 – 1800: (91) 22 839 0789
Chemical Description	Petrol/Gasolene

2. Composition and Ingredients

Components	CAS No.	Range in %
Petrol consists of mainly straight chain and branched paraffinic hydrocarbons, olefins, cycloparafins and aromatics in the C4 to C14 carbon range	.	100
Toluene	108883	<20
Ethyl benzene	100414	<10
Xylene	1330207	<5
Benzene	71432	<5

3. Hazards Identification

Warning Statements	EXTREMELY FLAMMABLE. HARMFUL OR FATAL IF SWALLOWED. LOW VISCOSITY PETROLEUM MIXTURE. CAN CAUSE LUNG INJURY IF INHALED OR ASPIRATED. CONTAINS BENZENE A KNOWN CANCER HAZARD. MAY BE HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. USE ONLY AS A FUEL. KEEP OUT OF REACH OF CHILDREN. AVOID PROLONGED AND REPEATED CONTACT WITH SKIN. IF SKIN CONTACT OCCURS, WASH EXPOSED AREA WITH SOAP AND WATER. LAUNDRY CONTAMINATED CLOTHING.
Eyes	May cause severe eye irritation
Oral	Expected to be moderate acute toxicity by ingestion. May cause irritation of the digestive tract which may result in nausea, vomiting and diarrhea. Ingestion of this product and subsequent vomiting can result in aspiration into the lungs, causing chemical pneumonia and lung damage
Inhalation	May cause dizziness, irritation of eyes, nose and throat, vomiting and central nervous system effects upon inhalation. Convulsions, seizures and sudden loss of consciousness, coma and death are possible from extreme exposure. See Long term Toxic Effects and Section 11 for additional information.
Skin	Irritating to the skin with discomfort or pain, redness or swelling. Prolonged contact may cause more severe irritation and discomfort, seen as local redness and swelling. May produce systemic toxicity by skin absorption See Section 11 for additional information.
Long Term Toxic Effects	Cancer information available on this material or a component(s). See section 11 for additional information. This material or a component(s) may cause cardiac sensitization, including irregular heartbeats and death due to cardiac arrest. See Section 4, Advice to Doctor, for further information

4. First Aid Measures

Eyes	Flush eyes immediately with fresh water for several minutes while holding the eyelids open. If irritation persists, see a doctor
------	--

Skin	Remove and launder contaminated clothing, including shoes. Wash skin thoroughly with soap and water. See a doctor if any signs or symptoms described in this MSDS occur.
Ingestion	Do not induce vomiting. Aspiration of the material can cause serious lung injury such as chemical pneumonia. Call a doctor immediately. If spontaneous vomiting occurs, keep head below hips to prevent aspiration and monitor for breathing difficulty. Never give anything by mouth to an unconscious person..
Inhalation	If respiratory irritation or any signs or symptoms as described in this MSDS occur, move the person to fresh air. If any of these effects continue, see a doctor
Advice to Doctor	This product may present an aspiration hazard. See related comments in this MSDS. If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours. Severe inhalation overexposure to this material may sensitize the heart to catecholamine-induced arrhythmias. Do not administer catecholamines to overexposed individuals. Contact a poison control center for further treatment information.

5. Fire Fighting Measures

Ignition Temperature, deg C	390
Flammable Limits (% by Volume)	1.4 – 7.6
Flash Point, deg C	–40 TAG
Fire Extinguishing Agents	According to the US National Fire Protection Association Guide, use dry chemical, foam or carbon dioxide. Water may be ineffective on the flames, but water may be used to keep fire-exposed containers cool. If a leak or spill has not ignited, use water to disperse the vapours
Explosion Hazards	Liquid evaporates and forms vapour which can catch fire or explode. Invisible vapour spreads easily and can be set on fire by ignition sources. Fire hazard is greater as liquid temperature rises above 29 deg C. Flowing liquid can be ignited by self-generating static electricity – use adequate grounding. Full body flame-resistant clothing and/or turn-out gear recommended for persons attempting leak or spill control and for fire-fighting.

6. Accidental Release Measures

In case of Spill	Eliminate all ignition sources including internal combustion engines and power tools. Ventilate area. Keep people away. Stay upwind and warn of possible downwind explosion hazard. Avoid breathing vapours and eye or skin contact. Use respirator and protective clothing as discussed in this MSDS (See section 8). Use supplied-air respirator for large releases in confined area. Contain spill if possible. Remove with inert absorbent and place in container for disposal at an approved facility. Prevent entry into sewers and waterways.
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7. Handling and Storage

Keep away from heat, sparks and flame. Handle and store in well-ventilated area and in accordance with local regulations regarding flammable liquids. Empty containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION: THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to clean since residue is difficult to remove. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All other containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

8. Exposure Control/Personal Protection

Eyes	Avoid eye contact. The wearing of chemical safety goggles or face shield is recommended.
Skin	Avoid contact with skin or street clothing. Skin contact can be minimized by wearing protective clothing including coveralls, gloves and boots. Gloves and boots should be resistant to chemicals and petroleum distillates. Exposed employees should exercise reasonable personal cleanliness; this includes cleansing exposed skin several times daily with soap and water, and laundering or dry cleaning soiled work clothing at least weekly..
Inhalation	If operating conditions create airborne concentrations which exceed the recommended exposure standard(s), the use of an approved respirator is recommended. Wear approved respiratory protection such as organic vapour cartridge respirator with particulate prefilter. Use approved supplied air respiratory protection for cleaning large spills or upon entry into tanks, vessels, or other confined spaces.
Ventilation	No special ventilation is usually necessary. However, if operating conditions create high airborne concentrations of this material, engineering controls may be needed. Local exhaust ventilation and/or enclosure of the processes is preferred in these cases

Exposure Limits	The ACGIH TLV for benzene is 0.5 ppm for a daily 8 hour time weighted average. The short term exposure limit (STEL) is 2.5 ppm. The ACGIH TLV for toluene is 50 ppm for a daily 8 hour exposure. The ACGIH TLV for xylene is 100 ppm for a daily 8 hour exposure. Short term exposure to xylene should not exceed 150 ppm as a ceiling limit. The ACGIH TLV for ethyl benzene is 125 ppm for a daily 8 hour exposure.
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9. Physical and Chemical Properties

Note: The following data may represent a range of approximate or typical values for products in the same family. Precise technical information is provided in Product Bulletins and can be obtained from your Marketing Representative.

Appearance and Odor	Color can vary with Octane grade and country. Purple, green or yellow color liquid normally, Petroleum odor
Boiling Point	30–200
Vapor Pr (mmHG @ 25 deg C)	420
Density(kg/l at 15 deg C)	0.7 – 0.75
Vapor Density (Air=1)	3–4
Undiluted product's pH	Not applicable
Solubility in Water	Slight
Percent Volatile by Volume	100
Evaporation	Not determined
Viscosity (All Product Grades)	<1.5 mm ² /sec at 40 deg C

10. Stability and Reactivity

Hazardous Polymerizations	DO NOT OCCUR
Products of Combustion	Carbon monoxide and carbon di oxide may be formed during burning in limited air supply
Conditions to Avoid	Heat, Strong oxidisers

11. Toxicological Information

General	Experimental chronic inhalation toxicology studies showed kidney disease, kidney cancer and liver cancer in animals following exposure to wholly vaporized petrol. Additional studies limited to the volatile fraction of petrol have not resulted in kidney damage, which is generally considered to be a precursor to kidney cancer. Many scientists do not believe that the male rat is an appropriate animal model or predictor of human kidney cancer. Epidemiology studies in human exposed to hydrocarbons have not indicated excess risk of kidney or liver cancer. Petrol typically contains benzene in concentrations from about 0.1 to 5%. Excessive exposure to benzene may cause headaches, loss of appetite, rapid pulse, fatigue, increased bleeding tendencies, and liver and kidney damage. Prolonged and repeated exposure to benzene has been associated with injury to and/or cancer of the blood-forming organs including aplastic anemia and leukemia. In animal studies, benzene has also been associated with effects on the developing fetus. While the benzene content of petrol is relatively low, it is important to minimize exposure to the skin and respiratory system to well within the current exposure standards. Engineering controls including full enclosure, vapour recovery, or local exhaust ventilation are recommended where routine exposure may exceed applicable standards. Routine or intermittent skin contact should be avoided. Neoprene or nitrile gloves are recommended for routine handling of petrol/gasoline. Whole gasoline exhaust was reviewed by the International Agency for Research on Cancer (IARC). Evidence for causing cancer was considered inadequate in animals and inadequate in humans. IARC placed whole gasoline exhaust in Category 2B, considering it possibly carcinogenic to humans.
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12. Ecological Information

Environmental Effects	Appreciable volatilization to air is expected in the environment. This material or its component(s) may be toxic to aquatic organisms and should be kept out of sewage and drainage systems, and all bodies of water.
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13. Disposal Considerations

Waste Disposal	It is the responsibility of the use of products to determine, at the time of disposal, whether the product meets criteria for hazardous waste. Product uses, transformations, mixture and processes, may render the resulting material hazardous.
Remarks	Do not allow to enter drains or sewers. Can cause explosion

14. Transport Information

UN Number	1203
Dangerous Goods Class	3
Proper Shipping Name	Motor Spirit or Gasoline or Petrol
Hazchem Code	3Y
Additional Information	Transport in accordance with local regulations regarding flammable liquids.

15. Regulatory Information

Respirator Information	In the absence of local approval authorities/standards, follow US NIOSH/MSHA, UK BSI regulations. Respirators must meet either the above or local standard for approved respirators
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16. Other Information – No specific notes on this product.

To the best of our knowledge, the information provided in this MSDS document is correct. Access to this information is being provided via the internet too so that it can be made available to as many potential users as possible. We do not assume any liability for consequences of the use of this information since it may be applied under conditions beyond our control or knowledge. Also, it is possible that additional data could be made available after this MSDS was issued. Certain hazards are described herein, however, these may not be the only hazards that exist. All materials may present unknown hazards and should be used with caution.

Customers are encouraged to review this information, follow precautions and comply with all applicable laws and regulations regarding the use and disposal of this product. For specific technical data or advice concerning this product as supplied in your country please contact your local sales representative. The final determination of the suitability of any material is the sole responsibility of the user.

**** MATERIAL SAFETY DATA SHEET ****

22204 - STABIL Fuel Stabilizer

SEC 1 - PRODUCT AND MANUFACTURER INFO	SEC 9 - PHYS, CHEM PROPERTIES
SEC 2 - COMPOSITION INFORMATION	SEC 10 - STABILITY, REACTIVITY
SEC 3 - HAZARDS IDENTIFICATION	SEC 11 - TOXICOLOGY INFORMATION
SEC 4 - FIRST AID MEASURES	SEC 12 - ECOLOGICAL INFORMATION
SEC 5 - FIRE FIGHTING MEASURES	SEC 13 - DISPOSAL CONSIDERATIONS
SEC 6 - ACCIDENTAL RELEASE MEASURES	SEC 14 - TRANSPORT INFORMATION
SEC 7 - HANDLING AND STORAGE	SEC 15 - REGULATORY INFORMATION
SEC 8 - EXPOSURE, PERS. PROTECTION	SEC 16 - ADDITIONAL INFORMATION

**** SECTION 1 - CHEMICAL PRODUCT AND MANUFACTURER IDENTIFICATION ****

Product Name: 22204 - STABIL Fuel Stabilizer

Part Number:

22204

Product CAS: Mixt-ur-e

Product Code: 22204

Synonyms: 22204 - STABIL Fuel Stabilizer

MANUFACTURER IDENTIFICATION

Name: Gold Eagle Company

Address: 4400 S. Kildare Blvd.

City: Chicago **State:** IL **Zip:** 60632-4372

For information call: 773-376-4400

Emergency Number: N/A

Emergency Agency: INFOTRAC

Agency Number: 1-800-535-5053

MSDS Effective Date: 5/3/2005

MSDS Supersedes Date: 3/11/2010

Miscellaneous:

Product CAS: Mixture

Brief Description: Fuel stabilizer for gasoline powered engines.

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**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

Chemical Name	CAS	MIN	MAX
Additive Mixture	(none)	0	5
Petroleum Distillate	64742-47-8	0	95

Miscellaneous:

CHEMICAL NAME	LIMIT VALUES
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Additive Mixture (CAS#:Mixture)	N/A
---------------------------------	-----

Petroleum Distillate	N/A
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**** SECTION 3 - HAZARDS IDENTIFICATION ****

EMERGENCY OVERVIEW:

NFPA: Health: 1 Fire: 1 Reactivity: 0 Specific Hazard: None

HMIS: Health: 1 Flammability: 1 Reactivity: 0 PPE: B

Miscellaneous:

This product may contain components above de minimus concentrations that are considered carcinogenic by OSHA, IARC, NTP or Proposition 65.

POTENTIAL HEALTH EFFECTS

Target Organs/Primary Route(s) of Entry:

Eye:

Mild irritant.

Skin:

Mild irritant

Ingestion:

Toxicity is relatively low, there is a risk of aspiration of product into the lungs.

On ingestion of large quantities, slight GI discomfort diarrhea, and headache may occur. Small doses may produce irritation and diarrhea.

Inhalation:

Low risk of inhalation. Mists above TLV may cause chemical pneumonitis.

Miscellaneous:

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**** SECTION 4 - FIRST AID MEASURES ****

Eye:

If the product contacts the eyes, immediately wash the eyes with large quantities of room temperature water for at least 15 minutes, occasionally lifting the lower and upper lids. Get medical attention immediately.

Skin:

If the product contacts the skin, promptly wash the contaminated skin with

soap and water for at least 15 minutes. If this product penetrates the clothing, promptly remove the clothing and wash the skin with soap and water.

Ingestion:

Do not induce vomiting, product contains petroleum distillate. Get medical attention immediately.

Inhalation:

Move the exposed person to fresh air at once and call emergency medical care. If breathing has stopped, give artificial respiration. If breathing is difficult, give humidified oxygen.

Notes to Physician:

No data available.

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****** SECTION 5 - FIRE FIGHTING MEASURES ******

Flash Point: 183 F

AutoIgnition Temperature: N/A

Flammable Limits

Lower Limit: Explosive Limit (LEL): 0.8

Upper Limit: Explosive Limit (UEL): 7.0

Extinguishing Media:

Use carbon dioxide, dry chemical, foam and/or water fog as extinguishing media.

Unusual Fire and Explosion Hazards:

Water may cause frothing

Special Fire Fighting Procedures:

Wear NIOSH approved SCBA respirator in the positive pressure mode and

chemical
protective clothing.

General Information:

Flammable Limits: 0.8 to 7.0

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****** SECTION 6 - ACCIDENTAL RELEASE MEASURES ******

Small Spill: Remove sources of heat or ignition, provide adequate ventilation, contain leak using absorbent, inert, non-combustible material.

Large Spill: Contain spill, transfer to secure containers. In the event of an uncontrolled material release, the user should determine if release is reportable under applicable laws and regulations.

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****** SECTION 7 - HANDLING AND STORAGE ******

Handling:

See other sections of MSDS.

Storage:

See other sections of MSDS.

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****** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ******

GENERAL HYGIENE CONSIDERATIONS:

Use normal hygiene practices.

OTHER PRECAUTIONS:

Product is combustible, handle accordingly.

ENGINEERING CONTROLS:

Local Exhaust: Provide local ventilation to maintain exposure levels below recommended exposure limits.

Mechanical (General): In confined spaces, mechanical ventilation may be required.

Special Ventilation: OSHA TWA=5mg/m3

PERSONAL PROTECTIVE EQUIPMENT

Eyes/face:

Use splash proof chemical, safety goggles or appropriate full-face respirator.

Skin:

Use oil impervious gloves as required.

Respirators:

Normally none is required. If high vapor or mist concentration are expected, use appropriate NIOSH approved respirator for organic vapors and mists. Respirators must be selected based on the airborne levels found in the workplace and must not exceed the working limits of the respirator.

Other Protective Clothing/Equipment:

If there is a possibility of exposure of an individual's body to the product, wear body-covering work clothes to avoid prolonged or repeated exposure.

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****** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ******

Appearance/Odor:

Red liquid, solvent odor

pH: N/A

Vapor Pressure: (MM HG): LT 3.0

Vapor Density(Air=1): 4.8

Evaporation Rate: N/A

Viscosity: N/A

Boiling Point: 180 F.

Freezing/Melting Point: N/A

Decomposition Temperature: N/A

Solubility in Water: Negligible

Specific Gravity: 0.9

Molecular Formula: N/A

Molecular Weight: N/A

VOC Coating (minus water): 0 Lbs/Gallon

Coating Density : 0 Lbs/Gallon

Solvent Density : 0 Lbs/Gallon

Percent Solvent (volume): 60

Percent Solids (volume): 0

Percent Water (volume): 0

Percent Volatile by Weight: 0

Miscellaneous:

% Volatile/Volume: 100.0

Percent Solvent (Volume): N/A

Percent Solids (Volume): N/A

Percent Water (Volume): N/A

Product is combustible, keep away from sources of ignition, oxidizing materials and acid. Store in an area equipped with automatic sprinklers or fire extinguishing system. Empty containers contain product residues, assume emptied containers to have same hazards as full containers.

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****** SECTION 10 - STABILITY AND REACTIVITY ******

Chemical Stability:

Stable: Yes

Conditions to Avoid:

Store below 150 F. Do not apply high heat or flame to container. Keep separate from strong oxidizing agents.

Incompatibilities with Other Materials:

Strong oxidants.

Hazardous Decomposition Products:

Excessive heating and/or incomplete combustion will produce carbon monoxide.

Hazardous Polymerization:

Hazardous polymerization may occur: No

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****** SECTION 11 - TOXICOLOGICAL INFORMATION ******

No data available.

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****** SECTION 12 - ECOLOGICAL INFORMATION ******

No data available.

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****** SECTION 13 - DISPOSAL CONSIDERATIONS ******

Dispose of product in accordance with local, state, and federal regulations. Before attempting clean up, refer to other sections of MSDS for hazard warning information.

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****** SECTION 14 - TRANSPORT INFORMATION ********Transportation Information:**

Shipping Information (CFR 49 and IMDG):

Proper Shipping Name: Gasoline Additive, N.O.I.

DOT Hazard Class: Not applicable

DOT UN Number: None applicable

IMDG Shipping Name: Non-Hazardous Gasoline Additive Flashpoint GT 141.5 F.

Label Information:

No data available.

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****** SECTION 15 - REGULATORY INFORMATION ******

SARA Title III:

Section 302: None

Section 304: None

Section 311: None

Section 313: None

CERCLA:

Section 311(b) (4): Requires discharges of crude oil and petroleum products in any kind or form to waters must immediately be reported to the National Response Center at (800) 424-8802.

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****** SECTION 16 - ADDITIONAL INFORMATION ******

Disclaimer: Information presented herein is believed to be factual, as it has been derived from the works and opinions of persons believed to be qualified experts. However, nothing contained in this information is to be taken as warranty or representation for which the Gold Eagle Co. bears legal responsibility. The user should review any recommendations in the specific context of the intended use to determine whether they are appropriate.

Prepared by: Mike Profetto

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TEXACO
MATERIAL SAFETY DATA SHEET

NOTE: Read and understand Material Safety Data Sheet before handling or disposing of product.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MATERIAL IDENTITY

Product Code and Name:

01866 ATF MERCON/DEXRON II MULTIPURPOSE

Chemical Name and/or Family or Description:

Transmission Fluids

Automatic Transmission FLUID

Manufacturer's Name and Address:

TEXACO LUBRICANTS COMPANY

P.O. Box 4427

Houston, TX 77210-4427

Telephone Numbers:

Transportation Emergency-Company : (914) 831-3400

CHEMTREC (USA): (800) 424-9300

In Canada : (800) 567-7455

Health Emergency -Company : (914) 831-3400

General MSDS Assistance : (914) 838-7204

Texaco FaxBack System : (713) 432-3383

Technical Information -Fuels : (914) 838-7336

-Lubricant/: (800) 782-7852 (Option 4)

Antifreezes/Fuel Additives

-Solvents/Chemicals : (800) 876-3738

2. COMPOSITION/INFORMATION ON INGREDIENTS

THE CRITERIA FOR LISTING COMPONENTS IN THE COMPOSITION SECTION IS AS FOLLOWS: CARCINOGENS ARE LISTED WHEN PRESENT AT 0.1 % OR GREATER; COMPONENTS WHICH ARE OTHERWISE HAZARDOUS ACCORDING TO OSHA ARE LISTED WHEN PRESENT AT 1.0 % OR GREATER; NON-HAZARDOUS COMPONENTS ARE LISTED AT 3.0 % OR GREATER. THIS IS NOT INTENDED TO BE A COMPLETE COMPOSITIONAL DISCLOSURE. REFER TO SECTION 14 FOR APPLICABLE STATES' RIGHT TO KNOW AND OTHER REGULATORY INFORMATION.

Product and/or Component(s) Carcinogenic According to:

OSHA IARC NTP OTHER NONE

- - - - X

Composition: (Sequence Number and Chemical Name)

Seq.	Chemical Name	CAS Number	Range in %
01 #	Solvent-dewaxed heavy paraffinic petroleum distillates	64742-65-0	80.00-94.99
02 #	Hydrotreated light naphthenic petroleum distillates	64742-53-6	1.00-2.99
03 #	Solvent-refined light naphthenic petroleum distillate	64741-97-5	1.00-2.99
04 #	Solvent-refined heavy paraffinic petroleum distillates	64741-88-4	1.00-2.99
05 *	Polymethacrylate	50867-55-5	1.00-2.99

PRODUCT IS NON-HAZARDOUS ACCORDING TO OSHA (1910.1200).

* COMPONENT IS HAZARDOUS ACCORDING TO OSHA.

COMPONENT, BY DEFINITION, IS CONSIDERED HAZARDOUS ACCORDING TO OSHA BECAUSE IT CARRIES THE PERMISSIBLE EXPOSURE LIMIT (PEL) FOR MINERAL OIL MIST.

Exposure Limits referenced by Sequence Number in the Composition Section

Seq.	Limit	
01	5	mg/m3 TWA-OSHA (MINERAL OIL MIST)
01	5	mg/m3 TWA-ACGIH (MINERAL OIL MIST)
01	10	mg/m3 STEL ACGIH (MINERAL OIL MIST)
02	5	mg/m3 TWA-OSHA (MINERAL OIL MIST)
02	5	mg/m3 TWA-ACGIH (MINERAL OIL MIST)
02	10	mg/m3 STEL ACGIH (MINERAL OIL MIST)
03	5	mg/m3 TWA-OSHA (MINERAL OIL MIST)
03	5	mg/m3 TWA-ACGIH (MINERAL OIL MIST)
03	10	mg/m3 STEL ACGIH (MINERAL OIL MIST)
04	5	mg/m3 TWA-OSHA (MINERAL OIL MIST)

PAGE: 1

N.D. - NOT DETERMINED

N.A. - NOT APPLICABLE

N.T. - NOT TESTED

< - LESS THAN

> - GREATER THAN

PRODUCT CODE: 01866
NAME: ATF MERCON/DEXRON II MULTIPURPOSE

Date Issued: 1997-09-05
Supersedes: 1997-07-15



2. COMPOSITION/INFORMATION ON INGREDIENTS (CONT)

04	5	mg/m3 TWA-ACGIH (MINERAL OIL MIST)
04	10	mg/m3 STEL ACGIH (MINERAL OIL MIST)

3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW

Appearance:
Red oil
Odor:
Petroleum odor

WARNING STATEMENT

NONE CONSIDERED NECESSARY

HMIS

Health: 1 Reactivity: 0
Flammability: 1 Special : -

NFPA

Health: 1 Reactivity: 0
Flammability: 1 Special : -

POTENTIAL HEALTH EFFECTS

	EYE	SKIN	INHALATION	INGESTION
Primary Route of Exposure:	X	X	X	-

EFFECTS OF OVEREXPOSURE

Acute:

Eyes:

May cause minimal irritation, experienced as temporary discomfort.

Skin:

Brief contact may cause slight irritation. Prolonged contact, as with clothing wetted with material, may cause more severe irritation and discomfort, seen as local redness and swelling.

Other than the potential skin irritation effects noted above, acute (short term) adverse effects are not expected from brief skin contact; see other effects, below, and Section 11 for information regarding potential long term effects.

Inhalation:

Vapors or mist, in excess of permissible concentrations, or in unusually high concentrations generated from spraying, heating the material or as from exposure in poorly ventilated areas or confined spaces, may cause irritation of the nose and throat, headache, nausea, and drowsiness.

Ingestion:

If more than several mouthfuls are swallowed, abdominal discomfort, nausea, and diarrhea may occur.

Sensitization Properties:

Unknown.

Chronic:

No adverse effects have been documented in humans as a result of chronic exposure. Section 11 may contain applicable animal data.

Medical Conditions Aggravated by Exposure:

Because of its irritating properties, repeated skin contact may aggravate an existing dermatitis (skin condition).

Other Remarks:

None

4. FIRST AID MEASURES

Eyes:

Flush eyes with plenty of water for several minutes. Get medical attention if eye irritation persists.

Skin:

Wash skin with plenty of soap and water for several minutes. Get medical attention if skin irritation develops or persists.

PAGE: 2

N.D. - NOT DETERMINED
< - LESS THAN

N.A. - NOT APPLICABLE
> - GREATER THAN

N.T. - NOT TESTED



4. FIRST AID MEASURES (CONT)

Ingestion:

If more than several mouthfuls of this material are swallowed, give two glasses of water (16 oz.). Get medical attention.

Inhalation:

If irritation, headache, nausea, or drowsiness occurs, remove to fresh air. Get medical attention if breathing becomes difficult or respiratory irritation persists.

Other Instructions:

Remove and dry-clean or launder clothing soaked or soiled with this material before reuse. Dry cleaning of contaminated clothing may be more effective than normal laundering. Inform individuals responsible for cleaning of potential hazards associated with handling contaminated clothing.

5. FIRE-FIGHTING MEASURES

Ignition Temperature - AIT (degrees F):

Not determined.

Flash Point (degrees F):

374 (COC)

Flammable Limits (%):

Lower: Not determined.

Upper: Not determined.

Recommended Fire Extinguishing Agents And Special Procedures:

Use water spray, dry chemical, foam, or carbon dioxide to extinguish flames. Use water spray to cool fire-exposed containers. Water or foam may cause frothing.

Unusual or Explosive Hazards:

None

Extinguishing Media Which Must Not Be Used:

Not determined.

Special Protective Equipment for Firefighters:

Wear full protective clothing and positive pressure breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES (Transportation Spills: CHEMTREC (800)424-9300)

Procedures in Case of Accidental Release, Breakage or Leakage:

Ventilate area. Avoid breathing vapor. Wear appropriate personal protective equipment, including appropriate respiratory protection. Contain spill if possible. Wipe up or absorb on suitable material and shovel up. Prevent entry into sewers and waterways. Avoid contact with skin, eyes or clothing.

If more than 1,111,111 pounds of product is spilled, then report spill according to SARA 304 and/or CERCLA 102(a) requirements, unless product qualifies for the petroleum exemption (CERCLA Section 101(14)).

7. HANDLING AND STORAGE

Precautions to be Taken in**Handling:**

Minimum feasible handling temperatures should be maintained.

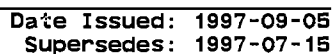
Storage:

Periods of exposure to high temperatures should be minimized. Water contamination should be avoided.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective Equipment (Type)**Eye/Face Protection:**

Safety glasses, chemical type goggles, or face shield recommended to prevent eye contact.



> - GREATER THAN



11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION (ANIMAL TOXICITY DATA)

Median Lethal Dose

Oral:

LD50 Believed to be > 5.00 g/kg (rat) practically non-toxic

Inhalation:

Not determined.

Dermal:

LD50 Believed to be > 2.00 g/kg (rabbit) practically non-toxic

Irritation Index, Estimation of Irritation (Species)

Skin:

(Draize) Believed to be > .50 - 3.00 /8.0 (rabbit) slightly irritating

Eyes:

(Draize) Believed to be < 15.00 /110 (rabbit) no appreciable effect

Sensitization:

Not determined.

Other:

None

12. DISPOSAL CONSIDERATIONS

Waste Disposal Methods

This product has been evaluated for RCRA characteristics and does not meet the criteria of a hazardous waste if discarded in its purchased form. Under RCRA, it is the responsibility of the user of the product to determine at the time of disposal, whether the product meets RCRA criteria for hazardous waste. This is because product uses, transformations, mixtures, processes, etc. may render the resulting materials hazardous.

Remarks

None

13. TRANSPORT INFORMATION

Transportation

DOT:

Proper Shipping Name:

Not regulated

IMDG:

Proper Shipping Name:

Not evaluated

ICAO:

Proper Shipping Name:

Not evaluated

TDG:

Proper Shipping Name:

Not evaluated

14. REGULATORY INFORMATION

Federal Regulations:

SARA Title III:

Section 302/304 Extremely Hazardous Substances

Seq. Chemical Name

CAS Number

Range in %

None

Section 302/304 Extremely Hazardous Substances (CONT)

Seq. TPQ

RQ

None

Section 311 Hazardous Categorization:

Acute Chronic Fire Pressure Reactive N/A

- - - - - X

Section 313 Toxic Chemical

Chemical Name

CAS Number

Concentration

None

PAGE: 5

N.D. - NOT DETERMINED

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14. REGULATORY INFORMATION (CONT)

CERCLA 102(a)/DOT Hazardous Substances: (+ indicates DOT Hazardous Substance)

Seq.	Chemical Name	CAS Number	Range in %
01+	Xylene	1330-20-7	0.009
02+	Ethylbenzene	100-41-4	0.00201

CERCLA/DOT Hazardous Substances (Sequence Numbers and RQ's):

Seq.	RQ
01+	100
02+	1000

TSCA Inventory Status:

This product, or its components, are listed on or are exempt from the Toxic Substance Control Act (TSCA) Chemical Substance Inventory.

Other:

None.

State Regulations:

California Proposition 65:

The following detectable components of this product are substances, or belong to classes of substances, known to the State of California to cause cancer and/or reproductive toxicity.

Chemical Name	CAS Number
None	

International Regulations:

WHMIS Classification:

Not regulated

Canada Inventory Status:

Not determined.

EINECS Inventory Status:

Not determined.

Australia Inventory Status:

This product, or its components, are listed on or are exempt from the Australian Inventory of Chemical Substances (AICS).

Japan Inventory Status:

Not determined.

15. ENVIRONMENTAL INFORMATION

Aquatic Toxicity:

Not determined.

Mobility:

Not determined.

Persistence and Biodegradability:

Not determined.

Potential to Bioaccumulate:

Not evaluated.

Remarks:

Not evaluated.

16. OTHER INFORMATION

None

THE INFORMATION CONTAINED HEREIN IS BELIEVED TO BE ACCURATE. IT IS PROVIDED INDEPENDENTLY OF ANY SALE OF THE PRODUCT FOR PURPOSE OF HAZARD COMMUNICATION AS PART OF TEXACO'S PRODUCT SAFETY PROGRAM. IT IS NOT INTENDED TO CONSTITUTE PERFORMANCE INFORMATION CONCERNING THE PRODUCT. NO EXPRESS WARRANTY, OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS MADE WITH RESPECT TO THE PRODUCT OR THE INFORMATION CONTAINED HEREIN. DATA SHEETS ARE AVAILABLE FOR ALL TEXACO PRODUCTS. YOU ARE URGED TO OBTAIN DATA SHEETS FOR ALL TEXACO PRODUCTS YOU BUY, PROCESS, USE OR DISTRIBUTE AND YOU

PAGE: 6

N.D. - NOT DETERMINED
< - LESS THAN

N.A. - NOT APPLICABLE
> - GREATER THAN

N.T. - NOT TESTED

PRODUCT CODE: 01866
NAME: ATF MERCON/DEXRON II MULTIPURPOSE

Date Issued: 1997-09-05
Supersedes: 1997-07-15



16. OTHER INFORMATION (CONT)

ARE ENCOURAGED AND REQUESTED TO ADVISE THOSE WHO MAY COME IN CONTACT WITH SUCH PRODUCTS OF THE INFORMATION CONTAINED HEREIN.

TO DETERMINE APPLICABILITY OR EFFECT OF ANY LAW OR REGULATION WITH RESPECT TO THE PRODUCT, USER SHOULD CONSULT HIS LEGAL ADVISOR OR THE APPROPRIATE GOVERNMENT AGENCY. TEXACO DOES NOT UNDERTAKE TO FURNISH ADVICE ON SUCH MATTERS.

Date: 1997-09-05 New ☒ Revised, Supersedes: 1997-07-15
Date printed: 1998-02-25

Inquiries regarding MSDS should be directed to:
Texaco Inc.
Manager, Product Safety
P.O. Box 509
Beacon, N.Y. 12508

PLEASE SEE NEXT PAGE FOR PRODUCT LABEL

PAGE: 7

N.D. - NOT DETERMINED
< - LESS THAN

N.A. - NOT APPLICABLE
> - GREATER THAN

N.T. - NOT TESTED



17. PRODUCT LABEL

Label Date: 1997-07-15

READ AND UNDERSTAND MATERIAL SAFETY DATA SHEET BEFORE HANDLING OR DISPOSING OF PRODUCT. THIS LABEL COMPLIES WITH THE REQUIREMENTS OF THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200) FOR USE IN THE WORKPLACE. THIS LABEL IS NOT INTENDED TO BE USED WITH PACKAGING INTENDED FOR SALE TO CONSUMERS AND MAY NOT CONFORM WITH THE REQUIREMENTS OF THE CONSUMER PRODUCT SAFETY ACT OR OTHER RELATED REGULATORY REQUIREMENTS.

01866 ATF MERCON/DEXRON II MULTIPURPOSE

WARNING STATEMENT

NONE CONSIDERED NECESSARY

PRECAUTIONARY MEASURES

- Avoid prolonged breathing of vapor, mist, or gas.
- Workers should wash exposed skin several times daily with soap and water.

FIRST AID

Eye Contact:

Flush eyes with plenty of water for several minutes. Get medical attention if eye irritation persists.

Skin Contact:

Wash skin with plenty of soap and water for several minutes. Get medical attention if skin irritation develops or persists.

Ingestion:

If more than several mouthfuls of this material are swallowed, give two glasses of water (16 oz.). Get medical attention.

Inhalation:

If irritation, headache, nausea, or drowsiness occurs, remove to fresh air. Get medical attention if breathing becomes difficult or respiratory irritation persists.

Note to Physician:

None

FIRE

In case of fire, use water spray, dry chemical, foam or carbon dioxide. Water may cause frothing. Use water spray to cool fire-exposed containers.

If more than 1,111,111 pounds of product is spilled, then report spill according to SARA 304 and/or CERCLA 102(a) requirements, unless product qualifies for the petroleum exemption (CERCLA Section 101(14)).

	Chemical Name	CAS Number	Range in %
#	Solvent-dewaxed heavy paraffinic petroleum distillates	64742-65-0	80.00-94.99
#	Solvent-refined heavy paraffinic petroleum distillates	64741-88-4	1.00-2.99
#	Solvent-refined light naphthenic petroleum distillate	64741-97-5	1.00-2.99
#	Hydrotreated light naphthenic petroleum distillates	64742-53-6	1.00-2.99
*	Polymethacrylate	50867-55-5	1.00-2.99

PRODUCT IS NON-HAZARDOUS ACCORDING TO OSHA (1910.1200).

* COMPONENT IS HAZARDOUS ACCORDING TO OSHA.

COMPONENT, BY DEFINITION, IS CONSIDERED HAZARDOUS ACCORDING TO OSHA BECAUSE IT CARRIES THE PERMISSIBLE EXPOSURE LIMIT (PEL) FOR MINERAL OIL MIST.

Pennsylvania Special Hazardous Substance(s)	CAS Number	Range in %
None		

HMIS

Health: 1 Reactivity: 0
Flammability: 1 Special : -

NFPA

Health: 1 Reactivity: 0
Flammability: 1 Special : -

Transportation

DOT:

Proper Shipping Name:

Not regulated

PRODUCT CODE: 01866
NAME: ATF MERCON/DEXRON II MULTIPURPOSE

Date Issued: 1997-09-05
Supersedes: 1997-07-15



17. PRODUCT LABEL (CONT)

Label Date: 1997-07-15

CAUTION: Misuse of empty containers can be hazardous. Empty containers can be hazardous if used to store toxic, flammable, or reactive materials. Cutting or welding of empty containers might cause fire, explosion or toxic fumes from residues. Do not pressurize or expose to open flame or heat. Keep container closed and drum bungs in place.

Manufacturer's Name and Address:
TEXACO LUBRICANTS COMPANY
P.O. Box 4427
Houston, TX 77210-4427

TRANSPORTATION EMERGENCY Company: (914) 831-3400
CHEMTREC: (800) 424-9300

HEALTH EMERGENCY Company: (914) 831-3400

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MATERIAL SAFETY DATA SHEET

Review Date: 02/13/2007

SECTION 1

PRODUCT AND COMPANY IDENTIFICATION

PRODUCT: Rotella® T Multigrade SAE 15W-40 (CJ-4)

MSDS NUMBER: 71630E - 15

PRODUCT CODE(S): 3194, 50012, 5001200001, 5001205203, 5001206021, 5001206205, 5001506205, 5056838, 5063444, 5063458, 5070719, 5071338, 5071352, 5071354, 5071355, 5071356, 5073235, 714072

MANUFACTURER

SOPUS Products
P.O. Box 4427
Houston, TX. 77210-4427

TELEPHONE NUMBERS

Spill Information: (877) 242-7400
Health Information: (877) 504-9351
MSDS Assistance Number: (877) 276-7285

SECTION 2

PRODUCT/INGREDIENTS

INGREDIENTS

Heavy Duty Motor Oil
Highly refined petroleum oils
Zinc Dialkyldithiophosphate
Proprietary additives

CAS#

Mixture
68649-42-3
Mixture

CONCENTRATION

90 - 99 %volume
1 - 5 %volume
1 - 5 %volume

SECTION 3

HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Appearance & Odor: Bright and clear liquid. Mild odor.

Health Hazards: No known immediate health hazards.

Physical Hazards: No known physical hazards.

NFPA Rating (Health, Fire, Reactivity): 0, 1, 0

Hazard Rating: Least - 0 Slight - 1 Moderate - 2 High - 3 Extreme - 4

Inhalation:

Inhalation of vapors (generated at high temperatures only) or oil mist may cause mild irritation of the nose, throat, and respiratory tract.

Eye Irritation:

Lubricating oils are generally considered no more than minimally irritating to the eyes.

Skin Contact:

May cause slight irritation of the skin. If irritation occurs, a temporary burning sensation and minor redness and/or swelling may result.

Ingestion:

Lubricating oils are generally no more than slightly toxic if swallowed.

Other Health Effects:

The International Agency for Research on Cancer (IARC) has determined there is sufficient evidence for the carcinogenicity in experimental animals of used gasoline motor oils. Handling procedures and safety precautions in the MSDS should be followed to minimize exposure to the used product.

Signs and Symptoms:

Irritation as noted above.

Aggravated Medical Conditions:

Pre-existing eye, skin and respiratory disorders may be aggravated by exposure to this product.

For additional health information, refer to section 11.

SECTION 4	FIRST AID MEASURES
------------------	---------------------------

Inhalation:

Remove victim to fresh air and provide oxygen if breathing is difficult. Get medical attention. If the victim has difficulty breathing or tightness of the chest, is dizzy, vomiting or unresponsive, give 100% oxygen with rescue breathing or CPR as required and transport to the nearest medical facility.

Skin:

Remove contaminated clothing and shoes and wipe excess from skin. Flush skin with water, then wash with soap and water. If irritation occurs, get medical attention. Do not reuse clothing until cleaned. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment.

Eye:

Flush with water. If irritation occurs, get medical attention.

Ingestion:

Do not induce vomiting. In general, no treatment is necessary unless large quantities of product are ingested. However, get medical attention.

Note to Physician:

In general, emesis induction is unnecessary in high viscosity, low volatility products such as oils and greases.

SECTION 5	FIRE FIGHTING MEASURES
------------------	-------------------------------

Flash Point [Method]: >400 °F/>204.44 °C [Pensky-Martens Closed Cup]

Extinguishing Media:

Material will float and can be re-ignited on surface of water. Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames. Do not use a direct stream of water.

Fire Fighting Instructions:

Do not enter confined fire space without full bunker gear (helmet with face shield, bunker coats, gloves and rubber boots), including a positive pressure, NIOSH approved, self-contained breathing apparatus. This material is non-flammable.

Unusual Fire Hazards:

Material may ignite when preheated.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Protective Measures:

May burn although not readily ignitable.

Wear appropriate personal protective equipment when cleaning up spills. Refer to Section 8.

Spill Management:

FOR LARGE SPILLS: Remove with vacuum truck or pump to storage/salvage vessels.

FOR SMALL SPILLS: Soak up residue with an absorbent such as clay, sand or other suitable material. Place in non-leaking container and seal tightly for proper disposal.

Place in container for proper disposal. Remove contaminated soil to remove contaminated trace residues. Dispose of in same manner as material.

Reporting:

CERCLA: Product is covered by EPA's Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) petroleum exclusion. Releases to air, land, or water are not reportable under CERCLA (Superfund).

CWA: This product is an oil as defined under Section 311 of EPA's Clean Water Act (CWA). Spills into or leading to surface waters that cause a sheen must be reported to the National Response Center, 1-800-424-8802.

SECTION 7 HANDLING AND STORAGE

Precautionary Measures:

Wash with soap and water before eating, drinking, smoking, applying cosmetics, or using toilet. Launder contaminated clothing before reuse. Properly dispose of contaminated leather articles such as shoes or belts that cannot be decontaminated. Avoid heat, open flames, including pilot lights, and strong oxidizing agents. Use explosion-proof ventilation to prevent vapor accumulation. Ground all handling equipment to prevent sparking.

Storage:

Do not store in open or unlabeled containers. Store in a cool, dry place with adequate ventilation. Keep away from open flames and high temperatures.

Container Warnings:

Keep containers closed when not in use. Containers, even those that have been emptied, can contain explosive vapors. Do not cut, drill, grind, weld or perform similar operations on or near containers.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Chemical	Limit	TWA	STEL	Ceiling	Notation
Oil mist, mineral	ACGIH TLV	5 mg/m ³	10 mg/m ³		
Oil mist, mineral	OSHA PEL	5 mg/m ³			

Exposure Controls

Provide adequate ventilation to control airborne concentrations below the exposure guidelines/limits.

Personal Protection

Personal protective equipment (PPE) selections vary based on potential exposure conditions such as handling practices, concentration and ventilation. Information on the selection of eye, skin and respiratory protection for use with this material is provided below.

Eye Protection:

Chemical Goggles, or Safety glasses with side shields

Skin Protection:

Use protective clothing which is chemically resistant to this material. Selection of protective clothing depends on potential exposure conditions and may include gloves, boots, suits and other items. The selection(s) should take into account such factors as job task, type of exposure and durability requirements.

Published literature, test data and/or glove and clothing manufacturers indicate the best protection is provided by:
Neoprene, or Nitrile Rubber

Respiratory Protection:

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, an approved respirator must be worn. Respirator selection, use and maintenance should be in accordance with the requirements of the OSHA Respiratory Protection Standard, 29 CFR 1910.134.

Types of respirator(s) to be considered in the selection process include:

For Mist: Air Purifying, R or P style NIOSH approved respirator.

For Vapors: Air Purifying, R or P style prefilter & organic cartridge, NIOSH approved respirator. Self-contained breathing apparatus for use in environments with unknown concentrations or emergency situations.

SECTION 9

PHYSICAL AND CHEMICAL PROPERTIES

Appearance & Odor: Bright and clear liquid. Mild odor.

Substance Chemical Family: Petroleum Hydrocarbon

Flash Point	> 400 °F [Pensky-Martens Closed Cup]	Pour Point	-20 °F
Solubility (in Water)	Insoluble	Specific Gravity	0.88 - 0.89
Stability	Stable	Viscosity	103 cSt @ 40 °C

SECTION 10

REACTIVITY AND STABILITY

Stability:

Material is stable under normal conditions.

Conditions to Avoid:

Avoid heat and open flames.

Materials to Avoid:

Avoid contact with strong oxidizing agents.

Hazardous Decomposition Products:

Thermal decomposition products are highly dependent on combustion conditions. A complex mixture of airborne solids, liquids and gases will evolve when this material undergoes pyrolysis or combustion. Aldehydes, Carbon Monoxide, Carbon Dioxide, Hydrogen Sulfide, Ketones, Nitrogen Oxides and other unidentified organic compounds may be formed upon combustion.

SECTION 11 TOXICOLOGICAL INFORMATION

Acute Toxicity

TEST	Result	OSHA Classification	Material Tested
Dermal LD50	>5.0 g/kg(Rabbit)	Non-Toxic	Based on components(s)
Oral LD50	>5.0 g/kg(Rat)	Non-Toxic	Based on components(s)

Carcinogenicity Classification

Chemical Name	NTP	IARC	ACGIH	OSHA
Heavy Duty Motor Oil	No	Not Reviewed by IARC	Not Reviewed	No

SECTION 12 ECOLOGICAL INFORMATION

Environmental Impact Summary:

There is no ecological data available for this product. However, this product is an oil. It is persistent and does not readily biodegrade. However, it does not bioaccumulate.

SECTION 13 DISPOSAL CONSIDERATIONS

RCRA Information:

Under RCRA, it is the responsibility of the user of the material to determine, at the time of the disposal, whether the material meets RCRA criteria for hazardous waste. This is because material uses, transformations, mixtures, processes, etc. may affect the classification. Refer to the latest EPA, state and local regulations regarding proper disposal.

SECTION 14 TRANSPORT INFORMATION

US Department of Transportation Classification

This material is not subject to DOT regulations under 49 CFR Parts 171-180.

Oil: This product is an oil under 49CFR (DOT) Part 130. If shipped by rail or highway in a tank with a capacity of 3500 gallons or more, it is subject to these requirements. Mixtures or solutions containing 10% or more of this product may also be subject to this rule.

International Air Transport Association

Not regulated under IATA rules.

International Maritime Organization Classification

Not regulated under International Maritime Organization rules.

SECTION 15**REGULATORY INFORMATION****Federal Regulatory Status****OSHA Classification:**

Under normal conditions of use or in a foreseeable emergency, this product does not meet the definition of a hazardous chemical when evaluated according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Ozone Depleting Substances (40 CFR 82 Clean Air Act):

This material does not contain nor was it directly manufactured with any Class I or Class II ozone depleting substances.

Superfund Amendment & Reauthorization Act (SARA) Title III:

There are no components in this product on the SARA 302 list.

SARA Hazard Categories (311/312):

Immediate Health	Delayed Health	Fire	Pressure	Reactivity
NO	NO	NO	NO	NO

SARA Toxic Release Inventory (TRI) (313):

Zinc compounds

Toxic Substances Control Act (TSCA) Status:

All component(s) of this material is(are) listed on the EPA/TSCA Inventory of Chemical Substances.

Other Chemical Inventories:

Component(s) of this material is (are) listed on the Australian AICS, Canadian DSL, Chinese Inventory, European EINECS, Korean Inventory, Philippines PICCS,

State Regulation

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

SECTION 16**OTHER INFORMATION**

Revision#: 15

Review Date: 02/13/2007

Revision Date: 12/19/2006

Revisions since last change (discussion): This Material Safety Data Sheet (MSDS) has been reviewed to fully comply with the guidance contained in the ANSI MSDS standard (ANSI Z400.1-2003). We encourage you to take the opportunity to read the MSDS and review the information contained therein.

SECTION 17**LABEL INFORMATION**

READ AND UNDERSTAND MATERIAL SAFETY DATA SHEET BEFORE HANDLING OR DISPOSING OF PRODUCT. THIS LABEL COMPLIES WITH THE REQUIREMENTS OF THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200) FOR USE IN THE WORKPLACE. THIS LABEL IS NOT INTENDED TO BE USED WITH PACKAGING INTENDED FOR SALE TO CONSUMERS AND MAY NOT CONFORM WITH THE REQUIREMENTS OF THE CONSUMER PRODUCT SAFETY ACT OR OTHER RELATED REGULATORY REQUIREMENTS.

PRODUCT CODE(S): 3194, 50012, 5001200001, 5001205203, 5001206021, 5001206205, 5001506205, 5056838, 5063444, 5063458, 5070719, 5071338, 5071352, 5071354, 5071355, 5071356, 5073235, 714072

Rotella® T Multigrade SAE 15W-40 (CJ-4)

ATTENTION!

PROLONGED OR REPEATED SKIN CONTACT MAY CAUSE OIL ACNE OR DERMATITIS. USED GASOLINE ENGINE OIL HAS BEEN SHOWN TO CAUSE CANCER IN LABORATORY ANIMALS.

Precautionary Measures:

Avoid prolonged or repeated contact with eyes, skin and clothing. Avoid breathing of vapors, fumes, or mist. Use only with adequate ventilation. Wash thoroughly after handling.

FIRST AID

Inhalation: If the victim has difficulty breathing or tightness of the chest, is dizzy, vomiting or unresponsive, give 100% oxygen with rescue breathing or CPR as required and transport to the nearest medical facility.

Skin Contact: Remove contaminated clothing and shoes and wipe excess from skin. Flush skin with water, then wash with soap and water. If irritation occurs, get medical attention. Do not reuse clothing until cleaned. If redness, swelling, pain and/or blisters occur, transport to the nearest medical facility for additional treatment.

Eye Contact: Flush with water. If irritation occurs, get medical attention.

Ingestion: Do not induce vomiting. In general, no treatment is necessary unless large quantities of product are ingested. However, get medical attention.

FIRE

In case of fire, Use water fog, 'alcohol foam', dry chemical or carbon dioxide (CO2) to extinguish flames. Do not use a direct stream of water. Material will float and can be re-ignited on surface of water.

SPILL OR LEAK

Dike and contain spill.

FOR LARGE SPILLS: Remove with vacuum truck or pump to storage/salvage vessels.

FOR SMALL SPILLS: Soak up residue with an absorbent such as clay, sand or other suitable material. Place in non-leaking container and seal tightly for proper disposal.

CONTAINS: Highly refined petroleum oils, Mixture; Zinc Dialkyldithiophosphate, 68649-42-3; Proprietary additives, Mixture

NFPA Rating (Health, Fire, Reactivity): 0, 1, 0

TRANSPORTATION

US Department of Transportation Classification

This material is not subject to DOT regulations under 49 CFR Parts 171-180.

Oil: This product is an oil under 49CFR (DOT) Part 130. If shipped by rail or highway in a tank with a capacity of 3500 gallons or more, it is subject to these requirements. Mixtures or solutions containing 10% or more of this product may also be subject to this rule.

CAUTION: Misuse of empty containers can be hazardous. Empty containers can be hazardous if used to store toxic, flammable, or reactive materials. Cutting or welding of empty containers might cause fire, explosion or toxic fumes from residues. Do not pressurize or expose to open flames or heat. Keep container closed and drum bungs in place.

Name and Address

SOPUS Products
P.O. Box 4427
Houston, TX 77210-4427

ADMINISTRATIVE INFORMATION	
MANUFACTURER ADDRESS:	SOPUS Products, P.O. Box 4427, Houston, TX. 77210-4427

THE INFORMATION CONTAINED IN THIS DATA SHEET IS BASED ON THE DATA AVAILABLE TO US AT THIS TIME, AND IS BELIEVED TO BE ACCURATE BASED UPON THAT : IT IS PROVIDED INDEPENDENTLY OF ANY SALE OF THE PRODUCT, FOR PURPOSE OF HAZARD COMMUNICATION. IT IS NOT INTENDED TO CONSTITUTE PRODUCT PERFORMANCE INFORMATION, AND NO EXPRESS OR IMPLIED WARRANTY OF ANY KIND IS MADE WITH RESPECT TO THE PRODUCT, UNDERLYING DATA OR THE INFORMATION CONTAINED HEREIN. YOU ARE URGED TO OBTAIN DATA SHEETS FOR ALL PRODUCTS YOU BUY, PROCESS, USE OR DISTRIBUTE, AND ARE ENCOURAGED TO ADVISE THOSE WHO MAY COME IN CONTACT WITH SUCH PRODUCTS OF THE INFORMATION CONTAINED HEREIN.

TO DETERMINE THE APPLICABILITY OR EFFECT OF ANY LAW OR REGULATION WITH RESPECT TO THE PRODUCT, YOU SHOULD CONSULT WITH YOUR LEGAL ADVISOR OR THE APPROPRIATE GOVERNMENT AGENCY. WE WILL NOT PROVIDE ADVICE ON SUCH MATTERS, OR BE RESPONSIBLE FOR ANY INJURY FROM THE USE OF THE PRODUCT DESCRIBED HEREIN. THE UNDERLYING DATA, AND THE INFORMATION PROVIDED HEREIN AS A RESULT OF THAT DATA, IS THE PROPERTY OF SOPUS PRODUCTS AND IS NOT TO BE THE SUBJECT OF SALE OR EXCHANGE WITHOUT THE EXPRESS WRITTEN CONSENT OF SOPUS PRODUCTS.

44815-10737-100R-02/13/2007



DEERE & COMPANY

John Deere Road, Moline, IL 61265
1-800-822-8262

Material Data Safety Sheet

JOHN DEERE PRODUCT NAME: Hy-Gard Transmission and Hydraulic Oil

DATA SHEET NO: 8503-40,100
LATEST REVISION DATE: 15 Aug. 1999
DEERE CODE: Y3, Y38, XN, Y4
JDM PART NO: AR69444, AR69445,
TY6238, TY6354, TY22028,
TY22062, TY22077, TY22078,
TY22079, TY22080, TY22092,
TY24496, TY24761
Part Nos. TY6237 TY6278 End 12/99

SECTION I - PRODUCT IDENTIFICATION

CHEMICAL NAME AND SYNONYMS: Lubricating Oil; Hydraulic Fluid; J20C
CHEMICAL FAMILY: Hydrocarbon FORMULA: Complex

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT	PERCENT	TLV/PEL	V.P.	CAS.#
Solvent refined, hydrotreated, heavy paraffinic distillate	50-60	5 mg/m ³ *	-	64742547
Solvent refined, hydrotreated, middle distillate	0-25	5 mg/m ³ *	-	64742467
Severely hydrotreated light naphthenic distillate	0-25	5 mg/m ³ *	-	64742536
Polymeric additive in oil (poly-methacrylate)	10-15	None	-	None
Additive containing zinc dialkyl dithiophosphate	5- 6	None	-	Mixture

*for oil mists

SECTION III - PHYSICAL DATA

BOILING POINT: N.A. SP. GRAVITY (WATER=1): 0.89
% VOLATILE VOLUME: N.A. EVAPORATION RATE: N.A.
VAPOR DENSITY: N.A. SOLUBILITY IN WATER: Insoluble
APPEARANCE/ODOR: dark amber/slight odor N.A. - not available

SECTION IV - FIRE & EXPLOSION HAZARD DATA

FLASH POINT: 390° F C.O.C. FLAMMABLE LIMIT - LEL: N.A.
EXTINGUISHING MEDIA: Water fog, foam, dry chemical, carbon dioxide, or halogenated
agents.
SPECIAL FIRE FIGHTING PROCEDURES: Do not use a direct stream of water. Product will
float and can be reignited on surface of water. Cool fire exposed containers with
water. Use NIOSH approved self-contained breathing apparatus.
UNUSUAL FIRE & EXPLOSION HAZARDS: None





----- SECTION V - HEALTH HAZARD DATA -----

EXPOSURE LIMIT: See Section II - Hazardous Ingredients

EFFECTS OF OVEREXPOSURE: Exposure to vapors or mists of this product may cause mild upper respiratory tract irritation. Prolonged or repeated contact may cause various skin disorders such as dermatitis, oil acne, or folliculitis. Eye contact is minimally irritating. Effects of ingestion are expected to be relatively non-toxic. Exposure to product may aggravate preexisting skin and respiratory conditions.

EMERGENCY & FIRST AID: Eyes - flush with water 15 minutes. Skin - remove contaminated clothing; wash skin with soap and water; if material is injected under the skin, do not wait for symptoms to develop - get medical attention promptly to prevent serious damage. Inhalation - remove victim to fresh air and provide oxygen if breathing is difficult. Ingestion - do NOT induce vomiting. In all cases seek medical attention.

----- SECTION VI - REACTIVITY DATA -----

STABILITY: Stable

INCOMPATIBILITY: Avoid open flame, and oxidizing materials

HAZARDOUS POLYMERIZATION: Will not occur

DECOMPOSITION PRODUCTS: Dependent on combustion conditions. A complex mixture of airborne solid, liquid, and gas will evolve when this material undergoes pyrolysis or combustion. Oxides of carbon, sulfur, phosphorous, and other unidentified organic compounds may be formed.

----- SECTION VII - SPILL OR LEAK PROCEDURE -----

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Dike and contain. Use vacuum or an absorbent such as clay or sand to pick up. Flush area with water to remove trace residue. NOTE: This product is classified as an oil under the Clean Water Act.

Spills, entering surface waters or any watercourse or sewer leading to surface waters, must be reported to the National Response Center 800-424-9802.

WASTE DISPOSAL METHOD: In accord with federal, state, and local regulations

----- SECTION VIII - PROTECTIVE EQUIPMENT INFORMATION -----

VENTILATION: Local exhaust to keep TLV/PEL below acceptable levels

RESPIRATOR: NIOSH approved as needed

EYE WEAR: Recommended

GLOVES: Recommended to minimize skin contact OTHER:

----- SECTION IX - SPECIAL PRECAUTIONS -----

Minimize skin contact. Wash with soap and water before eating, smoking, or using toilet facilities. Launder contaminated clothing before reuse. Properly dispose of contaminated articles including shoes that cannot be cleaned. Store in a cool, dry place with adequate ventilation. Keep away from open flames. Keep away from children.

----- SECTION X - DATA PREPARATION -----

NAME: T. M. Snyder, CIH

TITLE: Industrial Hygienist

SIGNATURE:

DATE: October 7, 1999

The information contained herein is believed to be accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendee assumes the risk in use of the material.



Material Safety Data Sheet

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

John Deere Hy-Gard® Transmission/Hydraulic Oil

Product Use: Transmission Fluid, Hydraulic Oil

Product Number(s): CPS240230

Company Identification

Chevron Products Company

Global Lubricants

6001 Bollinger Canyon Rd.

San Ramon, CA 94583

United States of America

www.chevronlubricants.com

Transportation Emergency Response

CHEMTREC: (800) 424-9300 or (703) 527-3887

Health Emergency

Chevron Emergency Information Center: Located in the USA. International collect calls accepted. (800) 231-0623 or (510) 231-0623

Product Information

email : lubemsds@chevrontexaco.com

SECTION 2 COMPOSITION/ INFORMATION ON INGREDIENTS

COMPONENTS	CAS NUMBER	AMOUNT
Highly refined mineral oil (C15 - C50)	Mixture	60 - 100 %weight
Zinc alkyl dithiophosphate	68649-42-3	1 - 5 %weight

SECTION 3 HAZARDS IDENTIFICATION

IMMEDIATE HEALTH EFFECTS

Eye: Not expected to cause prolonged or significant eye irritation.

Skin: Contact with the skin is not expected to cause prolonged or significant irritation. Contact with the skin is not expected to cause an allergic skin response. Not expected to be harmful to internal organs if absorbed through the skin. High-Pressure Equipment Information: Accidental high-velocity injection under the skin of materials of this type may result in serious injury. Seek medical attention at once should an accident like this occur. The initial wound at the injection site may not appear to be serious at first; but, if left untreated, could result in disfigurement or amputation of the affected part.

Ingestion: Not expected to be harmful if swallowed.

Inhalation: Not expected to be harmful if inhaled. Contains a petroleum-based mineral oil. May cause respiratory irritation or other pulmonary effects following prolonged or repeated inhalation of oil mist at airborne levels above the recommended mineral oil mist exposure limit. Symptoms of respiratory irritation may include coughing and difficulty breathing.

SECTION 4 FIRST AID MEASURES

Eye: No specific first aid measures are required. As a precaution, remove contact lenses, if worn, and flush eyes with water.

Skin: No specific first aid measures are required. As a precaution, remove clothing and shoes if contaminated. To remove the material from skin, use soap and water. Discard contaminated clothing and shoes or thoroughly clean before reuse.

Ingestion: No specific first aid measures are required. Do not induce vomiting. As a precaution, get medical advice.

Inhalation: No specific first aid measures are required. If exposed to excessive levels of material in the air, move the exposed person to fresh air. Get medical attention if coughing or respiratory discomfort occurs.

Note to Physicians: In an accident involving high-pressure equipment, this product may be injected under the skin. Such an accident may result in a small, sometimes bloodless, puncture wound. However, because of its driving force, material injected into a fingertip can be deposited into the palm of the hand. Within 24 hours, there is usually a great deal of swelling, discoloration, and intense throbbing pain. Immediate treatment at a surgical emergency center is recommended.

SECTION 5 FIRE FIGHTING MEASURES

Leaks/ruptures in high pressure system using materials of this type can create a fire hazard when in the vicinity of ignition sources (eg. open flame, pilot lights, sparks, or electric arcs).

FIRE CLASSIFICATION:

OSHA Classification (29 CFR 1910.1200): Not classified by OSHA as flammable or combustible.

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

FLAMMABLE PROPERTIES:

Flashpoint: (Cleveland Open Cup) 150 °C (302 °F) Minimum

Autoignition: No data available

Flammability (Explosive) Limits (% by volume in air): Lower: Not Applicable Upper: Not Applicable

EXTINGUISHING MEDIA: Use water fog, foam, dry chemical or carbon dioxide (CO₂) to extinguish flames.

PROTECTION OF FIRE FIGHTERS:

Fire Fighting Instructions: This material will burn although it is not easily ignited. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

Combustion Products: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, and unidentified organic compounds will be evolved when this material undergoes combustion.

SECTION 6 ACCIDENTAL RELEASE MEASURES
--

Protective Measures: Eliminate all sources of ignition in vicinity of spilled material.

Spill Management: Stop the source of the release if you can do it without risk. Contain release to prevent further contamination of soil, surface water or groundwater. Clean up spill as soon as possible, observing precautions in Exposure Controls/Personal Protection. Use appropriate techniques such as applying non-combustible absorbent materials or pumping. Where feasible and appropriate, remove contaminated soil. Place contaminated materials in disposable containers and dispose of in a manner consistent with applicable regulations.

Reporting: Report spills to local authorities and/or the U.S. Coast Guard's National Response Center at (800) 424-8802 as appropriate or required.

SECTION 7 HANDLING AND STORAGE

Precautionary Measures: DO NOT USE IN HIGH PRESSURE SYSTEMS in the vicinity of flames, sparks and hot surfaces. Use only in well ventilated areas. Keep container closed.

Keep out of the reach of children.

General Handling Information: Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

Static Hazard: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not, by themselves, be sufficient. Review all operations which have the potential of generating and accumulating an electrostatic charge and/or a flammable atmosphere (including tank and container filling, splash filling, tank cleaning, sampling, gauging, switch loading, filtering, mixing, agitation, and vacuum truck operations) and use appropriate mitigating procedures. For more information, refer to OSHA Standard 29 CFR 1910.106, 'Flammable and Combustible Liquids', National Fire Protection Association (NFPA) 77, 'Recommended Practice on Static Electricity', and/or the American Petroleum Institute (API) Recommended Practice 2003, 'Protection Against Ignitions Arising Out of Static, Lightning, and Stray Currents'.

Container Warnings: Container is not designed to contain pressure. Do not use pressure to empty container or it may rupture with explosive force. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static

electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum reconditioner or disposed of properly.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

GENERAL CONSIDERATIONS:

Consider the potential hazards of this material (see Section 3), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

ENGINEERING CONTROLS:

Use in a well-ventilated area.

PERSONAL PROTECTIVE EQUIPMENT

Eye/Face Protection: No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields as a good safety practice.

Skin Protection: No special protective clothing is normally required. Where splashing is possible, select protective clothing depending on operations conducted, physical requirements and other substances in the workplace. Suggested materials for protective gloves include: Nitrile Rubber, Silver Shield, Viton.

Respiratory Protection: No respiratory protection is normally required.

If user operations generate an oil mist, determine if airborne concentrations are below the occupational exposure limit for mineral oil mist. If not, wear an approved respirator that provides adequate protection from the measured concentrations of this material. For air-purifying respirators use a particulate cartridge.

Use a positive pressure air-supplying respirator in circumstances where air-purifying respirators may not provide adequate protection.

Occupational Exposure Limits:

Component	Agency	TWA	STEL	Ceiling	Notation
Highly refined mineral oil (C15 - C50)	ACGIH	5 mg/m ³	10 mg/m ³	--	--
Highly refined mineral oil (C15 - C50)	OSHA Z-1	5 mg/m ³	--	--	--

Consult local authorities for appropriate values.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Attention: the data below are typical values and do not constitute a specification.

Color: Colorless to yellow

Physical State: Liquid

Odor: Petroleum odor

pH: Not Applicable

Vapor Pressure: <0.01 mmHg @ 37.8 °C (100 °F)

Vapor Density (Air = 1): >1

Boiling Point: >260°C (500°F)

Solubility: Soluble in hydrocarbons; insoluble in water

Freezing Point: Not Applicable

Specific Gravity: 0.868 - 0.88 @ 15.6°C (60.1°F) / 15.6°C (60.1°F)

Density: 0.8687 kg/l @ 15°C (59°F) (Typical)

Viscosity: 7 cSt @ 100°C (212°F) Minimum

SECTION 10 STABILITY AND REACTIVITY

Chemical Stability: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Incompatibility With Other Materials: May react with strong acids or strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.

Hazardous Decomposition Products: None known (None expected)

Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

IMMEDIATE HEALTH EFFECTS

Eye Irritation: The eye irritation hazard is based on evaluation of data for similar materials or product components.

Skin Irritation: The skin irritation hazard is based on evaluation of data for similar materials or product components.

Skin Sensitization: The skin sensitization hazard is based on evaluation of data for similar materials or product components.

Acute Dermal Toxicity: The acute dermal toxicity hazard is based on evaluation of data for similar materials or product components.

Acute Oral Toxicity: The acute oral toxicity hazard is based on evaluation of data for similar materials or product components.

Acute Inhalation Toxicity: The acute inhalation toxicity hazard is based on evaluation of data for similar materials or product components.

ADDITIONAL TOXICOLOGY INFORMATION:

This product contains petroleum base oils which may be refined by various processes including severe solvent extraction, severe hydrocracking, or severe hydrotreating. None of the oils requires a cancer warning under the OSHA Hazard Communication Standard (29 CFR 1910.1200). These oils have not been listed in the National Toxicology Program (NTP) Annual Report nor have they been classified by the International Agency for Research on Cancer (IARC) as; carcinogenic to humans (Group 1), probably carcinogenic to humans (Group 2A), or possibly carcinogenic to humans (Group 2B). These oils have not been classified by the American Conference of Governmental Industrial Hygienists (ACGIH) as: confirmed human carcinogen (A1), suspected human carcinogen (A2), or confirmed animal carcinogen with unknown relevance to humans (A3).

SECTION 12 ECOLOGICAL INFORMATION

ECOTOXICITY

This material is not expected to be harmful to aquatic organisms. The ecotoxicity hazard is based on an evaluation of data for the components or a similar material.

ENVIRONMENTAL FATE

Ready Biodegradability: This material is not expected to be readily biodegradable. The biodegradability of this material is based on an evaluation of data for the components or a similar material.

SECTION 13 DISPOSAL CONSIDERATIONS

Use material for its intended purpose or recycle if possible. Oil collection services are available for used oil recycling or disposal. Place contaminated materials in containers and dispose of in a manner consistent with applicable regulations. Contact your sales representative or local environmental or health authorities for approved disposal or recycling methods.

SECTION 14 TRANSPORT INFORMATION

The description shown may not apply to all shipping situations. Consult 49CFR, or appropriate Dangerous Goods Regulations, for additional description requirements (e.g., technical name) and mode-specific or quantity-specific shipping requirements.

DOT Shipping Description: PETROLEUM LUBRICATING OIL, NOT REGULATED AS A HAZARDOUS MATERIAL FOR TRANSPORTATION UNDER 49 CFR

Additional Information: NOT HAZARDOUS BY U.S. DOT. ADR/RID HAZARD CLASS NOT APPLICABLE.

IMO/IMDG Shipping Description: PETROLEUM LUBRICATING OIL; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER THE IMDG CODE

ICAO/IATA Shipping Description: PETROLEUM LUBRICATING OIL; NOT REGULATED AS DANGEROUS GOODS FOR TRANSPORT UNDER ICAO TI OR IATA DGR

SECTION 15 REGULATORY INFORMATION

EPCRA 311/312 CATEGORIES: 1. Immediate (Acute) Health Effects: NO

2. Delayed (Chronic) Health Effects: NO

3. Fire Hazard: NO

4. Sudden Release of Pressure Hazard: NO

5. Reactivity Hazard: NO

REGULATORY LISTS SEARCHED:

01-1=IARC Group 1	03=EPCRA 313
01-2A=IARC Group 2A	04=CA Proposition 65
01-2B=IARC Group 2B	05=MA RTK
02=NTP Carcinogen	06=NJ RTK
	07=PA RTK

The following components of this material are found on the regulatory lists indicated.

Zinc alkyl dithiophosphate	03, 06
----------------------------	--------

CHEMICAL INVENTORIES:

All components comply with the following chemical inventory requirements: AICS (Australia), DSL (Canada), EINECS (European Union), ENCS (Japan), IECSC (China), KECI (Korea), PICCS (Philippines), TSCA (United States).

NEW JERSEY RTK CLASSIFICATION:

Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: PETROLEUM OIL (Automatic transmission fluid)

WHMIS CLASSIFICATION:

This product is not considered a controlled product according to the criteria of the Canadian Controlled Products Regulations.

SECTION 16 OTHER INFORMATION

NFPA RATINGS: Health: 0 Flammability: 1 Reactivity: 0

HMIS RATINGS: Health: 1 Flammability: 1 Reactivity: 0

(0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme, PPE:- Personal Protection Equipment Index recommendation, *- Chronic Effect Indicator). These values are obtained using the guidelines or published evaluations prepared by the National Fire Protection Association (NFPA) or the National Paint and Coating Association (for HMIS ratings).

LABEL RECOMMENDATION:

Label Category : INDUSTRIAL OIL 1 - IND1

REVISION STATEMENT: This revision updates the following sections of this Material Safety Data Sheet: 1,2,3,8,9,11,12,14,15,16.

Revision Date: AUGUST 20, 2010

ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT:

TLV - Threshold Limit Value	TWA - Time Weighted Average
STEL - Short-term Exposure Limit	PEL - Permissible Exposure Limit
	CAS - Chemical Abstract Service Number
ACGIH - American Conference of Government Industrial Hygienists	IMO/IMDG - International Maritime Dangerous Goods Code
API - American Petroleum Institute	MSDS - Material Safety Data Sheet
CVX - Chevron	NFPA - National Fire Protection Association (USA)
DOT - Department of Transportation (USA)	NTP - National Toxicology Program (USA)
IARC - International Agency for Research on Cancer	OSHA - Occupational Safety and Health Administration

Prepared according to the OSHA Hazard Communication Standard (29 CFR 1910.1200) and the ANSI MSDS Standard (Z400.1) by the Chevron Energy Technology Company, 100 Chevron Way, Richmond, California 94802.

The above information is based on the data of which we are aware and is believed to be correct as of the date hereof. Since this information may be applied under conditions beyond our control and with which we may be unfamiliar and since data made available subsequent to the date hereof may suggest modifications of the information, we do not assume any responsibility for the results of its use. This information is furnished upon condition that the person receiving it shall make his own determination of the suitability of the material for his particular purpose.

MATERIAL SAFETY DATA SHEET

3-in One Drip Oil

1 IDENTIFICATION

Name of product: 3-in-One oil
Acronym/Z Code: TIOOL/Z4567
Product Type: All purpose lubricating oil
Use: The product is used for the lubrication of moving parts and is used for protecting tools and Surfaces from the effects of rust.
Appearance: A low viscosity all purpose oil, pale straw colour. The oil is contained in a tinplate container fitted with a dropper spout.
Supplied by: WD-40 Company Limited
PO Box 440, Kiln Farm, Milton Keynes, MK11 3LF
Tel: 01908 555400 Fax: 01908 266900

2 COMPOSITION

The product contains the following materials:

	% Weight	Cas No
PALE SPINDLE OIL	>98%	64742-52-5
CORROSION INHIBITOR	Less than 1.0%	N/A
CITRONELLA OIL	Less than 0.5%	N/A

Irritant

Flammable

3 HAZARDS IDENTIFICATION

EYE CONTACT – Can cause stinging and irritation
SKIN CONTACT - Prolonged contact with the oil may give rise to irritation and dermatitis
INHALATION - Aspiration into the lungs is the main hazard, which may cause chemically induced Pneumonia
INDIGESTION - May cause irritation of the mouth, oesophagus, stomach, abdominal pain and diarrhoea. Nausea and vomiting are the most likely outcome and the greatest danger would result from aspiration into the lungs.

4 FIRST AID MEASURES

SKIN - Wash copiously with soap and water – remove contaminated clothing, including shoes and launder before re-use. If skin irritation develops seek immediate medical attention.
EYES - As soon as possible irrigate thoroughly with water for at least 10 minutes, holding the eyelids apart. If in any doubt, or the irritation persists, obtain medical attention.
INHALATION Ensure that airways are clear and unobstructed. Keep warm and at rest. If there is any difficulty in breathing, or vomiting has occurred obtain medical attention urgently. If breathing stops or shows signs of failing, apply mouth to mouth ventilation and put near fresh air.
INGESTION In the event of deliberate ingestion help must be obtained urgently.

Keep at rest. *Do not induce vomiting* but seek prompt medical attention. Observe patient in case abdominal pain develops, or patient starts to vomit. Try to keep patient conscious and try to make certain the patient does not aspire vomit into lungs.

5 FIRE FIGHTING MEASURES

In the event of fire, use carbon dioxide, dry powder or foam extinguishers.

6 ACCIDENTAL RELEASE MEASURES

The oil should not be allowed to enter drains or water courses. Small spills should be soaked up with sand or earth
Disposed of in accordance with local bylaws and the requirements of the Environmental Protection Act 1990

7 HANDLING AND STORAGE

Containers should be kept away from heat and oxidising agents and containers should be kept out of reach from young children

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Wear suitable gloves if excessive skin contact is likely to occur, or if there is a history of skin problems

9 PHYSICAL & CHEMICAL PROPERTIES

Physical state: Medium viscosity oil

Odour:	Citrus, oily characteristic
Product density:	0.905 @ 15° Celsius
Flammability:	Flash point approx 150° Celsius

10 STABILITY AND REACTIVITY

Pale spindle oil and mineral oil will give rise to a range of substances from thermal decomposition. The following substances may be expected from normal combustion:

Carbon Dioxide:	Polycyclic aromatic hydrocarbons
Carbon Monoxide:	Unburned hydrocarbons
Water:	Unidentified organic/inorganic compounds
Particular matter:	Nitrogen oxides

11 TOXICOLOGICAL INFORMATION

The product is not classified as dangerous for health effect

12 ECOLOGICAL INFORMATION

Pale spindle oil is a mixture of non-volatile components which are not expected to be released to air in any significant quantities.

If released to water the oil will form a floating layer and its components will not evaporate or dissolve to any great extent. Dissolved components will be absorbed in sediments. In aerobic water any sediments will biodegrade slowly, but in anaerobic conditions they will persist. Pale spindle oil is practically non-toxic to aquatic organisms but contains components which have a high potential to bioaccumulate. Small volumes released on land will be absorbed in the upper soil layers and biodegrade slowly. Larger volumes may penetrate into anaerobic soil layers in which the product will persist and may reach the water table on which it will form a floating layer. The more soluble components may dissolve but their high soil absorption co-efficiency and the low solubility will prevent significant contamination of ground water.

13 DISPOSAL CONSIDERATIONS

Oil based products should be disposed of to a licensed waste contractor. Any disposal route should comply with local bylaws and the requirements of environmental protection legislation.

14 TRANSPORT INFORMATION

UN number:	N/A
Description:	N/A
IMDG class:	Not classified
Packaging group:	N/A
ADR class:	N/A
Hazard class:	Flammable liquid

15 REGULATORY INFORMATION

Chemical (Hazard Information and Packaging Regulation) 1994 No 3247 and Amendment 1996 No 1092 1988 relating to the Classification of Packaging and Council Directive 75/324/EEC Relating to Aerosol Dispensers and Amendment 94/1/EC

Keep out of reach of children. If swallowed seek medical advice immediately and show this container or label.

a)	Consumer Pack Label
Classification:	Not classified as dangerous

16 OTHER INFORMATION

Data sources used in the preparation of this SDS:
Raw material supplier's safety data sheets.

We believe the statements, technical information and recommendations contained herein are reliable. However, the data is provided without warranty, expressed or implied. It is the users responsibility both to determine safe conditions for use of this product and assume loss damage or expense, direct or consequential, arising from its use. Before using the product, read information printed on the label.

**Material Safety Data Sheet For COMPRESSOR OIL
ACL032-P6, ACL032-P12, ACL130**

Coilhose Pneumatics
19 Kimberly Avenue
East Brunswick, NJ 08816
732-390-8480

REVISION DATE: 12/28/95

DATE ISSUED: 01/01/05

IDENTIFICATION AND EMERGENCY INFORMATION

PRODUCT NAME:
ACL032-P6, ACL032-P12, ACL130

PRODUCT #:
200278

CHEMICAL NAME:
N/A - Mixture

CAS #'S:
Mixture

PRODUCT APPEARANCE AND ODOR:
Amber liquid, petroleum odor

CHEMICAL FAMILY:
Semi-Synthetic Fluid

SYNONYMS:
Petroleum-based compressor oil

EMERGENCY TELEPHONE:
908-862-9300

COMPONENTS AND HAZARD INFORMATION

COMPONENTS:	W/W	HAZARD DATA (TLV, LD50, LC50, ETC.):
Water CAS #: 7732-18-5		n/e
Ethylene Glycol CAS #: 107-21-1		TLV50ppm (125 mg/meter cubed ceiling), for vapor and mist combined (ACGIH 1984-85)
Sodium Petroleum Sulfonate CAS #: 68608-26-4		PEL 5mg/meter cubed as an oil mist.
Oleic Acid Cas #: 112-80-1		n/e
Polyethylene Glycol Dioleate Cas #: 9005-07-6 For further information see Toxicity section		n/e

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS):

Health	Flammability	Reactivity
1	0	0

TRANSPORTATION INFORMATION

TRANSPORTATION INCIDENT INFORMATION:

ICC: Compound or lubricant. Metal cutting, drawing or drilling. Dry, liquid or paste. NOI

DOT: Not regulated.

EMERGENCY FIRST AID

EYE CONTACT: Immediately flush with water, and continue washing the eyes for several minutes.

SKIN CONTACT: Remove contaminated clothing and flush skin with water.

INHALATION: Remove to fresh air. Call a physician if discomfort persists.

INGESTION: If conscious, give two glasses of water and induce vomiting. Call a physician immediately.

NOTES TO PHYSICIAN: The principal toxic affects of ethylene glycol, when swallowed, are kidney damage and metabolic acidosis. Ethanol is antidotal, and its early administration may block the formation of nephrotoxic metabolites of ethylene glycol in the liver. Ethanol should be given intravenously, as a 5% solution in sodium bicarbonate, at a rate of about 10 ml per hour. A desired therapeutic level of ethanol in blood is 100mg/dl. Hemodialysis may be required. Pulmonary edema with hypoxemia has been described in a number of patients following poisoning with ethylene glycol. The mechanism of production has not been elucidated, but it appears to be non cardiogenic in origin in several cases. Respiratory support with mechanical ventilation and positive end-expiratory pressure may be required.

FIRE AND EXPLOSION HAZARD INFORMATION

FLASH POINT (MINIMUM):

not applicable

AUTOIGNITION TEMPERATURE:

n/e

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) - HAZARD IDENTIFICATION:

Health

1

Flammability

0

Reactivity

0

FLAMMABLE OR EXPLOSIVE LIMITS (approximate percent by volume in air):

Estimated values: lower 3.2%, upper 15.3%

EXTINGUISHING MEDIA AND FIRE FIGHTING PROCEDURES:

Apply alcohol type or all purpose type foams by manufactures' recommended techniques for large fires.

Use water spray, carbon dioxide or dry chemical media for small fires.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

n/a

"EMPTY CONTAINER WARNING":

Empty containers contain residue (liquid or vapor) and can be dangerous. DO NOT PRESSURIZE, WELD, CUT, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAMES, SPARKS, OR OTHER SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to clean since residue is difficult to remove. "Empty" drums should be completely drained, properly bunged, and returned to a drum reconditioner. All other containers should be disposed of in an environmentally safe manner and in accordance with government regulations, ANSI Z49.1, and other governmental and industrial references pertaining to cleaning, repairing, welding, or other contemplated operations.

HEALTH AND HAZARD INFORMATION

EXPOSURE LIMIT FOR TOTAL PRODUCT:

50 PPM Ceiling for vapor and mist

BASIS:

ACGH: 1984-85

SWALLOWING: May cause abdominal discomfort or pain, dizziness, malaise, lumbar pain, oliguria, uremia, and central nervous system depression. Severe kidney damage follows the swallowing of large volumes of ethylene glycol. May be fatal.

HEALTH AND HAZARD INFORMATION

SKIN ABSORPTION: No evidence of adverse health effects from available information.

INHALATION: May cause irritation of the nose and throat with headache, particularly from mists. High vapor concentrations caused, for example, by heating the material in an enclosed and poorly ventilated workplace may produce nausea, vomiting, headache, and dizziness.

SKIN CONTACT: No evidence of adverse health effects from available information.

EYE CONTACT: Liquid vapor, and mist may cause discomfort in the eye with transient conjunctivitis. Serious corneal injury is not anticipated.

EFFECTS OF REPEATED OVEREXPOSURE: Inhalation of mist may produce signs of central nervous system involvement, particularly dizziness and nystagmus.

PHYSICAL DATA: The following data are approximate or typical values and should not be used for precise design purposes.

BOILING RANGE:
Wide range

VAPOR PRESSURE:
n/e

SPECIFIC GRAVITY (25°C/25°C):
(WATER = 1)
>1.0

VAPOR DENSITY (AIR = 1):
n/e

MOLECULAR WEIGHT:
Wide Range

PERCENT VOLATILE BY VOLUME:
80%

EVAPORATION RATE @ 1 ATM. AND 25°C
(77°F) (n-BUTYL ACETATE = 1):
>1.0

SOLUBILITY IN WATER @ 1 ATM. and 25°C
(77°F):
Soluble

POUR, CONGEALING OR MELTING POINT:
n/e

FREEZING POINT:
n/e

REACTIVITY

This product is stable and will NOT react violently with water. Hazardous polymerization will not occur. Avoid contact with strong oxidants such as liquid chlorine, concentrated oxygen, sodium hypochlorite or calcium hypochlorite, etc., as this represents a serious explosion hazard.

DECOMPOSITION PRODUCTS UNDER FIRE CONDITIONS: Fumes, smoke, carbon monoxide, oxides of sulfur, and other decomposition products, in case of incomplete combustion.

CONDITIONS TO AVOID: Open Flames.

TOXICITY

ORAL (Acute)	n/e
DERMAL (Acute)	n/e
EYE	n/e
INHALATION (Acute)	n/e
CHRONIC, SUBCHRONIC, ETC.	n/e

TOXICITY

This product does NOT contain any ingredients identified as carcinogenic by IARC, NTP, or OSHA.

SARA Section 313 Status: This product contains the following Section 313 reportable ingredients:

Component CAS# %/Ethylene Glycol 107-21-1 64

OTHER EFFECTS OF OVEREXPOSURE: Ethylene glycol has been shown to produce dose-related teratogenic effects in rats and mice when given by gavage or in drinking water at high concentrations. There is, however, no currently available information to suggest that ethylene glycol has caused birth defects in humans. Therefore, ethylene glycol is considered an animal teratogen. Two chronic feeding studies, using rats and mice, have not produced any evidence that ethylene glycol causes dose-related increases in tumor incidence, or a different pattern of tumors compared with untreated controls. The absence of a carcinogenic potential for ethylene glycol has been supported by numerous in vitro genotoxicity studies showing that it does not produce mutagenic or clastogenic effects.

SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Keep product out of sewers and watercourses by diking or impounding. Absorb with sand or inert material. Sweep or scoop up and remove. Prevent spread of spill. Advise authorities if product has entered or may enter sewers, watercourses or extensive land areas. Assure conformity with local regulations.

WASTE DISPOSAL METHOD: (Consult federal, state, or local authorities for proper disposal procedures.) Assure conformity with applicable disposal regulations. Dispose of absorbed material at an approved waste site or facility.

PROTECTIONS AND PRECAUTIONS

VENTILATION: (Always maintain below permissible exposure limits.) Use local exhaust to capture vapor, mist or fumes, if necessary.

RESPIRATORY PROTECTION: (Use only NIOSH approved equipment.) Normally not needed at ambient temperatures.

PROTECTIVE GLOVES: Use chemical-resistant gloves, if needed, to avoid prolonged or repeated skin contact.

EYE PROTECTION: Use splash goggles or face shield when eye contact may occur.

OTHER PROTECTIVE EQUIPMENT: Use chemical-resistant apron or other impervious clothing, if needed, to avoid contaminating regular clothing, which could result in prolonged or repeated skin contact.

WORK PRACTICES/ENGINEERED CONTROLS: Keep containers closed when not in use. Do not handle near heat, sparks, flame, or strong oxidants.

DO NOT MIX WITH NITRITES OR PRODUCTS, WHICH CONTAIN NITRITES.

PERSONAL HYGIENE: Minimize breathing vapor, mist, or fumes. Avoid prolonged or repeated contact with skin. Remove contaminated clothing; launder or dry-clean before reuse. Remove contaminated shoes and thoroughly clean them before reuse. Cleanse skin thoroughly after contact, before breaks and meals, and at the end of work period. Product is readily removed from skin by waterless hand cleaners, followed by washing thoroughly with soap and water.

PREPARED BY: Erick Aho, Chemist

The above information is accurate to the best of our knowledge. However, since data, safety standards, and government regulations are subject to change and the conditions of handling and use, or misuse beyond our control, seller makes no warranty, either expressed or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. User should satisfy himself that he has all current data relevant to his particular use.

MATERIAL SAFETY DATA SHEET

AIR COMPRESSOR OIL

I. PRODUCT AND MANUFACTURER INFORMATION	
Product name	AIR COMPRESSOR OIL
Chemical name	PETROLEUM OIL
Synonyms	LUBRICATING OIL
CAS number	
Manufacturer	Ashburn Chemical Technologies 2911 Rusk Houston, TX 77003
Emergency phone number	713-425-3000
MSDS prepared by	
Date of last revision	5/2/05

II. HAZARDOUS INGREDIENTS					
HAZARDOUS COMPONENT	CAS NUMBER	% Optional	OSHA PEL	ACGIH TLV	CHEMICAL AND/OR COMMON NAME(S)
Distillates, petroleum, solvent-refined heavy paraffinic	64741-88-4		5 mg/m3	5 mg/m3	
Distillates, petroleum, hydrotreated heavy paraffinic	64742-54-7		5 mg/m3	5 mg/m3	

(All other products are not considered to be subject to Section 313 provisions of SARA Title III)

III. PHYSICAL AND CHEMICAL CHARACTERISTICS	
Boiling point @ 760 mm Hg	ND
Vapor pressure at 20 °C	<0.01 mmHg
Vapor density (air = 1)	>1
Solubility in water	INSOLUBLE
Appearance and odor	LIGHT AMBER LIQUID, MILD PETROLEUM ODOR
Specific gravity (H ₂ O = 1.0)	0.88
Melting point	ND
Evaporation rate (butyl acetate = 1)	<1

IV. FIRE AND EXPLOSION HAZARD DATA			
Combustible/Not combustible	OSHA/NFPA Class IIIB combustible liquid		
Flammable/Not flammable	Not Flammable		
Pyrophoric/Not pyrophoric	Not Pyrophoric		
Explosive/Not explosive	Not explosive		
Flash point (test method)	428 F (Pensky-Martens (ASTM D-93))		
Flammable limits (in Air % by volume)	LEL ND	UEL ND	
Extinguishing media	Water fog, foam, carbon dioxide, dry chemical.		
Special fire-fighting procedures or equipment	Treat as hot oil. Fire Fighters should wear NIOSH approved self-contained breathing apparatus.		
Unusual fire and explosion hazards	Intense heat can cause drums to rupture. Cool fire-exposed containers with water.		

V. REACTIVITY DATA	
Material is stable/unstable	Stable
Conditions to avoid	Keep away from extreme heat and open flame.
Incompatibility (materials to avoid)	Strong oxidizers

Hazardous decomposition or by-products	Carbon dioxide, carbon monoxide, smoke, fumes, unburned hydrocarbons and trace oxides of sulfur, and or nitrogen.
Hazardous polymerization will/will not occur	Will not occur.

VI. HEALTH HAZARD DATA	
Threshold limit value	
Primary route(s) of entry	Skin
Known Hazards Under 29 CFR 1910.1200	
Mutagenic (genetic defects)	NONE
Reproductive	NONE
Systemic	NONE
Teratogenic (birth defects)	NONE
Carcinogen listed in:	
NTP (National Toxicology Program)	NO
IARC Monographs	NO
OSHA	NO
Signs and symptoms of exposure	
Inhalation	In elevated temperatures or in enclosed spaces, product mist or vapors may irritate the mucous membranes of the nose, throat, bronchi, and lungs.
Skin contact	This product may cause mild skin irritation from prolonged skin contact. Injection into the skin, muscle or blood stream requires immediate medical attention.
Eye contact	This product can cause transient eye irritation with short term contact with liquid sprays or mists.
Ingestion	If ingested, no significant adverse health effects are anticipated. Ingestion can cause mild irritation to the digestive tract or cause a laxative effect. If aspirated into the lungs, the material can cause severe lung damage or death.
Emergency first aid procedures	
Inhalation	Move victim to fresh air. If victim is not breathing, begin artificial respiration. If breathing is difficult, 100% humidified oxygen should be administered by a qualified individual. Seek immediate medical attention.
Skin contact	Remove contaminated shoes and clothing. Wipe off excess material. Wash exposed skin with soap and water. Seek medical attention if tissue appears damaged or if irritation persists. Thoroughly clean clothing before re-use. Discard contaminated leather goods. Injection into the skin, muscle or blood stream requires immediate medical attention.
Eye contact	Check for and remove contact lenses. Flush eyes with cool clean low pressure water while occasionally lifting and lowering the eyelids. Seek medical attention if excessive tearing, redness, or pain persists.
Ingestion	Do not induce vomiting unless directed by a physician. Do not give anything to drink unless directed by a physician. Never give anything by mouth to person who is unconscious. Seek medical attention immediately.
Medical conditions generally aggravated by exposure	Personnel with pre-existing skin disorders should avoid repeated or prolonged contact with this product.
Notes to physician	In the event of injection into underlying tissue, immediate treatment should include extensive incision and saline irrigation. Inadequate treatment can result in eschemia and gangrene. Early symptoms may be minimal.

VII. PRECAUTIONS FOR SAFE HANDLING AND USE	
Steps to take if released or spilled	Treat as an oil spill. Dike area. Clean up with absorbent material. Do not flush into drain or sewers. Place in a DOT approved container for disposal.
Waste disposal method	According to federal, state and local regulations.
Precautions for handling and storing	

Other precautions		
Hazard ratings	HMIS	NFPA
Health	0	0
Flammability	1	1
Reactivity	0	0
Personal protection	B	

VIII. CONTROL MEASURES	
Protective gloves (type and material)	Use gloves that are chemical resistant such as neoprene or nitrile rubber.
Eye protection	Use safety glasses with side shields or goggles or face shield if splashing or spraying is anticipated.
Other protective clothing or equipment	Impervious protective clothing. e.g. Tyvek.
Respiratory protection (specify type)	None normally required. If TLV is exceeded, use NIOSH approved respirator.
Ventilation and conditions	General room ventilation should be satisfactory. Local exhaust ventilation may be necessary if misting is generated.
Local	
Mechanical	
Other	
Special	
Work/hygienic practices	Laundry contaminated clothing before reuse. Avoid prolonged breathing of mist and vapors. Use as directed. Normal precautions common to good manufacturing should be followed in handling and storing. Store away from food. Wash hands before eating, drinking, or smoking.

IX. ADDITIONAL REGULATORY INFORMATION	
SARA hazard category (Section 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III))	NONE
Toxic chemical(s) subject to the supplier notification requirements of section 313 of the Superfund Amendment and Reauthorization Act of 1986 (SARA) and the requirements of 40 CFR part 372	NONE
Ingredient(s) regulated under the Clean Air Act Section 112 hazardous air pollutants and subject to all reporting requirements of CERCLA (Superfund)	NONE

NA – not applicable NR – not reported ND – not determined NE – not established UN – unknown

The information presented in this MSDS has been compiled from sources deemed reliable. This MSDS is presented in good faith and believed to be accurate as of the effective date shown above. No warranty, expressed or implied, is given.

Regulatory requirements are subject to change and may differ from one location to another. It is the responsibility of the buyer to insure compliance with federal, state, provincial and local laws and regulations.

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MATERIAL SAFETY DATA SHEET

SECTION 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product Name: LOCTITE SILVER GRADE ANTI-SEIZE LUBRICANT

Proper Shipping Name: None allocated

Product code(s): 199012, 471321, 552091, 471322, 471319, 235014

Part Number(s): 76732 (236ml), 76741 (250g), 76769 (500g), 76731 (5kg), 76785 (10kg), 76779 (194kg)

Use: Anti-seize compound

Supplier: HENKEL AUSTRALIA PTY. LIMITED ABN 82 001 302 996
TECHNOLOGIES
135-141 Canterbury Road, Kilsyth, Victoria, 3137. Tel: (03) 9724 6444
24 HOUR EMERGENCY CONTACT NUMBER Tel: 1800 032 379

SECTION 2. HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE:

Hazardous according to the criteria of ASCC. This material has been classified as Irritant (Xi).

Risk phrase(s):

R36/38 Irritating to eyes and skin.

Safety phrase(s):

S24/25 Avoid contact with skin and eyes.

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S28 After contact with skin, wash immediately with plenty of soap suds.

S37/39 Wear suitable gloves and eye/face protection.

S46 If swallowed, seek medical advice immediately and show this container or label.

DANGEROUS GOODS INFORMATION:

Not classified as Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code).

SUSDP POISON SCHEDULE: None allocated

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENTS:

CHEMICAL ENTITY	CAS NO.	PROPORTION
Petroleum hydrocarbons		30- 60% w/w
Graphite	[7782-42-5]	10-30%w/w
Calcium oxide	[1305-78-8]	10-30%w/w
Aluminium		<10%w/w

SECTION 4. FIRST AID MEASURES

Ingestion: If swallowed, **do not induce** vomiting. Seek medical attention or contact a Poisons Information Centre (Phone 13 11 26).

Skin: Remove contaminated clothing and wash affected areas with plenty of soap and water. If irritation occurs, seek medical attention.

Eyes: Hold eyes open and flush with water for at least 15 minutes. Seek medical attention or contact a Poisons Information Centre (Phone 13 11 26).



MATERIAL SAFETY DATA SHEET

Inhalation: If inhaled, remove from contaminated area. For all but the most minor symptoms, arrange for patient to be seen by a doctor.

Advice to doctor: Treat symptomatically.

First Aid facilities: Eye wash and normal washroom facilities

SECTION 5. FIRE FIGHTING MEASURES

Suitable extinguishing media: Carbon dioxide, foam, dry chemical.

Hazards from combustion products: Combustible paste. In a fire, it will emit oxides of carbon and irritating fumes.

Precautions for fire fighters and special protective equipment: If there is a risk of exposure to products of combustion, then fire-fighters should wear full protective clothing and self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Wear impervious gloves, chemical goggles and waterproof boots. Contain and collect spillage with inert absorbent materials (e.g. sand, earth, vermiculite). Transfer to sealable containers suitable for storing spilled material. Use a non-flammable solvent or detergent and excess water to clean up areas in contact with spilled material. Do not contaminate watercourse. Dispose of residues in chemical waste disposal area in accordance with relevant State and Federal requirements.

SECTION 7. HANDLING AND STORAGE

Safe Handling: Observe recommendations made under SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION. Wear neoprene gloves and safety goggles.

Storage: Store indoors at ambient temperatures. Keep containers sealed when not in use. Protect from physical damage.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

National exposure standards: TWA : 5 mg/m³ as aluminium (fumes)
2 mg/m³ as calcium oxide

Engineering controls: If processing vapours or dusts are produced, use a local mechanical exhaust system.

Personal protective equipment: Use good industrial hygiene. Avoid contact with skin and eyes. Wear overalls, safety footwear, neoprene gloves and chemical splash goggles. Use in a well ventilated area. If inhalation risk exists, wear a respirator complying with the requirements of AS 1715 and AS 1716.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical data:

Appearance: Silver coloured smooth paste
Specific gravity: 1.25
Solubility: Insoluble in water
Flash point: >150°C

SECTION 10. STABILITY AND REACTIVITY

Chemical stability: Stable under normal conditions of temperature and pressure.

Conditions to avoid: Avoid sources of ignitions.

Incompatible materials: Keep away from strong bases, alcohols and oxidising agents.

Hazardous decomposition products: When heated to decomposition, it will emit oxides of carbon and irritating fumes.



MATERIAL SAFETY DATA SHEET

Hazardous reactions: No polymerisation will occur.

SECTION 11. TOXICOLOGICAL INFORMATION

HEALTH EFFECTS:

Acute:

Ingestion: If swallowed, this product will cause irritation to the mouth, throat and digestive tract.

Skin: Contact with the skin may cause irritation.

Eyes: Contact with the eyes can cause irritation.

Inhalation: Inhalation of vapour from the heated product may cause irritation to the nose and throat.

Chronic: Repeated skin contact may lead to dermatitis. Repeated inhalation of graphite dusts may cause pulmonary disease. Exposure to free graphite dust is not anticipated during normal use of this product. However, grinding or machining of coated parts may release dust/fumes. Under such circumstances wear an approved respirator.

Toxicity information: None available.

SECTION 12. ECOLOGICAL INFORMATION

Do not contaminate waterways and soil.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal of this material should be undertaken by a registered chemical disposal company. Empty containers should be cleaned by a registered contractor and then recycled or disposed of at an approved land waste site.

SECTION 14. TRANSPORT INFORMATION

Not classified as Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code).

SECTION 15. REGULATORY INFORMATION

SUSDP POISON SCHEDULE: None allocated

SECTION 16. OTHER INFORMATION

Abbreviations/acronyms:

ASCC - Australian Safety and Compensation Council

SUSDP - Standard for the Uniform Scheduling of Drugs and Poisons

TWA – Time weighted average

DISCLAIMER:

The percentage weight (% w/w) of ingredients is not to be taken as a specification guaranteed by Henkel Australia Pty. Limited, but only as an approximate guide to the content of hazardous ingredients in the material. The information contained herein does not constitute a guarantee by Henkel Australia Pty. Limited concerning the properties of the material.

The information contained in this Material Safety Data Sheet is offered in good faith and has been developed from what is believed to be accurate and reliable sources. The information is offered without warranty, representation, inducement or licence and Henkel Australia Pty. Limited assumes



MATERIAL SAFETY DATA SHEET

no legal responsibility for reliance upon same. Henkel Australia Pty. Limited disclaims any liability for loss, injury or damage incurred in connection with the use of the material or its associated Material Safety Data Sheet.

This information is not to be construed as a representation that the material is suitable for any particular purpose or use except those conditions and warranties implied by either Commonwealth or State statutes. Customers are encouraged to make their own enquiries as to the material's characteristics and, where appropriate, to conduct their own tests in the specific context of the material's intended use.



MATERIAL SAFETY DATA SHEET

Page: 1

REVISION DATE: 18/02/2010

MSDS No: GDL

Garage Door Lube Part #: 16-GDL

Hazardous According to Criteria of Worksafe Australia.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Garage Door Lube Part #: 16-GDL
Product Description: Track & Cable Lube
Product Formulation Name: Track & Cable Lube

DISTRIBUTOR:

The Blaster Group Pty Ltd

Unit 30, 8 Victoria Avenue

Castle Hill NSW 2174

Emergency Phone: 02 8794 7360

Customer Service: 02 8794 7360

24 HR. EMERGENCY TELEPHONE NUMBERS:

POISONS INFORMATION CENTRE

PHONE: **13 11 26**

2. COMPOSITION/INFORMATION ON INGREDIENTS

	wt.%	CAS Registry #	OSHA PEL	ACGIH TLV
Polydimethylsiloxane	+15	63148-62-9	Not established	
Alkylation Naptha, Heavy	+90	64741-65-7	100ppm	100ppm
Zinc Alkyldithiophosphate Mixture	+5	68649-42-3	Not determined	
Carbon Dioxide	+2	124-38-9	5000ppm	5000ppm

3. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

EYES:

Direct contact with eyes may cause irritation, redness, tearing

SKIN:

Prolonged or repeated contact with skin may cause mild skin irritation, oil acne, folliculitis, and possible dermatitis in sensitive individuals

INGESTION:

Will cause nausea, vomiting and diarrhoea

INHALATION:

Mist may irritate mucous membranes, which may be pronounced at elevated temperatures

PHYSICAL HAZARDS:

Aerosol containers are pressurized (even when empty!) Do not expose to temperatures above 50°C. Do not puncture or burn can. Failure to observe these precautions may result in a rapid and violent decompression of the container producing projectiles and atomization of the liquid contents.



4. FIRST AID MEASURES

EYES:

Flush with plenty of clear water. Seek medical attention

SKIN:

Remove contaminated clothing immediately. Wash skin with soap and water. If irritation develops seek medical attention.

INGESTION:

If swallowed, do **NOT** induce vomiting. Give victim a glass of water or milk. Call a physician or poison control centre immediately. Never give anything by mouth to an unconscious person.

INHALATION:

Remove to fresh air. Seek medical attention.

5. FIRE FIGHTING MEASURES

Flashpoint and Method: 46°C TAG CC

Autoignition Temperature: Not available

GENERAL HAZARD:

This material can be ignited by heat, sparks, flames, or other sources of ignition (static electricity.) Vapours are heavier than air and will collect in low areas (sewers) or travel considerable distances to a source of ignition. If containers are not cooled in a fire, they may ignite and explode.

EXTINGUISHING MEDIA:

Dry chemical, carbon dioxide, halon, or foam is recommended. Water spray may be used to cool containers or structures. Halon may decompose into toxic materials and carbon dioxide will displace oxygen. Take proper precautions when using these materials.

FIRE FIGHTING PROCEDURES:

Emergency responders in the danger area should wear bunker gear and self-contained breathing apparatus for fires beyond the incipient stage. Wear other protective gear as conditions warrant. Stop leaks, if it can be done with minimal risk. Water spray may be useful in dispersing vapours or cooling equipment and containers. Material will float on water. Avoid spreading fire with water.

FIRE FIGHTING EQUIPMENT:

As in any fire, wear self-contained breathing apparatus pressure-demand, (MS HA/NIOSH approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL:

Absorb the liquid and scrub the area with detergent and water.

LARGE SPILL:

Avoid vapours and ignition sources. Use appropriate protective equipment. Stop and contain the discharge if it can be done safely. Keep out of drains and waterways. Handle only with trained personnel. Notify authorities as necessary.

GENERAL PROCEDURES:

Dispose of liquid and absorbents in accordance with local, state, and federal law.



7. HANDLING AND STORAGE

GENERAL PROCEDURES:

Use in accordance with good industrial workplace practices. Open containers slowly to relieve pressure.

HANDLING:

Avoid unnecessary contact. Wash thoroughly after handling. Do not wear contaminated clothing or shoes.

STORAGE:

Store in a dry place away from excessive heat. Store containers tightly closed and properly labelled.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

PERSONAL PROTECTION

EYES AND FACE:

Standard safety glasses with splash shields are adequate protection. Where excessive splashing is possible, a face shield should be used.

SKIN:

Excessive contact should be avoided. Neoprene gloves and aprons will provide adequate protection when contact cannot be avoided.

RESPIRATORY:

Good general ventilation should be sufficient to control airborne levels. Maintain airborne concentrations below the established exposure limits of ingredients in Section 2.

PROTECTIVE CLOTHING:

Chemical resistant aprons and boots are suggested when contact with material cannot be avoided. Remove and wash any contaminated clothing immediately.

WORK HYGIENIC PRACTICES:

Wash thoroughly after handling.

OTHER USE PRECAUTIONS:

Eye wash stations and emergency showers should be available.

COMMENTS:

The BLASTER GROUP PTY LTD takes no responsibility for determining what measures are required for personal protection in any specific application. The information provided should be used with discretion.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid

Odour: Slight

Appearance: Transparent

Colour: Clear

Boiling Point: +175° C

Solubility in Water: Insoluble



10. STABILITY AND REACTIVITY

STABLE: YES

HAZARDOUS POLYMERIZATION: NO

CONDITIONS TO AVOID:
Avoid high temperatures.

STABILITY:
Stable.

POLYMERIZATION:
Will not occur.

11. TOXICOLOGICAL INFORMATION

COMMENTS:

Toxicological information on this product as a mixture has yet to be determined. See section 15 for reportable ingredients.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA:
No data available.

ECOTOXICOLOGICAL INFORMATION:
No data available

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD:
Used or unused product should be disposed of in accordance with local, state, and federal regulations.

EMPTY CONTAINER:
Empty containers will contain residual product and should be handled in the same manner as the product. Containers should be returned to a reputable container recycler.

14. TRANSPORT INFORMATION

Proper Shipping Name: Aerosols, flammable Class 2.1 PG III

Hazchem: 2Y

UN Number: 1950

Other Shipping Information:



15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

313 Reportable ingredients: This product contains the following chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 and of CFR 372:

68649-42-3 Zinc Alkyldithiophosphate Mixture 3.0% by weight

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

CERCLA RQ: This product has no CERCLA Reportable Quantity. However, release into a waterway may require reporting to the National Response Centre.

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA Regulatory: This product complies with all TSCA inventory requirements.

16. OTHER INFORMATION

Approval date: 03/01/2005

REVISION SUMMARY

New MSDS

NFPA CODES

Fire: 1 Health: 1 Reactivity: 0

HMIS CODES

Fire: 1 Health: 1 Reactivity: 0 Protection: C

MANUFACTURER DISCLAIMER:

To the best of our knowledge, the information contained herein is accurate. However, neither The Blaster Chemical Companies nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.

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MATERIAL SAFETY DATA SHEET

21010
03 00

DATE OF PREPARATION
Aug 12, 2012

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

21010

PRODUCT NAME

TRI-FLOW™ Superior Lubricant with PTFE, 21021 22025 26020 29200

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY
Consumer Group - Industrial
Cleveland, OH 44115

Telephone Numbers and Websites

Product Information	www.triflowlubricants.com
Regulatory Information	(216) 566-2902 www.paintdocs.com
Medical Emergency	(216) 566-2917
Transportation Emergency*	(800) 424-9300
*for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)	

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

% by Weight	CAS Number	Ingredient	Units	Vapor Pressure
30	64742-47-8	Heavy Aliphatic Solvent		
		ACGIH TLV	Not Available	1.53 mm
		OSHA PEL	Not Available	
51	64742-52-5	Heavy Naphthenic Petroleum Oil		
		ACGIH TLV	5 mg/m3 as Mist	
		OSHA PEL	5 mg/m3 as Mist	
3	64741-97-5	Naphthenic Oil		
		ACGIH TLV	5 mg/m3 as Mist	
		OSHA PEL	Not Available	
4	64742-65-0	Heavy Paraffinic Oil		
		ACGIH TLV	5 mg/m3 as Mist	
		OSHA PEL	5 mg/m3 as Mist	
3	34590-94-8	2-Methoxymethylethoxypropanol		
		ACGIH TLV	100 ppm (Skin)	0.4 mm
		ACGIH TLV	150 ppm (Skin) STEL	
		OSHA PEL	100 ppm (Skin)	
		OSHA PEL	150 ppm (Skin) STEL	
3	628-63-7	Amyl Acetate		
		ACGIH TLV	100 PPM	4 mm
		OSHA PEL	100 PPM	

SECTION 3 — HAZARDS IDENTIFICATION

ROUTES OF EXPOSURE

INHALATION of vapor or spray mist.
EYE or SKIN contact with the product, vapor or spray mist.

EFFECTS OF OVEREXPOSURE

EYES: Irritation.

SKIN: Prolonged or repeated exposure may cause irritation.

INHALATION: Irritation of the upper respiratory system.

May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.
Redness and itching or burning sensation may indicate eye or excessive skin exposure.

HMIS Codes

Health	2
Flammability	2
Reactivity	0

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

None generally recognized.

CANCER INFORMATION

For complete discussion of toxicology data refer to Section 11.

SECTION 4 — FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.

SKIN: Wash affected area thoroughly with soap and water.
Remove contaminated clothing and laundry before re-use.

INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.

INGESTION: Do not induce vomiting. Get medical attention immediately.

SECTION 5 — FIRE FIGHTING MEASURES**FLASH POINT**

194 °F PMCC

LEL

0.6

UEL

14.0

FLAMMABILITY CLASSIFICATION

Combustible, Flash above 99 and below 200 °F

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Closed containers may explode when exposed to extreme heat.

Application to hot surfaces requires special precautions.

During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used.

Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

SECTION 6 — ACCIDENTAL RELEASE MEASURES**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**

Remove all sources of ignition. Ventilate the area.

Remove with inert absorbent.

SECTION 7 — HANDLING AND STORAGE**STORAGE CATEGORY**

DOL Storage Class IIIA

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Contents are COMBUSTIBLE. Keep away from heat and open flame.

Consult NFPA Code. Use approved Bonding and Grounding procedures.

Keep container closed when not in use. Transfer only to approved containers with complete and appropriate labeling. Do not take internally. Keep out of the reach of children.

SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION**PRECAUTIONS TO BE TAKEN IN USE**

Use only with adequate ventilation.

Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.

Wash hands after using.

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

PROTECTIVE GLOVES

Wear gloves which are recommended by glove supplier for protection against materials in Section 2.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

OTHER PRECAUTIONS

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	7.36 lb/gal	881 g/l
SPECIFIC GRAVITY	0.89	
BOILING POINT	288 - 500 °F	142 - 260 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	38%	
EVAPORATION RATE	Slower than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	N.A.	
VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)		
2.59 lb/gal	310 g/l	Less Water and Federally Exempt Solvents
2.59 lb/gal	310 g/l	Emitted VOC

SECTION 10 — STABILITY AND REACTIVITY

STABILITY — Stable

CONDITIONS TO AVOID

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION

Will not occur

SECTION 11 — TOXICOLOGICAL INFORMATION

CHRONIC HEALTH HAZARDS

No ingredient in this product is an IARC, NTP or OSHA listed carcinogen.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

TOXICOLOGY DATA

CAS No.	Ingredient Name			
64742-47-8	Heavy Aliphatic Solvent	LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
64742-52-5	Heavy Naphthenic Petroleum Oil	LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
64741-97-5	Naphthenic Oil	LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
64742-65-0	Heavy Paraffinic Oil	LC50 RAT	4HR	Not Available
		LD50 RAT		Not Available
34590-94-8	2-Methoxymethylethoxypropanol	LC50 RAT	4HR	Not Available
		LD50 RAT		5135 mg/kg
628-63-7	Amyl Acetate	LC50 RAT	4HR	Not Available
		LD50 RAT		6500 mg/kg

SECTION 12 — ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

No data available.

SECTION 13 — DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD

Waste from this product is not hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

Incinerate in approved facility. Do not incinerate closed container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

SECTION 14 — TRANSPORT INFORMATION

Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (ocean, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport.

No data available.

SECTION 15 — REGULATORY INFORMATION**SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION**

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
	Zinc Compound	1	0.1
	Barium Compound	3	0.07

CALIFORNIA PROPOSITION 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

TSCA CERTIFICATION

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

SECTION 16 — OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.



Mystik® JT-6® Hi-Temp Grease

NLGI No. 2

Material Safety Data Sheet

CITGO Petroleum Corporation
P.O. Box 4689
Houston, TX 77210

MSDS No. 665005002
Revision Date 12/17/2012

IMPORTANT: This MSDS is prepared in accordance with 29 CFR 1910.1200. Read this MSDS before transporting, handling, storing or disposing of this product and forward this information to employees, customers and users of this product.

Emergency Overview

Physical State Semi-solid to solid (Smooth texture)
Color Red. **Odor** Mild petroleum odor

WARNING:

Injection under the skin can cause severe injury.
Most damage occurs in the first few hours.
Initial symptoms may be minimal.
Hot grease will cause thermal burns upon contact.
Spills may create a slipping hazard.

Hazard Rankings

	HMIS	NFPA
Health Hazard	1	1
Fire Hazard	1	1
Reactivity	0	0

* = Chronic Health Hazard

Protective Equipment

Minimum Recommended
See Section 8 for Details



SECTION 1. PRODUCT IDENTIFICATION

Trade Name	Mystik® JT-6® Hi-Temp Grease NLGI No. 2	Technical Contact	(800) 248-4684
Product Number	665005002 (Formula GP-8477)	Medical Emergency	(832) 486-4700
CAS Number	Mixture.	CHEMTREC Emergency (United States Only)	(800) 424-9300
Product Family	Lubricating grease		
Synonyms	Lubricating grease; CITGO® Material Code: 665005002		

SECTION 2. COMPOSITION

Component Name(s)	CAS Registry No.	Concentration (%)
Highly-refined mineral oils (petroleum)	Various	60 - 100
Lithium carboxylates	Various	7 - 13
Zinc and zinc compounds	15337-18-5	<1

SECTION 3. HAZARDS IDENTIFICATION

Also see Emergency Overview and Hazard Ratings on the top of Page 1 of this MSDS.

Major Route(s) of Entry Skin contact.

Signs and Symptoms of Acute Exposure

Inhalation

No significant adverse health effects are expected to occur upon short-term exposure at ambient temperatures. At elevated temperatures, product vapor may cause respiratory tract irritation. Repeated or prolonged overexposure to product mists can result in respiratory tract inflammation and an increased risk of infection.

Mystik® JT-6® Hi-Temp Grease NLGI No. 2

Eye Contact	This product can cause transient mild eye irritation with short-term contact with liquid sprays or mists. Symptoms include stinging, watering, redness, and swelling.
Skin Contact	This material can cause mild skin irritation from prolonged or repeated skin contact. Injection under the skin can cause inflammation and swelling. Injection of pressurized hydrocarbons can cause severe, permanent tissue damage. Initial symptoms may be minor. Injection of petroleum hydrocarbons requires immediate medical attention. Skin contact with hot material may result in severe burns.
Ingestion	This material can cause a laxative effect. If swallowed in large quantities, this material can obstruct the intestine.
Chronic Health Effects Summary	This product contains a petroleum-based mineral oil. Prolonged or repeated skin contact can cause mild irritation and inflammation characterized by drying, cracking, (dermatitis) or oil acne. Repeated or prolonged inhalation of petroleum-based mineral oil mists at concentrations above applicable workplace exposure levels can cause respiratory irritation or other pulmonary effects.
Conditions Aggravated by Exposure	Disorders of the following organs or organ systems that may be aggravated by significant exposure to this material or its components include: Skin
Target Organs	May cause damage to the following organs: skin.
Carcinogenic Potential	This product is not known to contain any components at concentrations above 0.1% which are considered carcinogenic by OSHA, IARC or NTP.

OSHA Hazard Classification is indicated by an "X" in the box adjacent to the hazard title. If no "X" is present, the product does not exhibit the hazard as defined in the OSHA Hazard Communication Standard (29 CFR 1910.1200).

OSHA Health Hazard Classification				OSHA Physical Hazard Classification					
Irritant	☐	Sensitizer	☐	Combustible	☐	Explosive	☐	Pyrophoric	☐
Toxic	☐	Highly Toxic	☐	Flammable	☐	Oxidizer	☐	Water-reactive	☐
Corrosive	☐	Carcinogenic	☐	Compressed Gas	☐	Organic Peroxide	☐	Unstable	☐

SECTION 4. FIRST AID MEASURES

Take proper precautions to ensure your own health and safety before attempting rescue or providing first aid. For more specific information, refer to Exposure Controls and Personal Protection in Section 8 of this MSDS.

Inhalation	Vaporization is not expected at ambient temperatures. This material is not expected to cause inhalation-related disorders under anticipated conditions of use. In case of overexposure, move the person to fresh air.
Eye Contact	Check for and remove contact lenses. Flush eyes with cool, clean, low-pressure water while occasionally lifting and lowering eyelids. Seek medical attention if excessive tearing, redness, or pain persists.
Skin Contact	If burned by hot material, cool skin by quenching with large amounts of cool water. For contact with product at ambient temperatures, remove contaminated shoes and clothing. Wipe off excess material. Wash exposed skin with mild soap and water. Seek medical attention if tissue appears damaged or if pain or irritation persists. Thoroughly clean contaminated clothing before reuse. Clean or discard contaminated leather goods. If material is injected under the skin, seek medical attention immediately.
Ingestion	Do not induce vomiting unless directed to by a physician. Rinse out mouth with water. Never give anything by mouth to a person who is not fully conscious. Allow small quantities to pass through the digestive system. If large amounts are swallowed or irritation or discomfort occurs, seek medical attention immediately.

Mystik® JT-6® Hi-Temp Grease NLGI No. 2

Notes to Physician

SKIN: In the event of injection in underlying tissue, immediate treatment should include extensive incision, debridement and saline irrigation. Inadequate treatment can result in ischemia and gangrene. Early symptoms may be minimal.

INGESTION: Check for possible bowel obstruction with ingestion of large quantities of material.

SECTION 5. FIRE FIGHTING MEASURES

NFPA Flammability Classification NFPA Class-IIIB combustible material.

Flash Point Open cup: >150°C (>302°F) (Estimated).

Lower Flammable Limit No data.

Upper Flammable Limit No data.

Autoignition Temperature Not available.

Hazardous Combustion Products Carbon dioxide, carbon monoxide, smoke, fumes, unburned hydrocarbons and oxides of sulfur, phosphorus, zinc and/or nitrogen.

Special Properties Fight the fire from a safe distance in a protected location. Open any masses with a water stream to prevent reignition due to smoldering. Cool surface with water fog. Molten material can form flaming droplets if ignited. Water or foam can cause frothing. Use of water on product above 100° C (212° F) can cause product to expand with explosive force. Do not allow liquid runoff to enter sewers or public waters.

Extinguishing Media Use dry chemical, foam, carbon dioxide or water fog. Water or foam may cause frothing. Carbon dioxide and inert gas can displace oxygen. Use caution when applying carbon dioxide or inert gas in confined spaces.

Protection of Fire Fighters Firefighters must use full bunker gear including NIOSH-approved positive pressure self-contained breathing apparatus to protect against potential hazardous combustion or decomposition products and oxygen deficiencies.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Take proper precautions to ensure your own health and safety before attempting spill control or clean-up. For more specific information, refer to the Emergency Overview on Page 1, Exposure Controls and Personal Protection in Section 8 and Disposal Considerations in Section 13 of this MSDS.

Do not touch damaged containers or spilled material unless wearing appropriate protective equipment. Slipping hazard; do not walk through spilled material. Stop leak if you can do so without risk. For small spills, absorb or cover with dry earth, sand, or other inert non-combustible absorbent material and place into waste containers for later disposal. Contain large spills to maximize product recovery or disposal. Prevent entry into waterways or sewers. In urban area, cleanup spill as soon as possible. In natural environments, seek cleanup advice from specialists to minimize physical habitat damage. This material will float on water. Absorbent pads and similar materials can be used. Comply with all laws and regulations.

SECTION 7. HANDLING AND STORAGE

Handling

If this product is stored or applied in high-pressure systems such as grease guns or hydraulic lines, there is the potential for accidental injection into the skin and underlying tissues. Hydrocarbons injected into skin or underlying tissues are not readily removed by body fluids and can cause pain, swelling, chemical irritation, infection and tissue destruction. Early symptoms may be minimal. Workers must be aware of the significant hazards associated with a hydrocarbon injection injury. In the event of an injection injury, workers should seek medical treatment immediately. Avoid water contamination and elevated temperatures to minimize product degradation. Empty containers may contain product residues that can ignite

Mystik® JT-6® Hi-Temp Grease NLGI No. 2

with explosive force. Do not pressurize, cut, weld, braze solder, drill, grind or expose containers to flames, sparks, heat or other potential ignition sources. Consult appropriate federal, state and local authorities before reusing, reconditioning, reclaiming, recycling or disposing of empty containers and/or waste residues of this product.

Storage

Keep container tightly closed. Store in a cool, dry, well-ventilated area. Store only in approved containers. Do not store with strong oxidizing agents. Do not store at elevated temperatures. Avoid storing product in direct sunlight for extended periods of time. Storage area must meet OSHA requirements and applicable fire codes. Consult appropriate federal, state and local authorities before reusing, reconditioning, reclaiming, recycling or disposing of empty containers or waste residues of this product.

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls Ventilation controls are not normally required under anticipated conditions of use. Provide exhaust ventilation or other engineering controls if airborne mists or vapors concentrations exceed recommended occupational exposure limits listed below. An eye wash station and safety shower should be located near the work-station.

Personal Protective Equipment Personal protective equipment should be selected based upon the conditions under which this material is used. A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to OSHA regulations. The following pictograms represent the minimum requirements for personal protective equipment. For certain operations, additional PPE may be required.



Eye Protection Safety glasses equipped with side shields are recommended as minimum protection in industrial settings. Wear goggles if splashing or spraying is anticipated. Wear goggles and face shield if material is heated above 125°F (51°C). Have suitable eye wash water available.

Hand Protection None required for incidental contact. Use gloves constructed of chemical resistant materials such as heavy nitrile rubber if frequent or prolonged contact is expected. Use heat-protective gloves when handling product at elevated temperatures.

Body Protection Use clean protective clothing if splashing or spraying conditions are present. Protective clothing may include long-sleeve outer garment, apron, or lab coat. If significant contact occurs, remove oil-contaminated clothing as soon as possible and promptly shower. Launder contaminated clothing before reuse or discard. Wear heat protective boots and protective clothing when handling material at elevated temperatures.

Respiratory Protection The need for respiratory protection is not anticipated under normal use conditions and with adequate ventilation. If elevated airborne concentrations above applicable workplace exposure levels are anticipated, a NIOSH-approved organic vapor respirator equipped with a dust/mist prefilter should be used. Protection factors vary depending upon the type of respirator used. Respirators should be used in accordance with OSHA requirements (29 CFR 1910.134).

General Comments Use good personal hygiene practices. Wash hands and other exposed skin areas with plenty of mild soap and water before eating, drinking, smoking, use of toilet facilities, or leaving work. DO NOT use gasoline, kerosene, solvents or harsh abrasives as skin cleaners. Since specific exposure standards/control limits have not been established for this product, the "Oil Mist, Mineral" exposure limits shown below are suggested as minimum control guidelines.

Occupational Exposure Guidelines

Substance

Applicable Workplace Exposure Levels

Mystik® JT-6® Hi-Temp Grease NLGI No. 2

Oil, Mineral (Mist)

ACGIH (United States).

TWA: 5 mg/m³

STEL: 10 mg/m³

OSHA (United States).

TWA: 5 mg/m³

Stearates

ACGIH TLV (United States).

TWA: 10 mg/m³ 8 hour(s).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES (TYPICAL)

Physical State	Semi-solid to solid (Smooth texture)	Color	Red.	Odor	Mild petroleum odor
Specific Gravity	0.93 (Water = 1)	pH	Not applicable	Vapor Density	>10 (Air = 1)
Boiling Range	Not available.			Melting/Freezing Point	Not available.
Vapor Pressure	<0.001 kPa (<0.01 mm Hg) (at 20°C)			Volatility	Negligible volatility.
Solubility in Water	Negligible solubility in cold water.			Viscosity (cSt @ 40°C)	Not available.
Flash Point	Open cup: >150°C (>302°F) (Estimated).				
Additional Properties	NLGI Grade: 2 Thickener: Lithium Texture: Smooth				

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability	Stable.	Hazardous Polymerization	Not expected to occur.
Conditions to Avoid	Keep away from extreme heat, sparks, open flame, and strongly oxidizing conditions.		
Materials Incompatibility	Strong oxidizers.		
Hazardous Decomposition Products	No additional hazardous decomposition products were identified other than the combustion products identified in Section 5 of this MSDS.		

SECTION 11. TOXICOLOGICAL INFORMATION

For other health-related information, refer to the Emergency Overview on Page 1 and the Hazards Identification in Section 3 of this MSDS.

Toxicity Data	Highly-refined mineral oils (petroleum)
	ORAL (LD50): Acute: >5000 mg/kg [Rat].
	DERMAL (LD50): Acute: >2000 mg/kg [Rabbit].

Mineral oil mists derived from highly refined oils are reported to have low acute and sub-acute toxicities in animals. Effects from single and short-term repeated exposures to high concentrations of mineral oil mists well above applicable workplace exposure levels include lung inflammatory reaction, lipoid granuloma formation and lipoid pneumonia. In acute and sub-acute studies involving exposures to lower concentrations of mineral oil mists at or near current work place exposure levels produced no significant toxicological effects. In long term studies (up to two years) no carcinogenic effects have been reported in any animal species tested.

Grease:

Mystik® JT-6® Hi-Temp Grease NLGI No. 2

Injection of pressurized hydrocarbons under the skin, in muscle or into the blood stream can cause irritation, inflammation, swelling, fever and mild central nervous system depression. Injection of pressurized hydrocarbons can cause severe, permanent tissue damage.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity	Ecotoxicity data are not available for this product.
Environmental Fate	An environmental fate analysis is not available for this specific product. Plants and animals may experience harmful or fatal effects when coated with petroleum products. Petroleum-based (mineral) lubricating oils normally will float on water. In stagnant or slow-flowing waterways, an oil layer can cover a large surface area. As a result, this oil layer might limit or eliminate natural atmospheric oxygen transport into the water. With time, if not removed, oxygen depletion in the waterway may be sufficient to cause a fish kill or create an anaerobic environment.

SECTION 13. DISPOSAL CONSIDERATIONS

Hazard characteristic and regulatory waste stream classification can change with product use. Accordingly, it is the responsibility of the user to determine the proper storage, transportation, treatment and/or disposal methodologies for spent materials and residues at the time of disposition.

Conditions of use may cause this material to become a "hazardous waste", as defined by federal or state regulations. It is the responsibility of the user to determine if the material is a "hazardous waste" at the time of disposal. Transportation, treatment, storage, and disposal of waste material must be conducted in accordance with RCRA regulations (see 40 CFR 260 through 40 CFR 271). State and/or local regulations may be more restrictive. Contact your regional US EPA office for guidance concerning case specific disposal issues. Empty drums and pails retain residue. DO NOT pressurize, cut, weld, braze, solder, drill, grind, or expose this product's empty container to heat, flame, or other ignition sources. DO NOT attempt to clean it. Empty drums and pails should be drained completely, properly bunged or sealed, and promptly sent to a reconditioner.

SECTION 14. TRANSPORT INFORMATION

The shipping description below may not represent requirements for all modes of transportation, shipping methods or locations outside of the United States.

US DOT Status Not regulated by the U.S. Department of Transportation as a hazardous material.

Proper Shipping Name Not regulated.

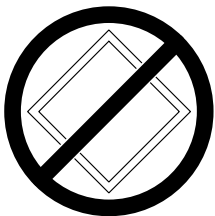
Hazard Class Not regulated.

Packing Group Not applicable.

UN/NA Number Not regulated.

Reportable Quantity A Reportable Quantity (RQ) has not been established for this material.

Placard(s)



Emergency Response Guide No. Not applicable.

MARPOL III Status Not a DOT "Marine Pollutant" per 49 CFR 171.8.

Mystik® JT-6® Hi-Temp Grease NLGI No. 2

Oil: The product(s) represented by this MSDS is (are) regulated as "oil" under 49 CFR Part 130. Shipments by rail or highway in packaging having a capacity of 3500 gallons or more or in a quantity greater 42,000 gallons are subject to these requirements. In addition, mixtures containing 10% or more of this product may be subject to these requirements.

SECTION 15. REGULATORY INFORMATION

TSCA Inventory	This product and/or its components are listed on the Toxic Substances Control Act (TSCA) inventory.
SARA 302/304 Emergency Planning and Notification	The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires facilities subject to Subparts 302 and 304 to submit emergency planning and notification information based on Threshold Planning Quantities (TPQs) and Reportable Quantities (RQs) for "Extremely Hazardous Substances" listed in 40 CFR 302.4 and 40 CFR 355. No components were identified.
SARA 311/312 Hazard Identification	The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires facilities subject to this subpart to submit aggregate information on chemicals by "Hazard Category" as defined in 40 CFR 370.2. This material would be classified under the following hazard categories: No SARA 311/312 hazard categories identified.
SARA 313 Toxic Chemical Notification and Release Reporting	This product contains the following components in concentrations above <i>de minimis</i> levels that are listed as toxic chemicals in 40 CFR Part 372 pursuant to the requirements of Section 313 of SARA: No components were identified.
CERCLA	The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response Center concerning release of quantities of "hazardous substances" equal to or greater than the reportable quantities (RQ's) listed in 40 CFR 302.4. As defined by CERCLA, the term "hazardous substance" does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically designated in 40 CFR 302.4. Chemical substances present in this product or refinery stream that may be subject to this statute are: Zinc and Zinc Compounds, Concentration: <1%
Clean Water Act (CWA)	This material is classified as an oil under Section 311 of the Clean Water Act (CWA) and the Oil Pollution Act of 1990 (OPA). Discharges or spills which produce a visible sheen on waters of the United States, their adjoining shorelines, or into conduits leading to surface waters must be reported to the EPA's National Response Center at (800) 424-8802.
California Proposition 65	This material may contain the following components which are known to the State of California to cause cancer, birth defects or other reproductive harm, and may be subject to the requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5): Cumene: <0.001%
New Jersey Right-to-Know Label	Petroleum Oil
Additional Remarks	No additional regulatory remarks.

SECTION 16. OTHER INFORMATION

Refer to the top of Page 1 for the HMIS and NFPA Hazard Ratings for this product.

REVISION INFORMATION

Version Number	6.0
Revision Date	12/17/2012

Mystik® JT-6® Hi-Temp Grease NLGI No. 2

ABBREVIATIONS

AP: Approximately EQ: Equal >: Greater Than <: Less Than
NA: Not Applicable ND: No Data NE: Not Established
ACGIH: American Conference of Governmental Industrial Hygienists
AIHA: American Industrial Hygiene Association
IARC: International Agency for Research on Cancer
NIOSH: National Institute of Occupational Safety and Health
NPCA: National Paint and Coating Manufacturers Association
EPA: US Environmental Protection Agency
HMIS: Hazardous Materials Information System
OSHA: Occupational Safety and Health Administration
NTP: National Toxicology Program
NFPA: National Fire Protection Association

DISCLAIMER OF LIABILITY

THE INFORMATION IN THIS MSDS WAS OBTAINED FROM SOURCES WHICH WE BELIEVE ARE RELIABLE. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESSED OR IMPLIED REGARDING ITS CORRECTNESS. SOME INFORMATION PRESENTED AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE SUBSTANCE ITSELF. THIS MSDS WAS PREPARED AND IS TO BE USED ONLY FOR THIS PRODUCT. IF THE PRODUCT IS USED AS A COMPONENT IN ANOTHER PRODUCT, THIS MSDS INFORMATION MAY NOT BE APPLICABLE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION OR PRODUCTS FOR THEIR PARTICULAR PURPOSE.

THE CONDITIONS OR METHODS OF HANDLING, STORAGE, USE, AND DISPOSAL OF THE PRODUCT ARE BEYOND OUR CONTROL AND MAY BE BEYOND OUR KNOWLEDGE. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.

***** END OF MSDS *****

MATERIAL SAFETY DATA SHEET

SECTION 1. PRODUCT IDENTIFICATION

PRODUCT NAME: Air, compressed

CHEMICAL NAME: Air

MANUFACTURER: Air Products and Chemicals, Inc.

7201 Hamilton Boulevard

Allentown, PA 18195-1501

PRODUCT INFORMATION: (800) 752-1597

MSDS NUMBER: 1002 **REVISION:** 8

REVIEW DATE: May 1999 **REVISION DATE:** May 1999

SECTION 2. COMPOSITION / INFORMATION ON INGREDIENTS

Air is sold as a pure product >99%.

CAS NUMBER: 132259-10-0

EXPOSURE LIMITS:

OSHA: PEL = None **ACGIH:** TWA/TLV = None **NIOSH:** IDLH = None

Comments: Before using for any breathing application, ensure the cylinder label states "breathing quality."

Atmospheric air that is compressed is composed of Nitrogen, 78%, Oxygen, 21%, and Argon, 0.9%. Compressed air is also synthetically produced by mixing 79% Nitrogen and 21% Oxygen. The actual oxygen content can range between 19.5% and 23.5%.

SECTION 3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW

This product is a nontoxic, odorless, colorless, nonflammable compressed gas stored in cylinders at high pressure. High pressure gas may accelerate combustion.

EMERGENCY TELEPHONE NUMBERS

(800) 523-9374 Continental U.S., Canada, and Puerto Rico

(610) 481-7711 other locations

ACUTE POTENTIAL HEALTH EFFECTS:

ROUTES OF EXPOSURE:

EYE CONTACT: No adverse effect.

INHALATION: At atmospheric pressure, air has no adverse health effects.

SKIN CONTACT: No adverse effect.

TARGET ORGANS: None

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POTENTIAL HEALTH EFFECTS OF REPEATED EXPOSURE:

ROUTE OF ENTRY: Inhalation

SYMPTOMS: None

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: None

CARCINOGENICITY: This product is not listed as a carcinogen or potential carcinogen by NTP, IARC, or OSHA.

SECTION 4. FIRST AID MEASURES

EYE CONTACT: Not applicable

INHALATION: Not applicable

SKIN CONTACT: Not applicable

NOTES TO PHYSICIAN: None

SECTION 5. FIRE FIGHTING MEASURES

FLASH POINT: AUTOIGNITION: FLAMMABLE RANGE:

Not applicable Not applicable Nonflammable

EXTINGUISHING MEDIA: Product is nonflammable, but will support combustion. Use extinguishing media appropriate for surrounding fire.

SPECIAL FIRE FIGHTING INSTRUCTIONS: Evacuate all personnel from area. If possible, shut off flow of air which is supporting the fire. If possible, remove cylinders from fire area or cool with water. SCBA may be required by rescue workers.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Compressed air at high pressures may accelerate combustion. Most cylinders are designed to vent contents when exposed to elevated temperatures. Pressure in a cylinder can build up due to heat and it may rupture if pressure relief devices should fail to function.

HAZARDOUS COMBUSTION PRODUCTS: None

SECTION 6. ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Evacuate immediate area. Shut off source of leak if possible. Isolate any leaking cylinder. If leak is from container, pressure relief device or its valve, contact your supplier. If leak is in user's system, close cylinder valve, safely vent pressure before attempting repairs.

SECTION 7. HANDLING AND STORAGE

STORAGE: Store cylinders in a well-ventilated, secure area, protected from the weather. Cylinders should be stored upright with valve outlet seals and valve protection caps in place. Do not allow storage temperature to exceed 125 ° F (52 ° C). Storage should be away from heavily

traveled areas and emergency exits. Full and empty cylinders should be segregated. Use a first-in, first-out inventory system to prevent full containers from being stored for long periods of time.

HANDLING: Do not drag, roll, slide or drop cylinder. Use a suitable hand truck designed for cylinder movement. Never attempt to lift a cylinder by its cap. Secure cylinders at all times. Use a pressure reducing regulator to safely discharge gas from cylinder. Use a check valve to prevent reverse flow into cylinder. Use piping and equipment adequately designed to withstand pressures to be encountered. Never apply flame or localized heat directly to any part of the cylinder. Do not allow any part of the cylinder to exceed 125 ° F (52 ° C). Once cylinder has been connected to process, open cylinder valve slowly and carefully. If user experiences any difficulty operating cylinder valve, discontinue use and contact supplier. Never insert an object (e.g.,

wrench, screwdriver, etc.) into valve cap openings. Doing so may damage valve causing a leak to occur. Use an adjustable strap-wrench to remove over-tight or rusted caps.

This product is compatible with all common materials of construction. Pressure requirements should be considered when selecting materials and designing systems.

SPECIAL PRECAUTIONS: Always store and handle compressed gas cylinders in accordance with Compressed Gas Association, Inc. (telephone 703-412-0900) pamphlet CGA P-1, *Safe Handling of Compressed Gases in Containers*. Local regulations may require specific equipment for storage or use.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:

VENTILATION: Not required

RESPIRATORY PROTECTION:

Emergency Use: Not required

EYE PROTECTION: Safety glasses are recommended.

SKIN PROTECTION: Leather work gloves recommended when handling cylinders.

OTHER PROTECTIVE EQUIPMENT: Safety shoes recommended when handling cylinders.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE, ODOR AND STATE: Colorless, odorless and tasteless gas at normal temperature and pressure.

MOLECULAR WEIGHT: 28.975

BOILING POINT (At 1 atm): -317.8 ° F (-194.3 ° C)

SPECIFIC GRAVITY (also called vapor density) (Air =1): 1.00

FREEZING POINT / MELTING POINT: -357.2 ° F (-216.2 ° C)

VAPOR PRESSURE (At 70 ° F (21.1 ° C)): Not applicable

GAS DENSITY (At 70 ° F (21.1 ° C) and 1 atm): 0.0749 lb/ft³ (1.2 kg/m³)

SOLUBILITY IN WATER (Vol./Vol. at 32 ° F (0 ° C) and 1 atm): 0.0292

SECTION 10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable

CONDITIONS TO AVOID: Cylinders should not be exposed to temperatures in excess of 125 ° F (52 ° C). Avoid the use of oil in systems at full cylinder pressure.

INCOMPATIBILITY (Materials to Avoid): None

REACTIVITY:

A) HAZARDOUS DECOMPOSITION PRODUCTS: None

B) HAZARDOUS POLYMERIZATION: Will not occur

SECTION 11. TOXICOLOGICAL INFORMATION

LC₅₀ (Inhalation): None

LD₅₀ (Oral): None

LD₅₀ (Dermal): None

.

SKIN CORROSIVITY: None

ADDITIONAL NOTES: Air is nontoxic and is necessary to support life. Inhalation of air in high pressure environments can result in symptoms similar to overexposure to oxygen. These include tingling of fingers, impaired coordination, and confusion. Decompression sickness (Bends) is possible following rapid decompression. Decompression equipment may be required if exposed to high pressure environment.

SECTION 12. ECOLOGICAL INFORMATION

AQUATIC TOXICITY: Not applicable

MOBILITY: Not applicable

PERSISTENCE AND BIODEGRADABILITY: Not applicable

POTENTIAL TO BIOACCUMULATE: Not applicable

REMARKS: No adverse ecological effects are expected. Air does not contain any Class I or Class II ozone depleting chemicals.

SECTION 13. DISPOSAL CONSIDERATIONS

UNUSED PRODUCT / EMPTY CONTAINER: Return container and unused product to supplier. Do not attempt to dispose of residual or unused quantities.

DISPOSAL INFORMATION: For emergency disposal, secure the cylinder and slowly discharge gas to the atmosphere in a well ventilated area or outdoors.

SECTION 14. TRANSPORT INFORMATION

DOT SHIPPING NAME: Air, compressed

HAZARD CLASS: 2.2

IDENTIFICATION NUMBER: UN1002

SHIPPING LABEL(s): Nonflammable Gas

PLACARD (When required): Nonflammable Gas

SPECIAL SHIPPING INFORMATION: Cylinders should be transported in a secure upright position in a well-ventilated truck. Never transport in passenger compartment of a vehicle. Ensure cylinder valve is properly closed, valve outlet cap has been reinstalled, and valve protection cap is secured before shipping cylinder.

CAUTION: Compressed gas cylinders shall not be refilled except by qualified producers of compressed gases. Shipment of a compressed gas cylinder which has not been filled by the owner or with the owner's written consent is a violation of federal law (49 CFR 173.301).

NORTH AMERICAN EMERGENCY RESPONSE GUIDEBOOK NUMBER (NAERG #): 122

SECTION 15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

EPA - ENVIRONMENTAL PROTECTION AGENCY

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980

(40 CFR Parts 117 and 302)

Reportable Quantity (RQ): None

.

SARA TITLE III: Superfund Amendment and Reauthorization Act

SECTIONS 302/304: Emergency Planning and Notification (40 CFR Part 355)

Extremely Hazardous Substances: Air is not listed.

Threshold Planning Quantity (TPQ): None

Reportable Quantity (RQ): None

SECTIONS 311/312: Hazardous Chemical Reporting (40 CFR Part 370)

IMMEDIATE HEALTH: No PRESSURE: Yes

DELAYED HEALTH: No REACTIVITY: No

FIRE: No

SECTION 313: Toxic Chemical Release Reporting (40 CFR Part 372)

This product does not require reporting under Section 313.

CLEAN AIR ACT:

SECTION 112 (r): Risk Management Programs for Chemical Accidental Release

(40 CFR PART 68)

This product is not listed as a regulated substance.

Threshold Planning Quantity (TPQ): None

TSCA: Toxic Substance Control Act

This product is listed on the TSCA inventory.

OSHA - OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION:

29 CFR Part 1910.119: Process Safety Management of Highly Hazardous Chemicals

This product is not listed in Appendix A as a highly hazardous chemical.

Threshold Planning Quantity (TPQ): None

STATE REGULATIONS:

CALIFORNIA:

Proposition 65: This product is not a listed substance which the State of California requires warning under this statute.

SECTION 16. OTHER INFORMATION

NFPA RATINGS: HMIS RATINGS:

HEALTH: 0 HEALTH: 0

FLAMMABILITY: 0 FLAMMABILITY: 0

REACTIVITY: 0 REACTIVITY: 0

PROTECTION: 0



AGA GAS, INC. (216) 642-6600
555 ROCKSIDE WOODS BLVD
P.O. BOX 94737
CLEVELAND, OH 44101-4737

**MATERIAL
SAFETY
DATA SHEET**

No. 002

PRODUCT NAME Compressed Air	CAS # N/A
TRADE NAME AND SYNONYMS Compressed Air; Air; Compressed Air, Breathing Quality	DOT I.D. No.: UN 1002
CHEMICAL NAME AND SYNONYMS Air, compressed (D.O.T.) See Page 4	DOT Hazard Class: Division 2.2
ISSUE DATES AND REVISIONS Revised January 1995	Formula See page 4
	Chemical Family: N/A

HEALTH HAZARD DATA

TIME WEIGHTED AVERAGE EXPOSURE LIMIT

No TWA established (ACGIH 1994-1995). No PEL (8 Hr. TWA) listed by OSHA 1993.

SYMPTOMS OF EXPOSURE

Air is nontoxic and necessary to support life. Inhalation of air in a high pressure environment such as underwater diving, caissons or hyperbaric chambers can result in symptoms similar to overexposure to pure oxygen. These include tingling of fingers and toes, abnormal sensations, impaired coordination and confusion. Decompression sickness, pains or "bends" are possible following rapid decompression.

TOXICOLOGICAL PROPERTIES

High pressure effects (greater than two atmospheres of oxygen) are on the central nervous system. Improper decompression results in the accumulation of nitrogen in the blood.

Air is not listed in the IARC, NTP or by OSHA as a carcinogen or potential carcinogen.

Persons in ill health when such illness would be aggravated by exposure to high pressure air should not be allowed to work with or handle this product.

RECOMMENDED FIRST AID TREATMENT

Facilities or practices at which air is breathed in a high pressure environment should be prepared to deal with the illnesses associated with decompression (bends or caisson disease). Decompression equipment may be required.

Information contained in this material safety data sheet is offered without charge for use by technically qualified personnel at their discretion and risk. All statements, technical information and recommendations contained herein are based on tests and data which we believe to be reliable, but the accuracy or completeness thereof is not guaranteed and no warranty of any kind is made with respect thereto. This information is not intended as a license to operate under or a recommendation to practice or infringe any patent of this Company or others covering any process, composition of matter or use.

Since the Company shall have no control of the use of the product described herein, the Company assumes no liability for loss or damage incurred from the proper or improper use of such product.

Compressed Air

HAZARDOUS MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES

N/A

PHYSICAL DATA

BOILING POINT -317.8°F (-194.3°C)	LIQUID DENSITY AT BOILING POINT 54.56 lb/ft ³ (874 kg/m ³)
VAPOR PRESSURE @70°F (21.1°C): Above the critical temp. of -221.1°F (-140.6°F)	GAS DENSITY AT 700F, 1 atm .0749 lb/ft ³ (1.200 kg/m ³)
SOLUBILITY IN WATER Very slightly	FREEZING POINT N/A (Gas Mixture)
EVAPORATION RATE N/A Gas	SPECIFIC GRAVITY (AIR=1) @70°F (21.1°C) = 1.0
APPEARANCE AND ODOR Colorless, odorless gas	

FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (Method used) N/A	AUTO IGNITION TEMPERATURE N/A	FLAMMABLE LIMITS % BY VOLUME (See Page 4) LE N/A UEL N/A	
EXTINGUISHING MEDIA Nonflammable gas		ELECTRICAL CLASSIFICATION Nonhazardous	
SPECIAL FIRE FIGHTING PROCEDURES If cylinders are involved in a fire, safely relocate or keep cool with water spray.			
UNUSUAL FIRE AND EXPLOSION HAZARDS Compressed air at high pressures will accelerate the burning of materials to a greater rate than they burn at atmospheric pressure.			

REACTIVITY DATA

STABILITY Unstable		CONDITIONS TO AVOID None
Stable	X	
INCOMPATIBILITY (Materials to avoid) None		
HAZARDOUS DECOMPOSITION PRODUCTS None		
HAZARDOUS POLYMERIZATION May Occur		CONDITIONS TO AVOID None
Will Not Occur	X	

SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED N/A
WASTE DISPOSAL METHOD N/A

SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION N/A (Specify type)		
VENTILATION N/A	LOCAL EXHAUST N/A	SPECIAL N/A
	MECHANICAL (Gen.) N/A	OTHER N/A
PROTECTIVE GLOVES Any material		
EYE PROTECTION Safety goggles or glasses		
OTHER PROTECTIVE EQUIPMENT Safety shoes		

SPECIAL PRECAUTIONS*

SPECIAL LABELING INFORMATION		
DOT Shipping Name: Air, Compressed	DOT Hazard Class:	Division 2.2
DOT Shipping Label: Nonflammable Gas	I.D. No.:	UN 1002
SPECIAL HANDLING RECOMMENDATIONS		
Valve protection caps must remain in place unless container is secured with valve outlet piped to use point. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure reducing regulator when connecting cylinder to lower pressure (<3,000 psig) piping or systems. Do not heat cylinder by any means to increase the discharge rate of product from the cylinder. Use a check valve or trap in the discharge line to prevent hazardous back flow into the cylinder. For additional handling recommendations, consult the Compressed Gas Association's Pamphlets P-1, G-7, and G-7.1.		
SPECIAL STORAGE RECOMMENDATIONS		
Protect cylinders from physical damage. Store in cool, dry, well-ventilated area away from heavily trafficked areas and emergency exits. Do not allow the temperature where cylinders are stored to exceed 125°F (52°C). Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Full and empty cylinders should be segregated. Use a "first in - first out" inventory system to prevent full cylinders being stored for excessive periods of time. For additional storage recommendations, consult the Compressed Gas Association's Pamphlets P-1, G-7, and O-7.1.		
SPECIAL PACKAGING RECOMMENDATIONS		
Dry air is noncorrosive and may be used with all materials of construction. Moisture causes metal oxides which are formed with air to be hydrated so that they increase in volume and lose their protective role (rust formation). Concentrations of SO₂, Cl₂, salt, etc. in the moisture enhances the rusting of metals in air.		
OTHER RECOMMENDATIONS OR PRECAUTIONS		
Compressed gas cylinders should not be refilled except by qualified producers of compressed gases. Shipment of a compressed gas cylinder which has not been filled by the owner or with his (written) consent is a violation of Federal Law (49CFR).		

(Continued on Page 4)

Compressed Air

CHEMICAL FORMULA: (Continued)

Atmospheric air which is compressed is composed of the following concentrations of gases:

<u>Gas</u>	<u>Molar %</u>
Nitrogen	78.09
Oxygen	20.94
Argon	0.93
Carbon Dioxide	0.033*
Neon	18.18×10^{-4}
Helium	5.239×10^{-4}
Krypton	1.139×10^{-4}
Hydrogen	0.5×10^{-4}
Xenon	0.086×10^{-4}
Radon	6×10^{-18}
Water vapor	Varying concentrations

*Concentrations may have slight variations.

Compressed air is also produced by reconstitution using only oxygen and nitrogen. This product contains 79 molar percent nitrogen and 21 molar percent oxygen plus trace amounts of other atmospheric gases which are present in the oxygen and nitrogen.

SPECIAL PRECAUTIONS

OTHER RECOMMENDATIONS OR PRECAUTIONS: (Continued)

Reporting under SARA, Title III, Section 313 not required.

NFPA 704 No. for gaseous air = 0 0 0 None

Effective Date: 1/21/00

PRODUCT IDENTITY: ADVANCE ANTIFREEZE & COOLANT

1. SUPPLIER

OLD WORLD INDUSTRIES, INC.
4065 COMMERCIAL AVENUE
NORTHBROOK, ILLINOIS 60062
PHONE: 847-559-2000
EMERGENCY PHONE: 1-800-424-9300 (CHEMTREC)

2. INGREDIENTS

MATERIAL	CAS#	% BY WT	PEL (OSHA)	TLV (ACGIH)
Ethylene Glycol	107-21-1	90 - 95	50 ppm	50 ppm
Diethylene Glycol	111-46-6	0 - 5	None	None
Di Potassium Phosphate	7758-11-4	1 - 2	None	None

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Slight odor.

*May be fatal
if swallowed.*

*Vapors can cause
eye irritation.*

LOWEST KNOWN LD50 (ORAL)

107-21-1

5840 mg/kg (Rats)

LOWEST KNOWN LD50 (SKIN)

107-21-1

9530 mg/kg (Rabbits)

HAZARD RATING SYSTEM

NFPA: HEALTH: 1

FLAMMABILITY: 1

REACTIVITY:

0

HMIS: HEALTH: 2

FLAMMABILITY: 1

REACTIVITY: 0

KEY: 0 - Minimal, 1 - Slight, 2 - Moderate, 3 - Serious, 4 - Severe

POTENTIAL HEALTH EFFECTS

Routes of Exposure: Inhalation, Ingestion, Skin Contact/Absorption, Eye Contact

EYE: May cause slight transient (temporary) eye irritation. Corneal injury is unlikely. Vapors or mists may cause eye irritation.

SKIN: Prolonged or repeated exposure not likely to cause significant skin irritation. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. Repeated skin exposure may result in absorption of harmful amounts. Massive contact with damaged skin or of material sufficiently hot to burn skin may result in absorption of potential lethal amounts.

INGESTION: Single dose oral toxicity is considered to be moderate. Excessive exposure may cause central nervous system effects, cardiopulmonary effects (metabolic acidosis), and kidney failure. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; however, swallowing amounts larger than that may cause serious injury, even death.

INHALATION: At room temperature, exposures to vapors are minimal due to physical properties; higher temperatures may generate vapor levels sufficient to cause adverse effects.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: Repeated excessive exposures may cause severe kidney and also liver and gastrointestinal effects. Signs and symptoms of

excessive exposure may be central nervous system effects. Signs and symptoms of excessive exposure may be nausea and/or vomiting. Signs and symptoms of excessive exposure may be anesthetic or narcotic effects. Observations in animals include formation of bladder stones after repeated oral doses of ethylene glycol. Reports of kidney failure and death in burn patients suggest the ethylene glycol may have been a factor. The use of topical applications containing this material may not be appropriate in severely burned patients or individuals with impaired renal function.

CANCER INFORMATION: Based on data from long-term animal studies, ethylene glycol is not believed to pose a carcinogenic risk to man.

TERATOLOGY (BIRTH DEFECTS): Exposure to ethylene glycol has caused birth defects in laboratory animals only at doses toxic to the mother.

REPRODUCTIVE EFFECTS: Ethylene glycol has not interfered with reproduction in animal studies except at very high doses.

4. FIRST AID MEASURES

Ensure physician has access to this MSDS.

Eyes: Immediately flush eyes with large amounts of water for 15 minutes, lifting lower and upper lids. Get medical attention as soon as possible. Contact lenses should never be worn when working with this chemical.

Skin: Flush area of skin contact immediately with large amounts of water for at least 15 minutes while removing contaminated clothing. If irritation persists after flushing, get medical attention promptly. Wash clothing before re-use.

Inhalation: If inhaled, immediately remove victim to fresh air and call **emergency medical care**. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Ingestion: Obtain medical attention immediately. If patient is fully conscious, give two glasses of water. Do not induce vomiting. If medical advice is delayed, and if the person has swallowed a moderate volume of material (a few ounces), then give three to four ounces of hard liquor, such as whisky. For children, give proportionally less liquor, according to weight.

Notes to Physician: It is estimated that the lethal oral dose to adults is of the order of 1.0 ml/kg. Ethylene glycol is metabolized by alcohol dehydrogenase to various metabolites including glyceraldehydes, glycolic acid and oxalic acid which cause an elevated anion-gap metabolic acidosis and renal tubular injury. The signs and symptoms in ethylene glycol poisoning are those of metabolic acidosis, CNS depression, and kidney injury. Urinalysis may show albuminuria, hematuria and oxaluria. Clinical chemistry may reveal anion-gap metabolic acidosis and uremia. The currently recommended medical management of ethylene glycol poisoning includes elimination of ethylene glycol and metabolites, correction of metabolic acidosis and prevention of kidney injury. It is essential to have immediate and follow up urinalysis and clinical chemistry. There should be particular emphasis on acid-base balance and renal function tests. A continuous infusion of 5% sodium bicarbonate with frequent monitoring of electrolytes and fluid balance is used to achieve correction of metabolic acidosis and forced diuresis. As a competitive substrate for alcohol dehydrogenase, ethanol is antidotal. Given in the early stages of intoxication, it blocks the formation of nephrotoxic metabolites. A therapeutically effective blood concentration of ethanol is in the range 100-150 mg/dl, and should be achieved by a rapid loading dose and maintained by intravenous infusion. For severe and/or deteriorating cases, hemodialysis may be required. Dialysis should be considered for patients who are symptomatic, have severe metabolic acidosis, a blood ethylene glycol concentration greater than 25 md/dl, or compromise of renal functions.

A more effective intravenous antidote for physician use is 4-methylpyrazole, a potent inhibitor of alcohol dehydrogenases, which effectively blocks the formation of toxic metabolites of ethylene glycol. It has been used to decrease the metabolic consequences of ethylene glycol poisoning before metabolic acidosis coma, seizures, and renal failure have occurred. A generally recommended protocol is a loading dose of 15 mg/kg followed by 10 mg/kg every 12 hours for 4 doses and then 15 mg/kg every 12 hours until ethylene glycol

concentrations are below 20 mg/100 ml. Slow intravenous infusion is required. Since 4-methylpyrazole is dialyzable, increased dosage may be necessary during hemodialysis. Additional therapeutic measures may include the administration of cofactors involved in the metabolism of ethylene glycol. Thiamine (100 mg) and pyridoxine (50 mg) should be given every six hours.

Pulmonary edema with hypoxemia has been described in a number of patients following poisoning with ethylene glycol. The mechanism of production has not been elucidated, but it appears to be non-cardiogenic in origin in several cases. Respiratory support with mechanical ventilation and positive end expiratory pressure may be required. There may be cranial nerve involvement in the late stages of toxicity from swallowed ethylene glycol. In particular, effects have been reported involving the seventh, eighth and ninth cranial nerves, presenting with bilateral facial paralysis, diminished hearing and dysphasia.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT: 119°C (247°F)

METHOD USED: Setaflash

AUTO IGNITION TEMPERATURE: Auto ignition temperature for ethylene glycol is 398°C (748°F).

FLAMMABILITY LIMITS - % of vapor concentration at which product can ignite in presence of spark.

Lower Flammability Limit: 3.2%

Upper Flammability Limit: 22%

HAZARDOUS COMBUSTION PRODUCTS: Hazardous combustion products may include and are not limited to carbon monoxide, carbon dioxide and trace amounts of aldehydes and organic acids. When available oxygen is limited, as in a fire or when heated to very high temperatures by a hot wire or plate, carbon monoxide and other hazardous compounds such as aldehydes might be generated.

EXTINGUISHING MEDIA: Water fog or fine spray. Alcohol resistant foams (ATC type) are preferred if available. General purpose synthetic foams (including AFFF) or protein foams may function, but much less effectively. Carbon dioxide. Dry chemical. Do not use direct water stream. May spread fire.

FIRE FIGHTING INSTRUCTIONS: No fire and explosion hazards expected under normal storage and handling conditions (i.e. ambient temperatures). However, ethylene glycol or solutions of ethylene glycol and water can form flammable vapors with air if heated sufficiently. Keep people away. Isolate fire area and deny unnecessary entry.

PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS: Wear positive-pressure, self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire-fighting helmet, coat, pants, boots and gloves).

6. ACCIDENTAL RELEASE MEASURES

PROTECT PEOPLE: Material is moderately toxic when ingested. Take adequate precautions to keep people, especially children away from spill site. PVC-coated rubber gloves and monogoggles or faceshield can be used during cleanup of spill site.

PROTECT THE ENVIRONMENT: Do not dump used product or diluted material into sewers, on the ground, or into any body of water.

CLEANUP: Small spills: Soak up with absorbent material. Large spills: Dike and pump into suitable containers for disposal. Ensure compliance with all applicable statutes that require notification of appropriate government officials.

7. HANDLING AND STORAGE

Product on surfaces can cause slippery conditions. Practice reasonable care and

cleanliness. Avoid breathing spray mists if generated. Keep out of reach of children. Product may become a solid at temperatures below -18°C (0°F). Do not store near food, foodstuffs, drugs or potable water supplies.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Respiratory Protection:	Respiratory protection is required if airborne concentration exceeds TLV. At any detectable concentration, any self-contained breathing apparatus with a full facepiece and operated in a pressure-demand or other positive pressure mode or any supplied-air respirator with a full facepiece and operated in a pressure-demand or other positive pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive pressure mode.
	Escape: Any air-purifying full facepiece respirator (gas mask) with a chin-style or front - or back-mounted organic vapor canister or any appropriate escape-type self-contained breathing apparatus.
Skin Protection:	Protective gloves recommended when prolonged skin contact cannot be avoided. Polyethylene; Neoprene; Nitrile; Polyvinyl alcohol; Natural Rubber, Butyl Rubber. Safety shower should be available.
Eye Protection:	Safety goggles and face shield. Emergency eyewash should be available. Contact lenses should not be worn when working with this chemical.
Engineering Controls:	Use general or local exhaust ventilation to meet TLV requirements.

EXPOSURE LIMITS

Component	Exposure Limits	Skin Form
Ethylene glycol	100 mg/m3 CEILING ACGIH	Aerosol
Ethylene glycol	125 mg/m3 CEILING OSHA-vacated	
	50 ppm CEILING OSHA - vacated	
	100 mg/m3 CEILING UCC	Aerosol and Vapor
Diethylene glycol	50 ppm TWA8 AIHA WEEL	Aerosol and Vapor
Diethylene glycol	10 mg/m3 TWA8 AIHA WEEL	Aerosol

In the Exposure Limits Chart above, if there is no specific qualifier (i.e., Aerosol) listed in the Form Column for a particular limit, the listed limit includes all airborne forms of the substance that can be inhaled.

A "Yes" in the Skin Column indicates a potential significant contribution to overall exposure by the cutaneous (skin) route, including mucous membranes and the eyes, either by contact with vapors or by direct skin contact with the substance. A "Blank" in the Skin column indicates that exposure by the cutaneous (skin) route is not a potential significant contributor to overall exposure.

9. PHYSICAL PROPERTIES

BOILING RANGE:	171 - 175°C (339 - 348°F)
FREEZE POINT:	-18°C (0°F)
SPECIFIC GRAVITY (Water =1):	1.12
POUNDS/GALLONS	9.3
VAPOR PRESSURE (mm of Hg) @ 20C:	<0.1
VAPOR DENSITY (air=1):	2.1
WATER SOLUBILITY:	Complete
EVAPORATION RATE (BuAc = 1):	Nil
% VOLATILE BY VOLUME:	97.0
APPEARANCE:	Green
ODOR:	Mild

10. STABILITY and REACTIVITY

STABILITY:	Stable
CONDITIONS TO AVOID:	Isolate from oxidizers, heat & open flame.
MATERIALS TO AVOID:	Isolate from strong oxidizers such as permanganates, chromates & peroxides.
HAZARDOUS DECOMPOSITION PRODUCTS:	Carbon monoxide, carbon dioxide from burning.
HAZARDOUS POLYMERIZATION:	Material is not known to polymerize.

11. TOXICOLOGICAL INFORMATION

SKIN: The dermal LD50 has not been determined.

INGESTION: The lethal dose in humans is estimated to be 100 ml (3 ounces). The oral LD50 for rats is in the 6000-13,000-mg/kg range.

MUTAGENICITY (THE EFFECTS ON GENETIC MATERIAL): In vitro mutagenicity studies were negative. Animal mutagenicity studies were negative.

SIGNIFICANT DATA WITH POSSIBLE RELEVANCE TO HUMANS

Ethylene glycol has been shown to produce dose-related teratogenic effects in rats and mice when given by gavage or in drinking water at high concentrations or doses. The no-effect doses for developmental toxicity for ethylene glycol given by gavage over the period of organogenesis has been shown to be 150 mg/kg/day for the mouse and 500 mg/kg/day for the rat. Also, in a preliminary study to assess the effects of exposure of pregnant rats and made to aerosol at concentrations of 150, 1000 and 25000 mg/m3 for 6 hours a day throughout the period of organogenesis, teratogenic effects were produced at the highest concentration, but only in mice. The conditions of these latter experiments did not allow a conclusion as to whether the developmental toxicity was mediated by inhalation of aerosol percutaneous absorption of ethylene glycol from contaminated skin, or swallowing ethylene glycol as a result of grooming the wetted coat. In a further study, comparing effects from high aerosol concentration by whole-body or nose-only exposure, it was shown that nose-only exposure resulted in maternal toxicity (1000 and 25000 mg/m3) and developmental toxicity with minimal evidence of teratogenicity (2500 mg/m3). The no-effects concentration (based on maternal toxicity) was 500 mg/m3. In a further study in mice, no teratogenic effects could be produced when ethylene glycol was applied to skin of pregnant mice over the period of organogenesis. The above observations suggest that ethylene glycol is to be regarded as an animal teratogen. There is currently no available information to suggest that ethylene glycol has caused birth defects in humans. Cutaneous application of ethylene glycol is ineffective in producing developmental toxicity. Exposure to high aerosol concentrations is only minimally effective in producing developmental toxicity. The major route for producing developmental toxicity is perorally. Two chronic feeding studies, using rats and mice, have not produced any evidence that ethylene glycol causes dose-related increases in tumor incidence or a different pattern of tumors compared with untreated controls. The absence of carcinogenic potential for ethylene glycol has been supported by numerous in vitro genotoxicity studies showing that it does not produce mutagenic or clastogenic effects.

A chronic dietary feeding study of diethylene glycol with rats showed mild kidney injury at 1%, while concentrations of 2% and 4% caused more marked kidney injury. In addition, at 2% and 4% of diethylene glycol in the diet, some rats developed benign papillary tumors in the urinary bladder. These have been attributed to the presence of urinary bladder calcium oxalate stones. No evidence for carcinogenicity was found with a chronic skin-painting study with diethylene glycol in mice. The absence of a direct chemical carcinogenic effect accords with the results in vitro genotoxicity studies that show that it does not produce mutagenic or clastogenic effects. A feeding study employing up to 5.0% diethylene glycol in the diet failed to produce any teratogenic effects. In a mouse continuous breeding study with large doses of diethylene glycol in drinking water, there was evidence for reproductive toxicity at 3.5% (equivalent to 6.1 g/kg/day) as reduced number of litter, live pups per litter and live pup weight. No such effects were seen at 1.75% (approximately 3.05 g/kg/day). The relevance of these very high dosages to human health is uncertain. Pregnant rats receiving undiluted diethylene glycol by gavage over the period of organogenesis had toxic effects at 4.0 and 8.0 ml/kg/day as mortality, decreased body weight, decreased food consumption increased water consumption and increased liver and kidney weights. Fetotoxicity was seen only at these maternally toxic dosages. Decreased fetal body weight

occurred at 8.0 ml/kg/day, and increased skeletal variants at 4.0 and 8.0 ml/kg/day. No embryotoxic or teratogenic effects were seen. Neither maternal toxicity nor fetotoxicity occurred at 1.0 ml/kg/day. In a study with mice also receiving undiluted diethylene glycol over the period of organogenesis, maternal toxicity occurred at 2.5 and 10.0 ml/kg/day, but not at 0.5 ml/kg/day. Definitive developmental toxicity was not seen in this species.

12. ECOLOGICAL INFORMATION

ENVIRONMENTAL FATE

MOVEMENT & PARTITIONING: Bioconcentration potential is low (BCF less than 100 or Log Kow less than 3). Log octanol/water partition coefficient (log Kow) is -1.36. Henry's Law Constant (H) is $6.0E-08$ atm-m³/mol. Bioconcentration factor (BCF) is 10 in golden orfe.

DEGRADATION & TRANSFORMATION: Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD greater than 40%). 5-Day biochemical oxygen demand (BOD5) is 0.78 p/p. 10-Day biochemical oxygen demand (BOD10) is 1.06 p/p. 20-Day biochemical oxygen demand (BOD20) is 1.15 p/p. Theoretical oxygen demand (ThOD) is calculated to be 1.29 p/p. Biodegradation may occur under both aerobic and anaerobic conditions (in either the presence or absence of oxygen). Inhibitory concentration (IC50) in OECD "Activated Sludge, Respiration Inhibition Test" (Guideline # 209) is < 1000 mg/L. Degradation is expected in the atmospheric environment within days to weeks.

ECOTOXICOLOGY: Material is practically non-toxic to aquatic organisms on an acute basis (LC50 greater than 100 mg/L in most sensitive species). Acute LC50 for fathead minnow (*Pimephales promelas*) is 51000 mg/L. Acute LC50 for bluegill (*Lepomis macrochirus*) is 27549 mg/L. Acute LC50 for rainbow trout (*Oncorhynchus mykiss*) is about 18000-46000 mg/L. Acute LC50 for guppy (*Poecilia reticulata*) is 49300 mg/L. Acute LC50 for water flea (*Daphnia magna*) is 46300-51100 mg/L. Acute LC50 for the cladoceran *Ceriodaphnia*

rubia is 10000-25800 mg/L. Acute LC50 for crayfish is 91430 mg/L. Acute LC50 for brine shrimp (*Artemia salina*) is 20000 mg/L. Acute LC50 for golden orfe (*Leuciscus idus*) is greater than 10000 mg/L. Acute LC50 for goldfish (*Carassius auratus*) is greater than 5000 mg/L. Growth inhibition EC50 for green alga *Selenastrum capricornutum* is 9500-13000 mg/L.

13. DISPOSAL CONSIDERATIONS

DO NOT discharge to sewer. Wear appropriate personal protection. Take up with sand, vermiculite, or similar inert material. Dispose in accordance with federal, state and local regulations.

14. TRANSPORT INFORMATION

U.S. D.O.T.

NON-BULK

Proper shipping name: NOT REGULATED

BULK

Proper shipping name: OTHER REGULATED SUBSTANCES, LIQUID NOS

Technical name: CONTAINS ETHYLENE GLYCOL

ID Number: NA3082

Hazard Class: 9

Packing Group: PG III

Reportable Quantity: 5,313 lb.

15. REGULATORY INFORMATION

THIS PRODUCT CONTAINS COMPONENT(S) CITED ON THE FOLLOWING REGULATIONS.

	CHEMICAL NAME	CAS NUMBER
UNITED STATES - TSCA - Inventory:	Ethylene Glycol	107-21-1
WATER STANDARDS:	Listed	
ATMOSPHERIC STANDARDS:	No data available	
	Clean Air Act (1990) - List of Hazardous Air Contaminants: listed	
CERCLA:	Reportable Quantity (RQ): 5,000 pounds (532 gallons)	
SARA Title III:	Section 311/312 - Categories: Acute hazard; chronic hazard	
	Section 312 - Inventory Reporting: Ethylene glycol is subject to Tier I and/or Tier II annual inventory reporting.	
	Section 313 - Emission Reporting: Ethylene glycol is subject to Form R reporting requirements.	
	Section 302 - Extremely Hazardous Substances: Ethylene glycol is not listed.	

STATE RIGHT-TO-KNOW:

California - Exposure Limits - Ceilings:	vapor-50 ppm ceiling; 125 mg/m3 ceiling
Director's List of Hazardous Substances:	listed
Florida - Hazardous Substances List:	listed
Massachusetts - Right-to-Know List:	listed
Minnesota - Haz. Subs. List:	listed (particulate and vapor)
New Jersey - Right-to-Know List (Total):	Present greater than 1.0%
Pennsylvania Right-to-Know List:	environmental hazard

CANADIAN REGULATIONS:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required.

WHMIS INFORMATION: D2A - material has potential toxic effects.

Refer elsewhere in the MSDS for specific warnings and safe handling information. Refer to the employer's workplace education program.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)

This product contains the following chemical(s) known to the State of California to cause cancer:

Component	CAS #	Amount
1,4 - Dioxane	123-91-1	<=0.0086%
Acetaldehyde	75-07-0	<=0.1000PPM

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)

This product contains the following chemical(s) known to the State of California to cause birth defects and/or other reproductive harm.

Component	CAS #	Amount
Ethylene glycol monomethyl ether	109-86-4	<=0.0009%

California SCAQMD Rule 443.1 (South Coast Air Quality Management District Rule 443.1, Labeling of Materials Containing Organic Solvents)

VOC: Vapor pressure 0.06 mmHg at 20°C

1113.38 g/l

16. OTHER INFORMATION

Contact: Technical department

Phone: (847) 559-2000

Old World Industries, Inc. makes no warranty, representation or guarantee as to the accuracy, sufficiency or completeness of the material set forth herein. It is the user's responsibility to determine the safety, toxicity and suitability of his own use, handling and disposal of this product. Since actual use by others is beyond our control, no warranty, expressed or implied, is made by Old World Industries, Inc. as to the effects of such use, the results to be obtained or the safety and toxicity of this product, nor does Old World Industries, Inc. assume liability arising out of the use by others of this product referred to herein. The data in this MSDS relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.

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1-800-323-5440

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**** MATERIAL SAFETY DATA SHEET ****

28201 - HEET Gas Line Antifreeze

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SEC 2 - COMPOSITION INFORMATION	SEC 10 - STABILITY, REACTIVITY
SEC 3 - HAZARDS IDENTIFICATION	SEC 11 - TOXICOLOGY INFORMATION
SEC 4 - FIRST AID MEASURES	SEC 12 - ECOLOGICAL INFORMATION
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**** SECTION 1 - CHEMICAL PRODUCT AND MANUFACTURER IDENTIFICATION ****

Product Name: 28201 - HEET Gas Line Antifreeze

Part Number:

28201

Product CAS: (None)

Product Code: 28201

Synonyms: 28201 - HEET Gas Line Antifreeze

MANUFACTURER IDENTIFICATION

Name: Gold Eagle Company

Address: 4400 S. Kildare Blvd.

City: Chicago

State: IL

Zip: 60632-4372

For information call: 773-376-4400

Emergency Number: N/A

Emergency Agency: INFOTRAC

Agency Number: 1-800-535-5053

MSDS Effective Date: 1/1/1980

MSDS Supersedes Date: 8/5/2005

Miscellaneous:

Product CAS: Mixture

Brief Description: Gas line dryer and antifreeze for automobiles.

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**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

Chemical Name	CAS	MIN
MAX		
Methanol	67-56-1	99
99		
Proprietary Additive	(none)	1
1		
Miscellaneous:		
CHEMICAL NAME	LIMIT VALUES	
Methanol	PEL 200 ppm	
	PEL 260 mg/m3	
Proprietary Additive (CAS#:Mixture)	N/A	
Return to top		

****** SECTION 3 - HAZARDS IDENTIFICATION ******

EMERGENCY OVERVIEW:

NFPA: Health: 1 Fire: 3 Reactivity: 0 Specific Hazard: None

HMIS: Health: 1 Flammability: 3 Reactivity: 0 PPE: B

Miscellaneous:

This product does not contain any components above de minimus concentrations that are considered carcinogenic by OSHA, IARC or NTP.

POTENTIAL HEALTH EFFECTS

Target Organs/Primary Route(s) of Entry:

Eye:

Mild irritant.

Skin:

Prolonged or repeated skin contact may cause dermatitis, scaling and possible systemic effects.

Ingestion:

POISON-Oral human lowest lethal dose = 6.4 g/kg

Inhalation:

Poisonous, narcotic chemical affecting central nervous system resulting in: dizziness, nausea, visual impairment, narcosis and muscular impairment.

Miscellaneous:

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****** SECTION 4 - FIRST AID MEASURES ******

Eye:

If the product contacts the eyes, immediately wash the eyes with large quantities of room temperature water for at least 15 minutes, occasionally lifting the lower and upper lids. Get medical attention immediately. A follow up visit to an ophthalmologist should be made. Contact lenses should not be worn when working with this chemical.

Skin:

If the product contacts the skin, promptly wash the contaminated skin with soap and water for at least 15 minutes. If this product penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Systemic effects may be delayed 18 to 72 hours, therefore keep individual under observation.

Ingestion:

If this product is ingested and the person is conscious, induce vomiting, then give 2 teaspoons of baking soda in a glass of water. DO NOT INDUCE AN UNCONSCIOUS PERSON TO VOMIT. Get medical attention immediately.

Inhalation:

Move the exposed person to fresh air at once and call emergency medical care. If breathing has stopped, give artificial respiration. If breathing is difficult, give humidified oxygen.

Notes to Physician:

No data available.

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****** SECTION 5 - FIRE FIGHTING MEASURES ******

Flash Point: 52 F. (11 C.) TOC

AutoIgnition Temperature: N/A

Flammable Limits

Lower Limit: Explosive Limit (LEL): 6.0

Upper Limit: Explosive Limit (UEL): 36.5

Extinguishing Media:

Use halon replacement or carbon dioxide extinguishers or alcohol foam for small fires. Water spray or fog can cool fire but may not be effective in extinguishing fire. Large fires should be extinguished with alcohol foam. Use water spray to cool containers exposed to fire. Containers may explode in heat or fire.

Unusual Fire and Explosion Hazards:

Dangerous fire and explosion hazard when exposed to heat or flame. Methanol is extremely flammable and forms explosive mixtures with air. Methanol vapors may travel considerable distance to a source of ignition and flash back.

Special Fire Fighting Procedures:

Wear NIOSH approved SCBA respirator in the positive pressure mode and chemical protective clothing.

General Information:

Flammable Limits: 6.0 to 36.5

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****** SECTION 6 - ACCIDENTAL RELEASE MEASURES ******

Small Spill: Remove sources of heat or ignition, provide adequate ventilation, contain leak using absorbent, inert, non-combustible material.

Large Spill: Contain spill, transfer to secure containers. In the event of an uncontrolled material release, the user should determine if release is reportable under applicable laws and regulations.

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****** SECTION 7 - HANDLING AND STORAGE ******

Handling:

See other sections of MSDS.

Storage:

See other sections of MSDS.

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****** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ******

GENERAL HYGIENE CONSIDERATIONS:

Use normal hygiene practices.

OTHER PRECAUTIONS:

Methanol waste and material contaminated with methanol would be regulated as a hazardous waste material under the hazardous waste number U154.

ENGINEERING CONTROLS:

Local Exhaust: Provide local ventilation to maintain exposure levels below recommended exposure limits.

Mechanical (General): In confined spaces, mechanical ventilation may be required.

Special Ventilation: N/A

Other Ventilation: N/A

PERSONAL PROTECTIVE EQUIPMENT**Eyes/face:**

Use splash proof chemical, safety goggles or appropriate full-face respirator.

Contact lenses should not be worn when working with this chemical.

Skin:

Use natural rubber or neoprene gloves as required.

Respirators:

Do not use air purifying respirator. Use NIOSH approved respirator approved supplied or self contained respirator. Respirators must be selected based on the airborne levels found in the workplace and must not exceed the working limits of the respirator.

Other Protective Clothing/Equipment:

If there is a possibility of exposure of an individual's body to methanol, wear body covering work clothes to avoid prolonged or repeated exposure.

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****** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ********Appearance/Odor:**

Yellow liquid, solvent odor

pH: N/A

Vapor Pressure: (MM HG): 97.0

Vapor Density(Air=1): 1.1

Evaporation Rate: N/A

Viscosity: N/A

Boiling Point: 148 F. (65 C.) N/A

Freezing/Melting Point: N/A

Decomposition Temperature: N/A

Solubility in Water: Soluble

Specific Gravity: 0.795

Molecular Formula: N/A

Molecular Weight: N/A

VOC Coating (minus water): 0 Lbs/Gallon

Coating Density : 0 Lbs/Gallon

Solvent Density : 0 Lbs/Gallon

Percent Solvent (volume): 0

Percent Solids (volume): 0

Percent Water (volume): 0

Percent Volatile by Weight: 0

Miscellaneous:

% Volatile/Volume: 100.0

Specific Gravity (H2O = 1): N/A

Percent Solvent (Volume): N/A

Percent Solids (Volume): N/A

Percent Water (Volume): N/A

Product is flammable, keep away from sources of ignition, combustibles, oxidizing material and acid. Store in an area equipped with automatic sprinklers or fire extinguishing system. Empty containers contain product residues, assume empty container to have the same hazards as full containers.

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****** SECTION 10 - STABILITY AND REACTIVITY ******

Chemical Stability:

Stable: Yes

Conditions to Avoid:

Store in a well ventilated place away from sources of ignition, combustibles, oxidizing materials and acid.

Incompatibilities with Other Materials:

Strong oxidizing agents, aluminum, zinc, or metals that displace hydrogen, rubber and rubber based coatings, chromic anhydride, lead perchlorate and perchloric acids.

Hazardous Decomposition Products:

Excessive heating and/or incomplete combustion will produce carbon monoxide.

Hazardous Polymerization:

Hazardous Polymerization May Occur: No

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****** SECTION 11 - TOXICOLOGICAL INFORMATION ******

No data available.

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****** SECTION 12 - ECOLOGICAL INFORMATION ******

No data available.

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****** SECTION 13 - DISPOSAL CONSIDERATIONS ******

Dispose of product in accordance with local, state, and federal regulations. Before attempting clean up, refer to other sections of MSDS for hazard warning information.

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****** SECTION 14 - TRANSPORT INFORMATION ******

Transportation Information:

Shipping Information (CFR 49 and IMDG):

Proper Shipping Name: Gasoline Additive, N.O.I.

DOT Hazard Class: Consumer commodity, ORM-D

DOT UN Number: None required.

IMDG Shipping Name: Dangerous Goods in Limited Quantities of Class 3.2 (Methanol),
PGII

Label Information:

No data available.

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****** SECTION 15 - REGULATORY INFORMATION ******

SARA Title III:

Section 302: None

Section 304: None
Section 311: Hazard categories-Fire Hazard-Yes; Acute=Yes and
Chronic=Yes
Section 313: Methanol, CAS# 67-56-1, 99.0%

CERCLA:

Section 311(b)(4): Requires discharges of crude oil and petroleum products in any kind or form to waters must immediately be reported to the National Response Center at (800) 424-8802.

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****** SECTION 16 - ADDITIONAL INFORMATION ******

Disclaimer: Information presented herein is believed to be factual, as it has been derived from the works and opinions of persons believed to be qualified experts. However, nothing contained in this information is to be taken as warranty or representation for which the Gold Eagle Co. bears legal responsibility. The user should review any recommendations in the specific context of the intended use to determine whether they are appropriate.

Prepared by: Mike Profetto

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**** MATERIAL SAFETY DATA SHEET ****

LT14 - HEET Windshield De-Icer

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**** SECTION 1 - CHEMICAL PRODUCT AND MANUFACTURER IDENTIFICATION ****

Product Name: LT14 - HEET Windshield De-Icer

Part Number:

LT14

Product CAS: (None)

Product Code: LT14

Synonyms: LT14 - HEET Windshield De-Icer

MANUFACTURER IDENTIFICATION

Name: Gold Eagle Company

Address: 4400 S. Kildare Blvd.

City: Chicago **State:** IL **Zip:** 60632-4372

For information call: 773-376-4400

Emergency Number: N/A

Emergency Agency: INFOTRAC

Agency Number: 1-800-535-5053

MSDS Effective Date: 7/17/2003

MSDS Supersedes Date: 2/3/2011

Miscellaneous:

Product CAS: Mixture

Brief Description: Aerosol windshield de-icer.

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**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

Chemical Name	CAS	MIN	MAX
Carbon Dioxide	124-38-9	0	5
Methanol	67-56-1	90	97
PROPYLENE GLYCOL	57-55-6	0	3

Miscellaneous:

CHEMICAL NAME

LIMIT VALUES

Carbon Dioxide

PEL 5,000 ppm

PEL 9,000 mg/m3

Methanol

PEL 200 ppm

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****** SECTION 3 - HAZARDS IDENTIFICATION ******

EMERGENCY OVERVIEW:

NFPA: Health: 1 **Fire:** 3 **Reactivity:** 0 **Specific Hazard:** None

HMIS: Health: 1 **Flammability:** 3 **Reactivity:** 0 **PPE:** B

Miscellaneous:

This product does not contain any components above de minimus concentrations that are considered carcinogenic by OSHA, IARC or NTP.

POTENTIAL HEALTH EFFECTS

Target Organs/Primary Route(s) of Entry:

Eye:

Mild irritant.

Skin:

Prolonged or repeated skin contact may cause dermatitis, scaling and possible systemic effects.

Ingestion:

POISON-Oral human lowest lethal dose = 6.4 g/kg.

Inhalation:

Poisonous, narcotic chemical affecting central nervous system resulting in: dizziness, nausea, visual impairment, narcosis and muscular impairment.

Miscellaneous:

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****** SECTION 4 - FIRST AID MEASURES ******

Eye:

If the product contacts the eyes, immediately wash the eyes with large quantities of room temperature water for at least 15 minutes, occasionally lifting the lower and upper lids. Get medical attention immediately. A follow up visit to an ophthalmologist should be made. Contact lenses should not be worn when working with this chemical.

Skin:

If the product contacts the skin, promptly wash the contaminated skin with soap and water for at least 15 minutes. If this product penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Systemic effects may be delayed 18 to 72 hours, therefore keep individual under observation.

Ingestion:

If this product is ingested and the person is conscious, induce vomiting, then give 2 teaspoons of baking soda in a glass of water. DO NOT INDUCE AN UNCONSCIOUS PERSON TO VOMIT. Get medical attention immediately.

Inhalation:

Move the exposed person to fresh air at once and call emergency medical care. If breathing has stopped, give artificial respiration. If breathing is difficult, give humidified oxygen.

Notes to Physician:

No data available.

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****** SECTION 5 - FIRE FIGHTING MEASURES ******

Flash Point: 54 F. (11 C.) TOC

AutoIgnition Temperature: N/A

Flammable Limits

Lower Limit: Explosive Limit (LEL): 6.0

Upper Limit: Explosive Limit (UEL): 36.5

Extinguishing Media:

Use halon replacement or carbon dioxide extinguishers or alcohol foam for small fires. Water spray or fog can cool fire but may not be effective in

extinguishing
fire. Large fires should be extinguished with alcohol foam. Use water spray
to
cool containers exposed to fire. Containers may explode in heat or fire.

Unusual Fire and Explosion Hazards:

Dangerous fire and explosion hazard when exposed to heat or flame.
Isopropanol is
extremely flammable and forms explosive mixtures with air. Isopropanol
vapors may
travel considerable distance to a source of ignition and flash back.

Special Fire Fighting Procedures:

Wear NIOSH approved SCBA respirator in the positive pressure mode and
chemical
protective clothing.

General Information:

Flammable Limits: 6.0 to 36.5

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****** SECTION 6 - ACCIDENTAL RELEASE MEASURES ******

Small Spill: Remove sources of heat or ignition, provide adequate
ventilation,
contain leak using absorbent, inert, non-combustible material.

Large Spill: Contain spill, transfer to secure containers. In the event of
an
uncontrolled material release, the user should determine if release is
reportable
under applicable laws and regulations.

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****** SECTION 7 - HANDLING AND STORAGE ******

Handling:

See other sections of MSDS.

Storage:

See other sections of MSDS.

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****** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ******

GENERAL HYGIENE CONSIDERATIONS:

Use normal hygiene practices.

OTHER PRECAUTIONS:

Methanol waste and waste material contaminated with methanol would be regulated as a hazardous waste material under the hazardous waste number U154.

ENGINEERING CONTROLS:

Local Exhaust: Provide local ventilation to maintain exposure levels below recommended exposure limits.

Mechanical (General): In confined spaces, mechanical ventilation may be required.

Special Ventilation: N/A

Other Ventilation: N/A

PERSONAL PROTECTIVE EQUIPMENT

Eyes/face:

Use splash proof chemical, safety goggles or appropriate full-face respirator.

Contact lenses should not be worn when working with this chemical.

Skin:

Use natural rubber or neoprene gloves as required.

Respirators:

Do not use air purifying respirator. Use NIOSH approved respirator approved supplied or self contained respirator. Respirators must be selected based on the airborne levels found in the workplace and must not exceed the working limits of the respirator.

Other Protective Clothing/Equipment:

If there is a possibility of exposure of an individual's body to the product, wear body covering work clothes to avoid prolonged or repeated exposure.

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****** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ******

Appearance/Odor:

Water white liquid, solvent odor

pH: N/A

Vapor Pressure: (MM HG): 97.0

Vapor Density (Air=1): 1.1

Evaporation Rate: N/A

Viscosity: N/A

Boiling Point: 148 F. (65 C.)N/A

Freezing/Melting Point: N/A

Decomposition Temperature: N/A

Solubility in Water: Soluble

Specific Gravity: 0.795

Molecular Formula: N/A

Molecular Weight: N/A

VOC Coating (minus water): 0 Lbs/Gallon

Coating Density : 0 Lbs/Gallon

Solvent Density : 0 Lbs/Gallon

Percent Solvent (volume): 0

Percent Solids (volume): 0

Percent Water (volume): 0

Percent Volatile by Weight: 0

Miscellaneous:

% Volatile/Volume: 95.0

Specific Gravity (H₂O = 1): N/A

Percent Solvent (Volume): N/A

Percent Solids (Volume): N/A

Percent Water (Volume): N/A

Product is flammable, keep away from sources of ignition, combustibles, oxidizing material and acid. Store in an area equipped with automatic sprinklers or

fire
extinguishing system. Empty containers contain product residues, assume
empty
container to have the same hazards as full containers.

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**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:

Stable: Yes

Conditions to Avoid:

Store in a well ventilated place away from sources of ignition, combustibles,
oxidizing materials and acid.

Incompatibilities with Other Materials:

Strong oxidizing agents, aluminum, zinc, or metals that displace hydrogen,
rubber
and rubber based coatings, chromic anhydride, lead perchlorate and perchloric
acids.

Hazardous Decomposition Products:

Excessive heating and/or incomplete combustion will produce carbon monoxide.

Hazardous Polymerization:

Hazardous Polymerization May Occur: No

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**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

No data available.

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**** SECTION 12 - ECOLOGICAL INFORMATION ****

No data available.

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****** SECTION 13 - DISPOSAL CONSIDERATIONS ******

Dispose of product in accordance with local, state, and federal regulations. Before attempting clean up, refer to other sections of MSDS for hazard warning information.

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****** SECTION 14 - TRANSPORT INFORMATION ******

Transportation Information:

Shipping Information (CFR 49 and IMDG):

Proper Shipping Name: Alcohol, antifreeze

DOT Hazard Class: Consumer commodity, ORM-D

DOT UN Number: None required.

IMDG Shipping Name: UN1950, Aerosols, 2.1, Limited Quantity (<1000ml/can)

Label Information:

No data available.

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****** SECTION 15 - REGULATORY INFORMATION ******

SARA Title III:

Section 302: None

Section 304: None

Section 311: Hazard categories-Fire Hazard-Yes; Acute=Yes and Chronic=Yes

Section 313: Methanol, CAS# 67-56-1, 95.0%

CERCLA:

Section 311(b)(4): Requires discharges of crude oil and petroleum products in any kind or form to waters must immediately be reported to the National Response Center at (800) 424-8802.

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****** SECTION 16 - ADDITIONAL INFORMATION ******

Disclaimer: Information presented herein is believed to be factual, as it has been derived from the works and opinions of persons believed to be qualified experts.

However, nothing contained in this information is to be taken as warranty or representation for which the Gold Eagle Co. bears legal responsibility. The user

should review any recommendations in the specific context of the intended use to determine whether they are appropriate.

Prepared by: Mike Profetto

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MATERIAL SAFETY DATA SHEET

HAZARD RATING

EMERGENCY MEDICAL
TELEPHONE NUMBER
1-800-228-5635 ext. 111

0=Fire
0=Health

0=Reactivity
=Special

4=Extreme
3=High
2=Moderate
1=Slight
0=Insignificant

N/A=Not Applicable N.D.=No Data N.E.=Not Established

SECTION I-IDENTITY AND MANUFACTURER'S INFORMATION

PRO-LINK
510 Chapman Street
Canton, MA 02021
Telephone Number 781-828-9550
Product Name: Pro-Link Ice Melter
Prepared by Regulatory Affairs Department – July 1994

SECTION II-HAZARDOUS INGREDIENTS/IDENTITY INFORMATION:

N/A=Not Applicable	N/E=Not Est ablished				
Hazardous Components:	Cas #'s	osha pel	acgih	other limits	%optional
Calciumchloride	10043-52-4	N/E	N/E	N/E	N/E
Sodium chloride	07647-14-5	N/E	N/E	N/E	N/E

No toxicological data is available on this specific mixture; rather the health effects stated below are based on information that is available on the calcium chloride component.

SECTION III-PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point: 175°C for CaCl₂
1413°C for NaCl
Vapor Pressure 0.37 kPa (40°C) for CaCl₂
1.0 mm Hg(865°C) for NaCl
Vapor Density (AIR=1) N/A
Solubility in Water: 97.7 g/100 ML @ 0°C
1g/2.8 ml @ 25°C
Appearance and Odor: solid, white
to faint pink granular – odorless
Specific Gravity: (H₂O=1) 1.85 @
25°C for CaCl₂, 2.16 for NaCl
pH: Neutral to slightly alkaline for CaCl₂;
6.7-7.3 for NaCl

Evaporation Rate: (ether=1.0)N/A
% Volatilize by volume:(At 20°C)N/A
Molecular Weight:110.99 for CaCl₂
58.45 for NaCl
Freezing Point: 176° for CaCl₂
(Melting Point) 804°C for NaCl

SECTION IV-FIRE AND EXPLOSION HAZARD DATA

Flash Point : N/A
Flammability Limits: N/A LEL-N/A UEL-N/A
Extinguishing Media: Use extinguishing media appropriate for surrounding fire.
Special Fire Fighting Procedures: For fire fighting wear NIOSH-approved self-contained breathing apparatus.
Unusual Fire and Explosion Hazards: A potential explosion hazard exists when calcium chloride is mixed with furan 2-peroxy-carboxylic acid.

SECTION V-PHYSICAL HAZARDS

Stability: Stable X
Unstable —

Conditions to Avoid: N/A
Conditions to Avoid: N/A

Incompatibility (Materials to Avoid): For CaCl₂ reacts violently with bromine trifluoride (BrF₃), or a mixture of boron trioxide and calcium oxide (B₂O₃+CaO). Sulfuric acid: yields hydrogen chloride gas, which is corrosive, irritating, and reactive. Water-reactive materials, such as sodium: causes an exothermic reaction. Methyl vinyl ether: starts runaway polymerization reaction. Zinc as in galvanized iron: yields hydrogen gas with solutions, which may explode under these conditions. Sodium chloride undergoes violent reactions with BrF₃ and lithium.

Hazardous Decomposition: When heated to decomposition it emits toxic fumes of Cl₂ and Na₂O.

Products or Byproducts: None

Hazardous Polymerization: — May occur
X Will not occur

Conditions to Avoid: N/A
Conditions to Avoid: N/A

Other Precautions: CaCl₂ will undergo violent polymerization with methyl vinyl ether. The anhydrous, monohydrate, dehydrate and tetrahydrate forms of calcium chloride when dissolved in water, produce considerable amount of heat

SECTION VI-HEALTH HAZARDS

Routes of Entry: — Inhalation — Skin X Ingestion X
Health Hazards (Acute and Chronic): **Eyes:** Direct contact will cause irritation. **Skin:** Prolonged or repeated skin contact may cause irritation.
Ingestion: May cause gastrointestinal irritation. **Inhalation:** Prolonged exposure in poorly ventilated areas may irritate nasal mucous membranes.
Carcinogenicity: NTP? N/A IARC Monographs? N/A OSHA Regulated? N/A
Signs and Symptoms of Exposure: See Health Hazards.
Medical conditions Generally Aggravated by Exposure: None Known
Emergency and First Aid Procedures: **Eyes:** Flush promptly with large amounts of water, for 15 min, occasionally lifting eyelids. **Skin:** Remove contaminated clothing. Wash with mild soap and water. **Ingestion:** If conscious, immediately give 2 to 4 large glasses of water. Include vomiting. **Inhalation:** Promptly remove to fresh air and rest. Restore and/or support breathing

SECTION VII-PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be taken in Case Material is released or spilled:
Shovel up dry chemical and place in metal drum with cover, reuse if possible.
Always wear personal protective equipment.
Waste Disposal Method: Dispose of container and unwanted product as permitted by all local, state, and federal regulation.
Precautions to be taken in Handling and Storage: Avoid contact with eyes, skin or clothing. Avoid breathing dust. Use good personal hygiene and housekeeping. Store in cool, dry area. Prolonged storage may cause product to cake and become wet from atmospheric moisture.
Aquatic Toxicity:
CaCl₂ is harmful to aquatic life at concentrations greater than 500ppm. CaCl₂ does not bioaccumulate. TLm 96:>1000mg/l. For NaCl Tim 96:>1000ppm.
Other Precautions:
Keep out of reach of Children.

SECTION VIII-CONTROL MEASURES

Respiratory Protection: For dusty conditions, wear NIOSH-approved dust respirator.
Ventilation: **Local Exhaust:** O.K. **Special:** N/A
Mechanical (Gen): Satisfactory **Other:** N/A
Protective Gloves: Rubber or plastic
Eye Protection: For dusty conditions, wear chemical safety goggles. Under these conditions do not wear contact lenses.
Other Protective Clothing or Equipment: Long-sleeve shirt and trousers.
Work/hygienic Practices: Wash hands after use

NOTICE: NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OR MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OF ANY OTHER NATURE, ARE MADE WITH RESPECT TO INFORMATION CONCERNING THE PRODUCT REFERRED TO IN THIS MATERIAL SAFETY DATA SHEET. The goal of defining precisely, in measurable terms, every possible health effect that may occur in the workplace as a result of chemical exposures cannot realistically be accomplished. The information and recommendations contained in this Material Safety Data Sheet is supplied pursuant to 29 C.F.R. 1910. 1200 of the Occupational Safety and Health Standards Hazard Communications Rule. The information and recommendations set forth herein are presented in good faith and believed to be correct as of the date hereof. Preferred Distributors, Inc. however, makes no representations as to the completeness or accuracy thereof, and information is supplied upon the express condition that the persons receiving the same will be required to make their own determination as to its suitability for their purposes prior to use. In no event will PRO-LINK be responsible for any damages of any nature whatsoever resulting from the use of, reliance upon, or the misuse of this information. The information as supplied herein is simply to be informative and intended solely to alert the user of the substance which is the subject matter of this Material Safety Data Sheet. The ultimate compliance with federal, state or local regulations concerning the use or disposal of this compound, or compliance with respect to product's liability, rests solely upon the purchaser thereof.

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MATERIAL SAFETY DATA SHEET

HMIS CODES:

H	F	R	P
0	2	0	A

May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200. Standard must be consulted for specific requirements.

U.S. Department of Labor
Occupational Safety and Health Administrator
(Non-Mandatory Form)
Form Approved OMB No. 1218-0072

IDENTITY (AS USED ON LABEL AND LIST):
BLUE MONSTER™ THREAD SEAL COMPOUND

NOTE: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

Section I

Manufacturer's Name:
THE MILL-ROSE COMPANY

Emergency Telephone Number:
(800) 321-3598

Address (Number, Street, City, State, and ZIP Code):
7310 CORPORATE BLVD.

Telephone Number for Information:
(800) 321-3598

MENTOR, OHIO 44060

Date Prepared: January 1, 2008

Signature of Preparer (optional):

Section II - Hazardous Ingredients/Identity Information

HAZARDOUS COMPONENTS
(SPECIFIC CHEMICAL IDENTITY: COMMON NAME(S))

OSHA
PEL

ACGIH
TLV

OTHER LIMITS
Recommended

%
(optional)

ISOPROPYL ALCOHOL [CAS#67-63-0]

400

400

N/A

5 - 10

ETHYLENE GLYCOL [CAS#111-76-2]

50

25

N/A

13 - 18

Section III - Physical/Chemical Characteristics

Boiling Point:

180°F

Specific Gravity (H2O = 1):

1.41

Vapor Pressure (mm Hg):

.88

Melting Point:

N/A

Vapor Density (AIR = 1):

> 1

Evaporation Rate (Butyl Acetate = 1):

.6

Solubility in Water:

SLIGHT

VOC Content:

310 g/l

Appearance and Odor: BLUE PASTE - MILD ODOR

Section IV - Fire and Explosion Hazard Data

Flash Point (Method Used):
82°F (28°C)
ASTM METHOD D93-80

Flammable Limits:
921°F (494°C)
IGNITION TEMPERATURE

LEL:
0.9%

UEL:
6.0%

Extinguishing Media: CARBON DIOXIDE OR DRY CHEMICAL OR WATER.

Special Fire Fighting Procedures: NONE

Unusual Fire and Explosion Hazards: CONTACT WITH STRONG OXIDIZERS MAY CAUSE FIRES OR EXPLOSIONS. CARBON MONOXIDE MAY BE RELEASED.

Section V - Reactivity Data		BLUE MONSTER™ THREAD SEAL COMPOUND	
Stability:	Unstable:		Conditions to Avoid: N/A
	Stable:	X	
Incompatibility (Materials to Avoid): LIQUID OXYGEN SYSTEMS, LIQUID SODIUM, GASEOUS FLUORINE, STRONG OXIDIZERS.			
Hazardous Decomposition or Byproducts:			
Hazardous Polymerization:	May Occur:		Conditions to Avoid: N/A
	Will Not Occur:	X	
Section VI - Health Hazard Data			
Route(s) of Entry:	Inhalation? YES	Skin? YES	Ingestion? YES
Health Hazards (Acute and Chronic): N/A			
Carcinogenicity:	NTP? NO	IARC Monographs? NO	OSHA Regulated? NO
Signs and Symptoms of Exposure: INHALATION: POSSIBLE DIZZINESS IF USED IN CONFINED AREA. SKIN: MAY CAUSE MILD IRRITATION TO SENSITIVE SKIN.			
Medical Conditions Generally Aggravated by Exposure: NONE KNOWN			
Emergency and First Aid Procedures: EYE CONTACT: FLUSH EYES WITH WATER. SKIN CONTACT: WASH SKIN WITH SOAP AND WATER. WASH CLOTHING BEFORE REUSE. INHALATION: MOVE TO WELL VENTILATED AREA. INGESTION: CALL PHYSICIAN.			
Section VII - Precautions for Safe Handling and Use			
Steps to Be Taken in Case Material is Released or Spilled: NORMAL GOOD HOUSEKEEPING PROCEDURES.			
Waste Disposal Method: DISPOSE OF ACCORDING TO FEDERAL, STATE, AND LOCAL REGULATIONS.			
Precautions to Be Taken in Handling and Storing: STORE AWAY FROM HEAT OR OPEN FLAME. CLOSE CONTAINER AFTER USE.			
Other Precautions: WEAR PROTECTIVE GLOVES TO PREVENT POSSIBLE SKIN ABSORPTION AND DERMATITIS. KEEP OUT OF REACH OF CHILDREN.			
Section VIII - Control Measures			
Respiratory Protection (Specify Type): AVOID BREATHING OF FUMES. IF USED IN A CONFINED AREA, A RESPIRATOR MAY BE NECESSARY.			
Ventilation:	Local Exhaust: NORMAL VENTILATION IS ADEQUATE.		Special: N/A
	Mechanical (General): N/A.		Other: N/A
Protective Gloves: MAY BE NECESSARY FOR SENSITIVE SKIN.		Eye Protection: KEEP OUT OF EYES. WEAR PROTECTIVE GOGGLES WHERE NECESSARY.	
Other Protective Clothing or Equipment: N/A			
Work/Hygienic Practices: WASH UP WITH SOAP AND WATER AFTER USE.			



Material Safety Data Sheet

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PRODUCT NAME: 3M™ Bondo® Professional Gold Body Repair Kit PN 01313, 01313C
MANUFACTURER: 3M
DIVISION: Automotive Aftermarket
ADDRESS: 3M Center, St. Paul, MN 55144-1000

EMERGENCY PHONE: 1-800-364-3577 or (651) 737-6501 (24 hours)

Issue Date: 12/27/11
Supersedes Date: 03/04/11

Document Group: 29-1566-8

ID Number(s):

60-4550-5493-6, 60-4550-6626-0

This product is a kit or a multipart product which consists of multiple, independently packaged components. An MSDS for each of these components is included. Please do not separate the component MSDSs from this cover page. The document numbers of the MSDSs for components of this product are:

29-1496-8, 24-7436-9

Revision Changes:

Kit: Component document group number(s) was modified.
Page Heading: Product name was modified.
Kit: Product name was modified.
Kit: ID Number(s) was modified.
Section 1: Manufacturer name was added.
Section 16: Disclaimer (first paragraph) was added.
Section 16: Disclaimer (second paragraph) was added.
Section 16: Web address was added.
Section 1: Address was added.
Copyright was added.
Company logo was added.

Telephone header was added.

Company Telephone was added.

Section 1: Emergency phone information was added.

Company Logo was deleted.

Copyright was deleted.

Kit: Manufacturer's name was deleted.

Kit: Emergency phone information was deleted.

Kit: Disclaimer (first paragraph) was deleted.

Kit: Disclaimer (second paragraph) was deleted.

Kit: Address line 1 was deleted.

Kit: Address line 2 was deleted.

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SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M™ Red Cream Hardener
MANUFACTURER: 3M
DIVISION: Automotive Aftermarket
ADDRESS: 3M Center, St. Paul, MN 55144-1000

EMERGENCY PHONE: 1-800-364-3577 or (651) 737-6501 (24 hours)

Issue Date: 10/01/12
Supersedes Date: 08/08/12

Document Group: 24-7436-9

Product Use:
Intended Use: Automotive

SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
BENZOYL PEROXIDE	94-36-0	30 - 60
WATER	7732-18-5	10 - 30
BENZOIC ACID, C9-11-BRANCHED ALKYL ESTERS	131298-44-7	10 - 20
ZINC STEARATE	557-05-1	3 - 7
OXIRANE, POLYMER WITH METHYLOXIRANE, MONOBUTYL ETHER	9038-95-3	1 - 5
CALCIUM SULFATE	7778-18-9	1 - 5
IRON OXIDE (FE ₂ O ₃)	1309-37-1	1 - 5

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Specific Physical Form: Viscous

Odor, Color, Grade: Red paste with slight ester odor

General Physical Form: Solid

Immediate health, physical, and environmental hazards: Closed containers exposed to heat from fire may build pressure and explode. Dust clouds of this material in combination with an ignition source may be explosive. May cause severe eye irritation. May cause allergic skin reaction.

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:

Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Skin Contact:

Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Mild Skin Irritation: Signs/symptoms may include localized redness, swelling, and itching.

Inhalation:

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Prolonged or repeated exposure may cause:

Pneumoconiosis: Sign/symptoms may include persistent cough, breathlessness, chest pain, increased amounts of sputum, and changes in lung function tests.

Ingestion:

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May be absorbed following ingestion and cause target organ effects.

Target Organ Effects:

Prolonged or repeated exposure may cause:

Liver Effects: Signs/symptoms may include loss of appetite, weight loss, fatigue, weakness, abdominal tenderness and jaundice.

Kidney/Bladder Effects: Signs/symptoms may include changes in urine production, abdominal or lower back pain, increased protein in urine, increased blood urea nitrogen (BUN), blood in urine, and painful urination.

SECTION 4: FIRST AID MEASURES

4.1 FIRST AID PROCEDURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

Eye Contact: Immediately flush eyes with large amounts of water for at least 15 minutes. Get immediate medical attention.

Skin Contact: Remove contaminated clothing and shoes. Immediately flush skin with large amounts of water. Get medical attention. Wash contaminated clothing and clean shoes before reuse.

Inhalation: Remove person to fresh air. If signs/symptoms develop, get medical attention.

If Swallowed: Do not induce vomiting unless instructed to do so by medical personnel. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Autoignition temperature

Flash Point

Flammable Limits(LEL)

Flammable Limits(UEL)

No Data Available

111 °C [Test Method: Estimated]

Not Applicable

Not Applicable

5.2 EXTINGUISHING MEDIA

Ordinary combustible material. Use fire extinguishers with class A extinguishing agents (e.g., water, foam). Use fire extinguishers with class B extinguishing agents (e.g., dry chemical, carbon dioxide).

5.3 PROTECTION OF FIRE FIGHTERS

Special Fire Fighting Procedures: Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

Unusual Fire and Explosion Hazards: Closed containers exposed to heat from fire may build pressure and explode. Dust clouds of this material in combination with an ignition source may be explosive.

Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Remember, adding an absorbent material does not remove a toxic, corrosivity or flammability hazard.

6.2. Environmental precautions

For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water. Place in a metal container approved for use in transportation by appropriate authorities. The container must be lined with polyethylene plastic or contain a plastic drum liner made of polyethylene. Dispose of collected material as soon as possible.

Clean-up methods

Refer to other sections of this MSDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment. Contain spill. Cover spill area with a fire-extinguishing foam. An aqueous film forming foam (AFFF) is recommended. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Collect as much of the spilled material as possible using non-sparking tools. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and MSDS. Seal the container.

In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Keep away from heat, sparks, open flame, pilot lights and other sources of ignition. No smoking while handling this material. Avoid static discharge. Avoid eye contact with vapors, mists, or spray. Keep out of the reach of children. Avoid breathing of dust created by cutting, sanding, grinding or machining. Do not breathe vapors. Avoid eye contact with dust or airborne particles. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits. If ventilation is not adequate, use respiratory protection equipment.

7.2 STORAGE

Store away from heat. Store out of direct sunlight. Keep container tightly closed. Do not heat under confinement to avoid risk of explosion

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS

Use in an enclosed process area is recommended. Provide appropriate local exhaust for cutting, grinding, sanding or machining. Do not use in a confined area or areas with little or no air movement. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits and/or control dust, fume, or airborne particles. If ventilation is not adequate, use respiratory protection equipment.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection

Avoid eye contact with vapors, mists, or spray.

The following eye protection(s) are recommended: Safety Glasses with side shields

Indirect Vented Goggles

.

8.2.2 Skin Protection

Avoid skin contact.

Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials.

Gloves made from the following material(s) are recommended: Polymer laminate

. Use an additional glove (e.g. supported PVC or Nitrile) over the PE/EVAL glove, and change the over-glove frequently.

8.2.3 Respiratory Protection

Avoid breathing of dust created by cutting, sanding, grinding or machining. Do not breathe vapors.

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

8.2.4 Prevention of Swallowing

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Do not ingest.

8.3 EXPOSURE GUIDELINES

<u>Ingredient</u>	<u>Authority</u>	<u>Type</u>	<u>Limit</u>	<u>Additional Information</u>
BENZOYL PEROXIDE	ACGIH	TWA	5 mg/m3	
BENZOYL PEROXIDE	OSHA	TWA	5 mg/m3	
CALCIUM SULFATE	ACGIH	TWA, inhalable fraction	10 mg/m3	
CALCIUM SULFATE	OSHA	TWA, respirable fraction	5 mg/m3	
CALCIUM SULFATE	OSHA	TWA, as total dust	15 mg/m3	
IRON OXIDE (FE2O3)	ACGIH	TWA, respirable fraction	5 mg/m3	
IRON OXIDE (FE2O3)	OSHA	TWA, as fume	10 mg/m3	
ROUGE	OSHA	TWA, respirable fraction	5 mg/m3	

ROUGE	OSHA	TWA, as total dust	15 mg/m3
STEARATES	ACGIH	TWA	10 mg/m3
ZINC STEARATE	OSHA	TWA, respirable fraction	5 mg/m3
ZINC STEARATE	OSHA	TWA, as total dust	15 mg/m3

SOURCE OF EXPOSURE LIMIT DATA:

ACGIH: American Conference of Governmental Industrial Hygienists

CMRG: Chemical Manufacturer Recommended Guideline

OSHA: Occupational Safety and Health Administration

AIHA: American Industrial Hygiene Association Workplace Environmental Exposure Level (WEEL)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Specific Physical Form:	Viscous
Odor, Color, Grade:	Red paste with slight ester odor
General Physical Form:	Solid
Autoignition temperature	<i>No Data Available</i>
Flash Point	111 °C [<i>Test Method:</i> Estimated]
Flammable Limits(LEL)	<i>Not Applicable</i>
Flammable Limits(UEL)	<i>Not Applicable</i>
Boiling Point	<i>No Data Available</i>
Density	1.2 g/cm3
Vapor Density	<i>Not Applicable</i>
Vapor Pressure	<i>Not Applicable</i>
Specific Gravity	1.2 [@ 25 °C] [<i>Ref Std:</i> WATER=1]
pH	<i>No Data Available</i>
Melting point	<i>No Data Available</i>
Solubility in Water	Negligible
Evaporation rate	<i>No Data Available</i>
Hazardous Air Pollutants	0 % weight [<i>Test Method:</i> Calculated]
Volatile Organic Compounds	0 lb/gal [<i>Test Method:</i> calculated SCAQMD rule 443.1]
Volatile Organic Compounds	0 g/l [<i>Test Method:</i> calculated SCAQMD rule 443.1]
Volatile Organic Compounds	0 % weight [<i>Test Method:</i> calculated per CARB title 2]
Kow - Oct/Water partition coef	<i>No Data Available</i>
Percent volatile	20 % [<i>Details:</i> Water is the volatile component]
VOC Less H2O & Exempt Solvents	0 g/l [<i>Test Method:</i> calculated SCAQMD rule 443.1]
Viscosity	<i>No Data Available</i>

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable. Stable unless exposed to heat, flames and drying conditions.

Materials and Conditions to Avoid:

10.1 Conditions to avoid

Heat

10.2 Materials to avoid

Accelerators

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

<u>Substance</u>	<u>Condition</u>
Carbon monoxide	Not Specified
Carbon dioxide	Not Specified
Toxic Vapor, Gas, Particulate	Not Specified

SECTION 11: TOXICOLOGICAL INFORMATION

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

Not determined.

CHEMICAL FATE INFORMATION

Not determined.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method: Incinerate in a permitted hazardous waste incinerator. As a disposal alternative, dispose of waste product in a permitted hazardous waste facility.

This product has been classified on the basis that it is stable as sold. Material may become unstable if allowed to dry out. Classify appropriately before disposal.

EPA Hazardous Waste Number (RCRA): D001 (Ignitable)

Since regulations vary, consult applicable regulations or authorities before disposal.

SECTION 14: TRANSPORT INFORMATION

ID Number(s):

LB-K100-0514-1, LB-K100-0530-2, LB-K100-0530-3, LB-K100-0530-4, LB-K100-0530-5, LB-K100-0926-4, 41-0003-6561-3, 41-0003-6569-6, 41-0003-6570-4, 41-0003-6571-2, 41-0003-6572-0, 41-0003-6639-7, 41-0003-6641-3, 41-0003-6685-0, 41-0003-6686-8, 41-0003-6687-6, 41-0003-6768-4, 41-0003-6794-0, 41-3701-1487-2, 41-3701-1494-8

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: REGULATORY INFORMATION

US FEDERAL REGULATIONS

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - Yes Immediate Hazard - Yes Delayed Hazard - Yes

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

<u>Ingredient</u>	<u>C.A.S. No</u>	<u>% by Wt</u>
ZINC STEARATE (ZINC COMPOUNDS)	557-05-1	3 - 7
BENZOYL PEROXIDE	94-36-0	30 - 60

STATE REGULATIONS

Contact 3M for more information.

CHEMICAL INVENTORIES

The components of this product are in compliance with the chemical notification requirements of TSCA.

Contact 3M for more information.

INTERNATIONAL REGULATIONS

Contact 3M for more information.

WHMIS: Hazardous

This MSDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.
--

SECTION 16: OTHER INFORMATION

NFPA Hazard Classification

Health: 2 **Flammability:** 1 **Reactivity:** 1 **Special Hazards:** Oxidizer

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification

Health: 2 **Flammability:** 1 **Reactivity:** 1 **Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS®) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint and Coatings Association (NPCA).

Revision Changes:

Section 13: Waste disposal method information was modified.

DISCLAIMER: The information in this Material Safety Data Sheet (MSDS) is believed to be correct as of the date issued. 3M MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely

within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of use or application.

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Material Safety Data Sheet

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SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M™ Bondo Professional Gold 233

MANUFACTURER: 3M

DIVISION: Automotive Aftermarket

ADDRESS: 3M Center
St. Paul, MN 55144-1000

EMERGENCY PHONE: 1-800-364-3577 or (651) 737-6501 (24 hours)

Issue Date: 03/04/11

Supersedes Date: 03/04/11

Document Group: 29-1496-8

Product Use:

Intended Use: Automotive

SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
LIMESTONE	1317-65-3	10 - 30
STYRENE MONOMER	100-42-5	10 - 30
TALC	14807-96-6	10 - 30
1,3-ISOBENZOFURANDIONE, POLYMER WITH 2,5-FURANDIONE AND 2,2'-OXYBIS[ETHANOL]	26123-45-5	10 - 30
SODIUM SILICATE	1344-09-8	3 - 7
TRIMETHYLOLPROPANE TRIACRYLATE	15625-89-5	1 - 5
SODIUM METABORATE	7775-19-1	0.5 - 1.5
QUATERNARY AMMONIUM COMPOUNDS, BIS(HYDROGENATED TALLOW ALKYL)DIMETHYL, SALTS WITH MONTMORILLONITE	68911-87-5	0.5 - 1.5
TITANIUM DIOXIDE	13463-67-7	0.1 - 1
QUARTZ SILICA	14808-60-7	0.01 - 1

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Specific Physical Form: Paste

Odor, Color, Grade: Green/gold paste with pungent solvent odor

General Physical Form: Liquid

Immediate health, physical, and environmental hazards: Flammable liquid and vapor. Vapors may travel long distances along the ground or floor to an ignition source and flash back. Closed containers exposed to heat from fire may build pressure and explode. May cause severe eye irritation. May cause severe skin irritation. May cause allergic skin reaction. May cause target organ effects. Contains a chemical or chemicals which can cause cancer.

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:

Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Skin Contact:

Severe Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, dryness, cracking, blistering, and pain.

Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

May be absorbed through skin and cause target organ effects.

Inhalation:

Intentional concentration and inhalation may be harmful or fatal.

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Prolonged or repeated exposure may cause:

Pneumoconiosis: Sign/symptoms may include persistent cough, breathlessness, chest pain, increased amounts of sputum, and changes in lung function tests.

May be absorbed following inhalation and cause target organ effects.

Ingestion:

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May be absorbed following ingestion and cause target organ effects.

Target Organ Effects:

Central Nervous System (CNS) Depression: Signs/symptoms may include headache, dizziness, drowsiness, incoordination, nausea, slowed reaction time, slurred speech, giddiness, and unconsciousness.

Auditory Effects: Signs/symptoms may include hearing impairment, balance dysfunction and ringing in the ears.

Liver Effects: Signs/symptoms may include loss of appetite, weight loss, fatigue, weakness, abdominal tenderness and jaundice.

Prolonged or repeated exposure may cause:

Immunological Effects: Signs/symptoms may include alterations in the number of circulating immune cells, allergic skin and/or respiratory reaction, and changes in immune function.

Kidney/Bladder Effects: Signs/symptoms may include changes in urine production, abdominal or lower back pain, increased protein in urine, increased blood urea nitrogen (BUN), blood in urine, and painful urination.

Neurological Effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and/or changes in blood pressure and heart rate.

Ocular Effects: Signs/symptoms may include blurred or significantly impaired vision.

Carcinogenicity:

Contains a chemical or chemicals which can cause cancer.

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>Class Description</u>	<u>Regulation</u>
QUARTZ SILICA	14808-60-7	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
SILICA, CRYSTALLINE (AIRBORNE PARTICLES OF RESPIRABLE SIZE)	SEQ677	Grp. 1: Carcinogenic to humans	International Agency for Research on Cancer
SILICA, CRYSTALLINE (AIRBORNE PARTICLES OF RESPIRABLE SIZE)	SEQ677	Known human carcinogen	National Toxicology Program Carcinogens
STYRENE MONOMER	100-42-5	Grp. 2B: Possible human carc.	International Agency for Research on Cancer

SECTION 4: FIRST AID MEASURES

4.1 FIRST AID PROCEDURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

Eye Contact: Immediately flush eyes with large amounts of water for at least 15 minutes. Get immediate medical attention.

Skin Contact: Remove contaminated clothing and shoes. Immediately flush skin with large amounts of water. Get medical attention. Wash contaminated clothing and clean shoes before reuse.

Inhalation: Remove person to fresh air. If signs/symptoms develop, get medical attention.

If Swallowed: Do not induce vomiting unless instructed to do so by medical personnel. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Autoignition temperature

No Data Available

Flash Point
Flammable Limits(LEL)
Flammable Limits(UEL)

88 °F [Test Method: Closed Cup]
No Data Available
No Data Available

5.2 EXTINGUISHING MEDIA

Use fire extinguishers with class B extinguishing agents (e.g., dry chemical, carbon dioxide).

5.3 PROTECTION OF FIRE FIGHTERS

Special Fire Fighting Procedures: Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. Water may be used to blanket the fire. Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

Unusual Fire and Explosion Hazards: Flammable liquid and vapor. Closed containers exposed to heat from fire may build pressure and explode. Vapors may travel long distances along the ground or floor to an ignition source and flash back.

Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate unprotected and untrained personnel from hazard area. The spill should be cleaned up by qualified personnel. Remove all ignition sources such as flames, smoking materials, and electrical spark sources. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Remember, adding an absorbent material does not remove a toxic, corrosivity or flammability hazard.

6.2. Environmental precautions

For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water. Place in a metal container approved for transportation by appropriate authorities. Dispose of collected material as soon as possible.

Clean-up methods

Refer to other sections of this MSDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment. Call 3M-HELPS line (1-800-364-3577) for more information on handling and managing the spill. Contain spill. Cover spill area with a fire-extinguishing foam. An aqueous film forming foam (AFFF) is recommended. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Collect as much of the spilled material as possible using non-sparking tools. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air. Read and follow safety precautions on the solvent label and MSDS. Seal the container.

In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Keep away from heat, sparks, open flame, pilot lights and other sources of ignition. Ground containers securely when transferring contents. Wear low static

or properly grounded shoes. Avoid skin contact. Avoid static discharge. Avoid eye contact with vapors, mists, or spray. Keep out of the reach of children. Do not breathe vapors. Do not breathe dust. Avoid contact with oxidizing agents. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits. If ventilation is not adequate, use respiratory protection equipment.

7.2 STORAGE

Store away from acids. Store away from heat. Store out of direct sunlight. Keep container in well-ventilated area. Keep container tightly closed. Store away from oxidizing agents. Store in a cool, dry place.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS

Use in an enclosed process area is recommended. Provide appropriate local exhaust for cutting, grinding, sanding or machining. Use in a well-ventilated area. If exhaust ventilation is not available, use appropriate respiratory protection. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits and/or control mist, vapor, or spray. If ventilation is not adequate, use respiratory protection equipment.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection

Avoid eye contact with vapors, mists, or spray.

The following eye protection(s) are recommended: Indirect Vented Goggles

.

8.2.2 Skin Protection

Avoid skin contact.

Select and use gloves and/or protective clothing to prevent skin contact based on the results of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials.

Gloves made from the following material(s) are recommended: Polyvinyl Alcohol (PVA)

.

8.2.3 Respiratory Protection

Do not breathe vapors. Do not breathe dust.

Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Half facepiece or fullface air-purifying respirator with organic vapor cartridges and P95 particulate prefilters

. Consult the current 3M Respiratory Selection Guide for additional information or call 1-800-243-4630 for 3M technical assistance.

8.2.4 Prevention of Swallowing

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water.

8.3 EXPOSURE GUIDELINES

<u>Ingredient</u>	<u>Authority</u>	<u>Type</u>	<u>Limit</u>	<u>Additional Information</u>
LIMESTONE	OSHA	TWA, respirable fraction	5 mg/m3	
LIMESTONE	OSHA	TWA, as total dust	15 mg/m3	
QUARTZ SILICA	ACGIH	TWA, respirable fraction	0.025 mg/m3	
QUARTZ SILICA	OSHA	TWA concentration, respirable	0.1 mg/m3	
QUARTZ SILICA	OSHA	TWA concentration, as total dust	0.3 mg/m3	
STYRENE MONOMER	ACGIH	TWA	20 ppm	

STYRENE MONOMER	ACGIH	STEL	40 ppm	
STYRENE MONOMER	OSHA	TWA	100 ppm	
STYRENE MONOMER	OSHA	CEIL	200 ppm	
TALC	ACGIH	TWA, respirable fraction	2 mg/m3	
TALC	CMRG	TWA, as respirable dust	0.5 mg/m3	
TALC	OSHA	TWA concentration, respirable	0.1 mg/m3	
TALC	OSHA	TWA concentration, as total dust	0.3 mg/m3	
TALC	OSHA	TWA	20 millions of particles/cu. ft.	
TITANIUM DIOXIDE	ACGIH	TWA	10 mg/m3	
TITANIUM DIOXIDE	CMRG	TWA, as respirable dust	5 mg/m3	
TITANIUM DIOXIDE	OSHA	TWA, as total dust	15 mg/m3	
TRIMETHYLOLPROPANE TRIACRYLATE	AIHA	TWA	1 mg/m3	Skin Notation*

* Substance(s) refer to the potential contribution to the overall exposure by the cutaneous route including mucous membrane and eye, either by airborne or, more particularly, by direct contact with the substance. Vehicles can alter skin absorption.

SOURCE OF EXPOSURE LIMIT DATA:

ACGIH: American Conference of Governmental Industrial Hygienists

CMRG: Chemical Manufacturer Recommended Guideline

OSHA: Occupational Safety and Health Administration

AIHA: American Industrial Hygiene Association Workplace Environmental Exposure Level (WEEL)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Specific Physical Form:	Paste
Odor, Color, Grade:	Green/gold paste with pungent solvent odor
General Physical Form:	Liquid
Autoignition temperature	No Data Available
Flash Point	88 °F [Test Method: Closed Cup]
Flammable Limits(LEL)	No Data Available
Flammable Limits(UEL)	No Data Available
Boiling Point	293 °F
Density	1.1326 g/ml
Vapor Density	3.6 [Ref Std: AIR=1]
Vapor Pressure	4.5 mmHg
Specific Gravity	1.1326 [Ref Std: WATER=1]
pH	No Data Available
Melting point	No Data Available
Solubility in Water	Negligible
Evaporation rate	No Data Available
Hazardous Air Pollutants	15.6 % weight [Test Method: Calculated]
Volatile Organic Compounds	177 g/l [Test Method: calculated SCAQMD rule 443.1]
Volatile Organic Compounds	15.6 % weight [Test Method: calculated per CARB title 2]
Kow - Oct/Water partition coef	No Data Available
Percent volatile	15.578 % weight

Percent volatile	19.4613 % volume
VOC Less H2O & Exempt Solvents	178 g/l [<i>Test Method:</i> calculated SCAQMD rule 443.1]
Viscosity	136000 centipoise - 212000 centipoise
Materials to avoid	Strong acids
Materials to avoid	Strong oxidizing agents

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable. Stable under normal conditions. May become unstable at elevated temperatures and/or pressure.

Materials and Conditions to Avoid:

10.1 Conditions to avoid

Heat
Sparks and/or flames

10.2 Materials to avoid

Strong acids
Strong oxidizing agents

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

<u>Substance</u>	<u>Condition</u>
Hydrocarbons	During Combustion
Carbon monoxide	During Combustion
Carbon dioxide	During Combustion

SECTION 11: TOXICOLOGICAL INFORMATION

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

Not determined.

CHEMICAL FATE INFORMATION

Not determined.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method: Incinerate in a permitted hazardous waste incinerator. As a disposal alternative, dispose of waste product in a permitted hazardous waste facility.

EPA Hazardous Waste Number (RCRA): D001 (Ignitable), D018 (Benzene)

Since regulations vary, consult applicable regulations or authorities before disposal.

SECTION 14: TRANSPORT INFORMATION

LB-K100-0902-4

For Transport Information, please visit <http://3M.com/Transportinfo> or call 1-800-364-3577 or 651-737-6501.

SECTION 15: REGULATORY INFORMATION

US FEDERAL REGULATIONS

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - Yes

Section 313 Toxic Chemicals subject to the reporting requirements of that section and 40 CFR part 372 (EPCRA):

<u>Ingredient</u>	<u>C.A.S. No</u>	<u>% by Wt</u>
STYRENE MONOMER	100-42-5	10 - 30

STATE REGULATIONS

Contact 3M for more information.

CALIFORNIA PROPOSITION 65

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>Classification</u>
SILICA, CRYSTALLINE (AIRBORNE PARTICLES OF RESPIRABLE SIZE)	SEQ677	**Carcinogen

** WARNING: contains a chemical which can cause cancer.

CHEMICAL INVENTORIES

The components of this product are in compliance with the chemical notification requirements of TSCA.

All applicable chemical ingredients in this material are listed on the European Inventory of Existing Chemical Substances (EINECS), or are exempt polymers whose monomers are listed on EINECS. The components of this product are listed on the Canadian

Domestic Substances List.

Contact 3M for more information.

INTERNATIONAL REGULATIONS

Contact 3M for more information.

This MSDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: OTHER INFORMATION

NFPA Hazard Classification

Health: 2 **Flammability:** 3 **Reactivity:** 0 **Special Hazards:** None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

HMIS Hazard Classification

Health: 2 **Flammability:** 3 **Reactivity:** 0 **Protection:** X - See PPE section.

Hazardous Material Identification System (HMIS(r)) hazard ratings are designed to inform employees of chemical hazards in the workplace. These ratings are based on the inherent properties of the material under expected conditions of normal use and are not intended for use in emergency situations. HMIS(r) ratings are to be used with a fully implemented HMIS(r) program. HMIS(r) is a registered mark of the National Paint and Coatings Association (NPCA).

Revision Changes:

Section 1: Initial issue message was modified.

Section 14: ID Number(s) Template 1 was added.

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3M MSDSs are available at www.3M.com



Material Safety Data Sheet

An **RPM** Company

24 Hour Emergency Phone Numbers:
Medical/Poison Control:
 In U.S.: Call 1-800-222-1222
 Outside U.S.: Call your local poison control center
Transportation/National Response Center:
 1-800-535-5053
 1-352-323-3500

•NOTE: The National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

IMPORTANT: Provide this information to employees, customers, and users of this product. Read this MSDS before handling or disposing of this product. This product is covered by the OSHA Hazard Communication Standard and this document has been prepared in accordance with requirements of this standard. All abbreviated terms used in this MSDS are further described in Section 16.

Section 1 - Chemical Product / Company Information

This Material Safety Data Sheet is available in Canadian French and Hispanic American Spanish upon request.
 On peut demander cette fiche signalétique (MSDS) a la langue francaise-canadienne.
 Los Datos de Seguridad del Producto pueden obtenerse en Espanol si lo requiere.

Product Name:	Dynaflex 230 - All Colors	Revision Date:	03/13/2009
Product UPC Number:	070798183032, 070798182806, 070798182851, 070798183018, 070798183063, 070798183001, 070798183025, 070798184121	Supersedes:	06/03/2008
Product Use/Class:	Latex Caulk	MSDS Number:	00010001001
Manufacturer:	DAP Inc. 2400 Boston Street Suite 200 Baltimore, MD 21224-4723 888-327-8477 (non-emergency matters)		

Section 2 - Hazards Identification

Emergency Overview: A colored paste product with a very slight ammonia odor. **WARNING!** May cause eye, skin, nose, throat and respiratory tract irritation. Harmful if swallowed or absorbed through the skin. This product contains ethylene glycol.

Refer to other MSDS sections for other detailed information.

Effects Of Overexposure - Eye Contact: May cause eye irritation.

Effects Of Overexposure - Skin Contact: Harmful if absorbed through the skin. May cause skin irritation.

Effects Of Overexposure - Inhalation: Inhalation may cause irritation to the respiratory tract (nose, mouth, mucous membranes). Inhalation may cause mild irritation to the respiratory tract (nose, mouth, mucous membranes). Inhalation of high concentrations may cause headache, nausea, and dizziness. May be harmful if inhaled.

Effects Of Overexposure - Ingestion: Ingestion of ethylene glycol can cause gastrointestinal irritation, nausea, vomiting, diarrhea and if ingested in sufficient quantities, death. Harmful or fatal if swallowed. If ingested, may cause vomiting, diarrhea, and depressed respiration. Ingestion may result in obstruction when material hardens.

Effects Of Overexposure - Chronic Hazards: Repeated or prolonged exposure may cause skin, respiratory, kidney and liver damage. Prolonged and repeated skin contact may cause irritation and possibly dermatitis.

The International Agency for Research on Cancer (IARC) has determined that crystalline silica in the form of quartz or cristobalite that is inhaled from occupational sources is carcinogenic to humans (Group 1- carcinogenic to humans). Refer to IARC Monograph 68, Silica, Some Silicates and Organic Fibres (published in June 1997) in conjunction with the use of these materials. The National Toxicology Program (NTP) classifies respirable crystalline silica as "known to be a human carcinogen". Refer to the 9th Report on Carcinogens (2000). The American Conference of Governmental Industrial Hygienists (ACGIH) classifies crystalline silica, quartz, as a suspected human carcinogen (Group A2).

Breathing dust containing respirable crystalline silica may not cause noticeable injury or illness even though permanent lung damage may be occurring. Inhalation of dust may have the following serious chronic health effects: Excessive inhalation of respirable dust can cause pneumoconiosis, a respiratory disease, which can result in delayed, progressive, disabling and sometimes fatal lung injury. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness and reduced pulmonary function. Smoking exacerbates this disease. Individuals with pneumoconiosis are predisposed to develop tuberculosis. There is some evidence that breathing respirable crystalline silica or the disease silicosis is associated with an increased incidence of significant disease endpoints such as scleroderma (an immune system disorder manifested by fibrosis of the lungs, skin and other internal organs) and kidney disease. Prolonged, repeated, or high exposures may cause weakness and depression of the central nervous system.

A mixture of diisodecyl phthalate and diisononyl phthalate has been tested in a two-generation toxicity study in laboratory animals. No effects on reproductive parameters were seen. However, a small but statistically significant increase in early offspring mortality was seen at high oral doses. The significance of this to humans is uncertain.

The mixture of phthalate esters contained within this product has been shown to cause developmental effects at high doses in laboratory animals when administered orally by gavage in a developmental study and developmental and fertility effects when administered at high doses by feed in a two-generation reproduction study. The potential risk from occupational and consumer exposure is considered to be very low, based on limited relevance of the rodent findings to humans and the large safety margins between exposure and the effect levels.

Ethylene Glycol may cause kidney and liver damage upon prolonged and repeated overexposures. Studies have shown that repeated inhalation of ethylene glycol has produced adverse cardiovascular changes in laboratory animals. Ethylene glycol has been shown to cause birth defects in laboratory animals.

Primary Route(s) Of Entry: Skin Contact, Inhalation, Eye Contact

Medical Conditions which May be Aggravated by Exposure: None known.

Carcinogenicity:

CAS No.	Chemical Name	ACGIH	OSHA	IARC	NTP
13463-67-7	Titanium dioxide	Not Listed.	Not Listed.	Possible carcinogen.	Not Listed.
14808-60-7	Silica, crystalline	Suspected human carcinogen.	Not Listed.	Human carcinogen.	Known carcinogen.
50-00-0	Formaldehyde	Suspected human carcinogen.	Potential cancer hazard.	Human carcinogen.	Anticipated carcinogen.

Section 3 - Composition / Information On Ingredients		
Chemical Name	CASRN	Wt%
Limestone	1317-65-3	30-60
Branched and linear phthalates	Proprietary	1-5
Titanium dioxide	13463-67-7	0.1-1.0
Ethylene glycol	107-21-1	0.1-1.0
Silica, crystalline	14808-60-7	0.1-1.0
Formaldehyde	50-00-0	<0.02

Section 4 - First Aid Measures

First Aid - Eye Contact: In case of contact, immediately flush eyes with large quantities of water for at least 15 minutes until irritation subsides. Get medical attention immediately.

First Aid - Skin Contact: Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical aid if symptoms persist. In case of contact, immediately flush skin with plenty of water while removing contaminated clothing and shoes. If skin irritation persists, call a physician. Remove and wash contaminated clothing.

First Aid - Inhalation: If inhaled, remove to fresh air. If breathing is difficult, leave the area to obtain fresh air. If continued breathing difficulty is experienced, get medical attention immediately. First Aid: If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical attention immediately.

First Aid - Ingestion: If swallowed, DO NOT INDUCE VOMITING. Get medical attention immediately. If ingested, drink 2 glasses of water. Immediately see a physician. Never give anything by mouth to an unconscious person.

Note to Physician: None.

COMMENTS: If over-exposure occurs, call your poison control center at 1-800-222-1222.

Section 5 - Fire Fighting Measures

Extinguishing Media: Carbon Dioxide, Dry Chemical, Foam, Water Fog

Unusual Fire And Explosion Hazards: No special protective measures against fire required.

Special Firefighting Procedures: Wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear. Use water spray to cool exposed surfaces.

Section 6 - Accidental Release Measures

Steps To Be Taken If Material Is Released Or Spilled: Wear proper protective equipment as specified in Section 8. Use absorbent material or scrape up dried material and place in container.

Section 7 - Handling And Storage

Handling: KEEP OUT OF REACH OF CHILDREN! DO NOT TAKE INTERNALLY. Open all windows and doors or use other means to ensure cross-ventilation and fresh air entry during application and drying. Odor is not an adequate warning for hazardous conditions. Use only with adequate ventilation. Avoid breathing vapor and contact with eyes, skin and clothing. Wash thoroughly after handling.

Storage: Do not store at temperatures above 120 degrees F. Store containers away from excessive heat and freezing. Close container after each use. Store away from caustics and oxidizers.

Section 8 - Exposure Controls / Personal Protection

Chemical Name	CASRN	ACGIH TWA	ACGIH STEL	ACGIH CEIL	OSHA TWA	OSHA STEL	OSHA CEIL	Skin
Limestone	1317-65-3	10 MGM3	N.E.	N.E.	5 MGM3 (respirable fraction)	N.E.	N.E.	No
Branched and linear phthalates	Proprietary	N.E.	N.E.	N.E.	N.E.	N.E.	N.E.	No
Titanium dioxide	13463-67-7	10 MGM3	N.E.	N.E.	15 MGM3	N.E.	N.E.	No
Ethylene glycol	107-21-1	N.E.	N.E.	100 MGM3	N.E.	N.E.	N.E.	No
Silica, crystalline	14808-60-7	0.025 MGM.	N.E.	N.E.	10/(%SiO ₂ + 2) MGM3	N.E.	N.E.	No
Formaldehyde	50-00-0	N.E.	N.E.	0.3 PPM	0.75 PPM	2 PPM	N.E.	No

Exposure Notes:

14808-60-7 The 2002 ACGIH Threshold Limit Values for Chemical Substances and Physical Agents lists the median Respirable Particulate Mass (RPM) point for crystalline silica at 4.0 microns in terms of the particle's aerodynamic diameter.

The TLVs for crystalline silica represent the respirable fraction.

OSHA PEL TWA for Quartz is calculated using the following formula: $10 \text{ mg/m}^3 / (\% \text{ SiO}_2 + 2)$. Both concentration and percent quartz for the application of this limit are to be determined from the fraction passing a size selector with the following characteristics.

..... Aerodynamic diameter (unit density sphere)	Percent passing selector
2	90.....
2.5	75.....
3.5	50.....
5.0	25.....
10	0.....

Precautionary Measures: Contact lenses pose a special hazard; soft lenses may absorb and all lenses concentrate irritants.

Engineering Controls: Good general ventilation should be sufficient to control airborne levels. Ensure adequate ventilation, especially in confined areas. Local ventilation of emission sources may be necessary to maintain ambient concentrations below recommended exposure limits.

Respiratory Protection: In case of insufficient ventilation, wear suitable respiratory equipment. A NIOSH-approved air purifying respirator with an organic vapor cartridge or canister may be necessary under certain circumstances where airborne concentrations are expected to exceed exposure limits. A respiratory protection program that meets the OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. National Institute for Occupational Safety and Health (NIOSH) has recommended that the permissible exposure limit be changed to 50 micrograms respirable free silica per cubic meter of air (0.05 mg/m³) as determined by a full shift sample up to 10-hour work shift.

Skin Protection: Rubber gloves. Natural rubber, butyl rubber and polyvinyl chloride gloves are not suitable protection against the phthalates contained within this product; neoprene is recommended.

Eye Protection: Goggles or safety glasses with side shields.

Other protective equipment: Not required under normal use.

Hygienic Practices: Wash hands before breaks and at the end of workday. Remove and wash contaminated clothing before re-use.

Important: Listed Permissible Exposure Levels (PEL) are from the U.S. Dept. of Labor OSHA Final Rule Limits (CFR 29 1910.1000); these limits may vary between states.

Note: An employee's skin exposure to substances having a "YES" in the "SKIN" column in the table above shall be prevented or reduced to the extent necessary under the circumstances through the use of gloves, coveralls, goggles or other appropriate personal protective equipment, engineering controls or work practices.

Section 9 - Physical And Chemical Properties

Boiling Range:	Not Established	Vapor Density:	Heavier Than Air
Odor:	Very Slight Ammonia	Odor Threshold:	Not Established
Color:	Colored	Evaporation Rate:	Slower Than n-Butyl Acetate
Solubility in H₂O:	Not Established	Specific Gravity:	1.4
Freeze Point:	Not Established	pH:	Between 7.0 and 12.0
Vapor Pressure:	Not Established	Viscosity:	Not Established
Physical State:	Paste	Flammability:	Non-Flammable
Flash Point, F:	Greater than 200	Method:	(Seta Closed Cup)
Lower Explosive Limit, %:	Not Established	Upper Explosive Limit, %:	Not Established

When reported, vapor pressure of this product has been calculated theoretically based on its constituent makeup and has not been determined experimentally.

(See section 16 for abbreviation legend)

Section 10 - Stability And Reactivity

Conditions To Avoid: Excessive heat and freezing.

Incompatibility: Incompatible with strong bases and oxidizing agents.

Hazardous Decomposition Products: Normal decomposition products, i.e., COx, NOx.

Hazardous Polymerization: Hazardous polymerization will not occur under normal conditions.

Stability: Stable under recommended storage conditions.

Section 11 - Toxicological Information

Product LD50: Not Established

Product LC50: Not Established

CASRN	Chemical Name	LD50	LC50
107-21-1	Ethylene glycol	Rat:4700 mg/kg	Rat:10876 mg/kg
50-00-0	Formaldehyde	-----	Rat:203 mg/m3

Significant Data with Possible Relevance to Humans: None.

Section 12 - Ecological Information

Ecological Information: Ecological injuries are not known or expected under normal use.

Section 13 - Disposal Information

Disposal Information: Dispose of material in accordance with all federal, state and local regulations. State and Local regulations/restrictions are complex and may differ from Federal regulations. Responsibility for proper waste disposal is with the owner of the waste.

EPA Waste Code if Discarded (40 CFR Section 261): This product does not meet the definition of a hazardous waste according to U.S. EPA Hazardous Waste Management Regulation, 40 CFR Section 261.

Section 14 - Transportation Information

DOT Proper Shipping Name: Not Regulated.

Packing Group: N.A.

DOT Technical Name: N.A.

Hazard Subclass: N.A.

DOT Hazard Class: N.A.

DOT UN/NA Number: None

Note: The shipping information provided is applicable for domestic ground transport only. Different categorization may apply if shipped via other modes of transportation and/or to non-domestic destinations.

Section 15 - Regulatory Information

CERCLA - SARA Hazard Category:

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Immediate Health Hazard, Chronic Health Hazard

SARA Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372:

None

Toxic Substances Control Act:

All ingredients in this product are either on TSCA inventory list, or otherwise exempt.

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

None

New Jersey Right-to-Know:

The following materials are non-hazardous, but are among the top five components in this product:

Chemical Name	CAS Number
Water	7732-18-5
Non-Hazardous Polymer	Proprietary
Acrylic polymer	Proprietary

Pennsylvania Right-to-Know:

The following non-hazardous ingredients are present in the product at greater than 3%:

Chemical Name	CAS Number
Water	7732-18-5
Non-Hazardous Polymer	Proprietary
Acrylic polymer	Proprietary

California Proposition 65:

WARNING: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

Section 16 - Other Information**HMIS Ratings:**

Health: 1 Flammability: 1 Reactivity: 0 Personal Protection: X

Volatile Organic Compounds (VOC), less water less exempts: g/L: 49.0 lb/gal: 0.41 wt:wt%: 2.8

Volatile Organic Compounds (VOC), less water less exempts, less LVP -VOCs: wt:wt%: 0.1

REASON FOR REVISION: Periodic Update

Legend:

N.A. – Not Applicable

ACGIH – American Conference of Governmental Industrial Hygienists

N.E. – Not Established

SARA – Superfund Amendments and Reauthorization Act of 1986

N.D. – Not Determined

NJRTK – New Jersey Right-to-Know Law

VOC – Volatile Organic Compound

OSHA – Occupational Safety and Health Administration

PEL – Permissible Exposure Limit

HMIS – Hazardous Materials Identification System

TLV – Threshold Limit Value

NTP – National Toxicology Program

CEIL – Ceiling Exposure Limit

STEL – Short Term Exposure Limit

LD50 – Lethal Dose 50

LC50 – Lethal Concentration 50

F – Degree Fahrenheit

MSDS – Material Safety Data Sheet

C – Degree Celsius

CASRN – The Chemical Abstracts Service Registry Number

DAP believes the data and statements contained herein are accurate as of the date hereof. They are offered in good faith as typical values and not as a product specification. **NO WARRANTY OF MERCHANTABILITY, WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE WITH REGARD TO THE INFORMATION HEREIN PROVIDED OR THE PRODUCT TO WHICH THE INFORMATION REFERS.** Since this document is intended only as a guide to the appropriate use and precautionary handling of the referenced product by a properly trained person, it is therefore the responsibility of the user to (i) review the recommendations with due consideration for the specific context of the intended use and (ii) determine if they are appropriate.

<End of MSDS>

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DAP(R) 100% SILICONE RUBBER SEALANT CLEAR, 8641

1. PRODUCT AND COMPANY IDENTIFICATION

Dow Corning Corporation
South Saginaw Road
Midland, Michigan 48686

24 Hour Emergency Telephone: (989) 496-5900

Customer Service: (989) 496-6000

Product Disposal Information: (989) 496-6315

CHEMTREC: (800) 424-9300

MSDS No.: 04061395

Revision Date: 2005/06/01

Generic Description: Silicone elastomer

Physical Form: Paste

Color: Colorless

Odor: Acetic acid odor

NFPA Profile: Health 2 Flammability 1 Instability/Reactivity 0

Note: NFPA = National Fire Protection Association

2. OSHA HAZARDOUS COMPONENTS

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
17689-77-9	1.0 - 5.0	Ethyltriacetoxysilane
4253-34-3	1.0 - 5.0	Methyltriacetoxysilane

The above components are hazardous as defined in 29 CFR 1910.1200.

3. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

Acute Effects

Eye: Direct contact may cause moderate irritation.

Skin: May cause moderate irritation.

Inhalation: Material is not likely to present an inhalation hazard at ambient conditions. However, if material is heated or high vapor/aerosol concentrations are attained, central nervous system depression may occur, which is characterized by drowsiness, dizziness, confusion or loss of coordination.

Oral: Low ingestion hazard in normal use.

Prolonged/Repeated Exposure Effects

Skin: No known applicable information.



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Inhalation: No known applicable information.

Oral: No known applicable information.

Signs and Symptoms of Overexposure

No known applicable information.

Medical Conditions Aggravated by Exposure

No known applicable information.

The above listed potential effects of overexposure are based on actual data, results of studies performed upon similar compositions, component data and/or expert review of the product. Please refer to Section 11 for the detailed toxicology information.

4. FIRST AID MEASURES

Eye: Immediately flush with water for 15 minutes. Get medical attention.

Skin: Remove from skin and wash thoroughly with soap and water or waterless cleanser. Get medical attention if irritation or other ill effects develop or persist.

Inhalation: Material is not likely to present an inhalation hazard at ambient conditions. If material is heated or vapor/mist/dust/fumes are generated, care should be taken to prevent inhalation. In case of exposure to vapor/mist/dust/fumes, move to fresh air.

Oral: No first aid should be needed.

Comments: Treat according to person's condition and specifics of exposure.

5. FIRE FIGHTING MEASURES

Flash Point: > 212 °F / > 100 °C (Closed Cup)

Autoignition Temperature: Not determined.

Flammability Limits in Air: Not determined.

Extinguishing Media: On large fires use dry chemical, foam or water spray. On small fires use carbon dioxide (CO₂), dry chemical or water spray. Water can be used to cool fire exposed containers.

Fire Fighting Measures: Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool.

Unusual Fire Hazards: None.

Hazardous Decomposition Products

Thermal breakdown of this product during fire or very high heat conditions may evolve the following hazardous



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decomposition products: Carbon oxides and traces of incompletely burned carbon compounds. Silicon dioxide. Formaldehyde.

6. ACCIDENTAL RELEASE MEASURES

Containment/Clean up: Observe all personal protection equipment recommendations described in Sections 5 and 8. Wipe up or scrape up and contain for salvage or disposal. Clean area as appropriate since spilled materials, even in small quantities, may present a slip hazard. Final cleaning may require use of steam, solvents or detergents. Dispose of saturated absorbant or cleaning materials appropriately, since spontaneous heating may occur. Local, state and federal laws and regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which federal, state and local laws and regulations are applicable. Sections 13 and 15 of this MSDS provide information regarding certain federal and state requirements.

Note: See section 8 for Personal Protective Equipment for Spills. Call (989) 496-5900, if additional information is required.

7. HANDLING AND STORAGE

Use with adequate ventilation. Product evolves acetic acid (HOAc) when exposed to water or humid air. Provide ventilation during use to control HOAc within exposure guidelines or use respiratory protection. Avoid eye contact. Avoid skin contact. Do not take internally. Avoid breathing vapor. Keep container closed.

Use reasonable care and store away from oxidizing materials. Keep container closed and store away from water or moisture.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

<u>CAS Number</u>	<u>Component Name</u>	<u>Exposure Limits</u>
17689-77-9	Ethyltriacetoxysilane	See acetic acid comments.
4253-34-3	Methyltriacetoxysilane	See acetic acid comments.

Acetic acid is formed upon contact with water or humid air. Provide adequate ventilation to control exposures within guidelines of OSHA PEL: TWA 10 ppm and ACGIH TLV: TWA 10 ppm, STEL 15 ppm.

Engineering Controls

Local Ventilation: Recommended.
General Ventilation: Recommended.

Personal Protective Equipment for Routine Handling



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Eyes:	Use proper protection - safety glasses as a minimum.
Skin:	Wash at mealtime and end of shift. Contaminated clothing and shoes should be removed as soon as practical and thoroughly cleaned before reuse. Chemical protective gloves are recommended.
Suitable Gloves:	Nitrile Rubber. Butyl Rubber.
Inhalation:	Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. IH personnel can assist in judging the adequacy of existing engineering controls.
Suitable Respirator:	Respiratory protection is not needed under ambient conditions. If vapor/mist/dust/fumes are generated when material is heated or handled, the following is advised. General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators.

Personal Protective Equipment for Spills

Eyes:	Use full face respirator.
Skin:	Wash at mealtime and end of shift. Contaminated clothing and shoes should be removed as soon as practical and thoroughly cleaned before reuse. Chemical protective gloves are recommended.
Inhalation/Suitable Respirator:	Respiratory protection recommended. Follow OSHA Respirator Regulations (29 CFR 1910.134) and use NIOSH/MHSA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.
Precautionary Measures:	Avoid eye contact. Avoid skin contact. Do not take internally. Avoid breathing vapor. Keep container closed. Use reasonable care.
Comments:	Product evolves acetic acid (HOAc) when exposed to water or humid air. Provide ventilation during use to control HOAc within exposure guidelines or use respiratory protection. When heated to temperatures above 150 C (300 F) in the presence of air, product may form formaldehyde vapors. Physical and health hazard information is readily available from Dow Corning Corporation and the Material Safety Data Sheet.

Note: These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form: Paste



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DAP(R) 100% SILICONE RUBBER SEALANT CLEAR, 8641

Color: Colorless
Odor: Acetic acid odor
Specific Gravity @ 25°C: 1.007
Viscosity: Not determined.
Freezing/Melting Point: Not determined.
Boiling Point: Not determined.
Vapor Pressure @ 25°C: Not determined.
Vapor Density: Not determined.
Solubility in Water: Not determined.
pH: Not determined.
Volatile Content: Not determined.

Note: The above information is not intended for use in preparing product specifications.

10. STABILITY AND REACTIVITY

Chemical Stability: Stable.

Hazardous Polymerization: Hazardous polymerization will not occur.

Conditions to Avoid: None.

Materials to Avoid: Oxidizing material can cause a reaction. Water, moisture, or humid air can cause hazardous vapors to form as described in Section 8.

11. TOXICOLOGICAL INFORMATION

Special Hazard Information on Components

No known applicable information.

12. ECOLOGICAL INFORMATION

Environmental Fate and Distribution

Complete information is not yet available.

Environmental Effects

Complete information is not yet available.

Fate and Effects in Waste Water Treatment Plants

Complete information is not yet available.

Ecotoxicity Classification Criteria

Hazard Parameters (LC50 or EC50)	High	Medium	Low
Acute Aquatic Toxicity (mg/L)	<=1	>1 and <=100	>100
Acute Terrestrial Toxicity	<=100	>100 and <= 2000	>2000



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This table is adapted from "Environmental Toxicology and Risk Assessment", ASTM STP 1179, p.34, 1993.

This table can be used to classify the ecotoxicity of this product when ecotoxicity data is listed above. Please read the other information presented in the section concerning the overall ecological safety of this material.

13. DISPOSAL CONSIDERATIONS

RCRA Hazard Class (40 CFR 261)

When a decision is made to discard this material, as received, is it classified as a hazardous waste? No

State or local laws may impose additional regulatory requirements regarding disposal.

Call (989) 496-6315, if additional information is required.

14. TRANSPORT INFORMATION

DOT Road Shipment Information (49 CFR 172.101)

Not subject to DOT.

Ocean Shipment (IMDG)

Not subject to IMDG code.

Air Shipment (IATA)

Not subject to IATA regulations.

15. REGULATORY INFORMATION

Contents of this MSDS comply with the OSHA Hazard Communication Standard 29 CFR 1910.1200.

TSCA Status: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.

EPA SARA Title III Chemical Listings

Section 302 Extremely Hazardous Substances (40 CFR 355):

None.

Section 304 CERCLA Hazardous Substances (40 CFR 302):

None.

Section 311/312 Hazard Class (40 CFR 370):

Acute: Yes
Chronic: No
Fire: No



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Pressure: No

Reactive: No

Section 313 Toxic Chemicals (40 CFR 372):

None present or none present in regulated quantities.

Supplemental State Compliance Information

California

Warning: This product contains the following chemical(s) listed by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) as being known to cause cancer, birth defects or other reproductive harm.

None known.

Massachusetts

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
7631-86-9	7.0 - 13.0	Silica, amorphous

New Jersey

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
70131-67-8	> 60.0	Dimethyl siloxane, hydroxy-terminated
7631-86-9	7.0 - 13.0	Silica, amorphous
64742-46-7	<=7.0	Hydrotreated middle petroleum distillates
17689-77-9	1.0 - 5.0	Ethyltriacetoxysilane
4253-34-3	1.0 - 5.0	Methyltriacetoxysilane

Pennsylvania

<u>CAS Number</u>	<u>Wt %</u>	<u>Component Name</u>
70131-67-8	> 60.0	Dimethyl siloxane, hydroxy-terminated
7631-86-9	7.0 - 13.0	Silica, amorphous
64742-46-7	<=7.0	Hydrotreated middle petroleum distillates



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16. OTHER INFORMATION

Prepared by: Dow Corning Corporation

These data are offered in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.

XIAMETER(R) is a trademark of Dow Corning Corporation

<http://www.xiameter.com>



MATERIALS SAFETY DATA SHEET

Date Prepared July 14, 2010 3rd Edition

FOR CHEMICAL EMERGENCY

During Business Hours: (800) 966-3458

Outside Business Hours: (800) 420-7186

1. IDENTIFICATION OF SUBSTANCE/PREPARATION/AND THE COMPANY

Product name: Gorilla Super Glue
Product description: Ethyl Cyanoacrylate adhesive
Distributor: The Gorilla Glue Company
4550 Red Bank Expressway
Cincinnati, OH 45227
Tel: (513) 271-3300
Fax: (513) 527-3742

2. COMPOSITION AND INFORMATION ON HARMFUL INGREDIENTS

Ingredients:	CAS No.	OSHA PEL	ACGIH TLV	Other limits	% Composition
Ethyl Cyanoacrylate	7085-85-0	N/A	0.2ppm TWA	0.3ppm STEL	86-100

3. HAZARDS IDENTIFICATION

HMIS Health 2 Flammability 2 Physical hazards 1

Emergency overview

Immediate concerns: Causes eye irritation. May cause sensitization. May cause respiratory tract irritation. Rapid polymerization occurs upon contact with water or alkaline substances. As a result, heat is generated. Skin inflammation or burns may occur upon contact during this polymerization.

Potential health effects

Eyes: Causes eye irritation.
Skin: Bonds skin instantly. May cause sensitization.
Ingestion: Note likely route of entry. Substance may be harmful if swallowed.
Inhalation: May cause irritation to the nose, throat and respiratory tract.

Signs and symptoms of overexposure

Acute toxicity: Symptoms of exposure include burning sensation, coughing, wheezing, laryngitis, stomach or intestinal upset, and/or respiratory tract irritation.

Target organ statement Eyes.

Sensitization: May cause allergic skin reaction.

4. FIRST AID MEASURES

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes. Do not attempt to pull apart bonded eyelid. Seek medical attention.
Skin: Immediately wash skin with soap and plenty of water. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing before reuse.
Ingestion: Do not induce vomiting. Saliva will cause cyanoacrylate to polymerize in mouth. If lips are bonded together, use warm water to gently separate the lips apart. Contact a physician.
Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Notes to physician: Cured adhesive does not pose a health risk.



MATERIALS SAFETY DATA SHEET

Date Prepared July 14, 2010 3rd Edition

FOR CHEMICAL EMERGENCY

During Business Hours: (800) 966-3458

Outside Business Hours: (800) 420-7186

5. FIRE FIGHTING MEASURES

Flash Point:	>81°C (150-200°F)
Extinguishing Media:	Water spray, foam, dry chemical or CO ₂
Special Fire Fighting Procedures:	Wear self contained breathing apparatus
Unusual Fire/Explosion Hazards:	No applicable information found.
Hazardous Thermal Decomposition Products:	Irritating organic vapors may be formed.

6. ACCIDENTAL RELEASE MEASURES

Small spill:	Absorb with an inert material and place in an appropriate waste disposal container.
Large spill:	Extinguish all sources of ignition. Stop spill or leak at source. Dike if necessary. Absorb with an inert material and place in an appropriate waste disposal container.
Release notes:	Keep spilled material from entering storm drains, sewers or other environmental mediums.
Comments:	Disposal of clean-up materials may be governmentally regulated. Observe all applicable local, state and Federal waste management regulations.

7. HANDLING AND STORAGE

Handling:	To avoid fire, eliminate ignition sources. Avoid contact with eyes, skin and clothing. In case of insufficient ventilation, wear suitable respiratory equipment. May react in presence of moisture. May react or be incompatible with alkalis. Wash thoroughly after handling.
Storage:	Contains moisture sensitive material. Store in a dry, cool, well-ventilated area. Keep away from sources of heat ignition. Keep container tightly closed when not in use. Store between 5-25°C.
Comments:	Rapid polymerization occurs upon contact with water or alkaline substances. As a result, heat is generated. Skin inflammation or burns may occur upon contact during this polymerization.

8. EXPOSURE CONTROL AND PERSONAL PROTECTION

Eye Protection:	Safety goggles / glasses suitable for use with chemicals.
Respiratory Protection:	Always use appropriate filter mask / respirator.
Skin Protection:	Nitrile / polyethylene gloves, coveralls, avoid cotton products.
Ventilation:	Good general or local exhaust ventilation is required for usage.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	Liquid
Color:	Water white / straw colored
Odor:	Sharp, irritating
Solubility in Water:	Immiscible in water
Boiling Point:	>100°C
Specific Gravity @ 25°C:	1.1
Vapor Pressure @ 25°C:	<0.5mm Hg
V.O.C. Content:	<20g/l estimated (California SCAQMD Method 316B)



MATERIALS SAFETY DATA SHEET

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10. REACTIVITY AND STABILITY

Stability:	Stable
Hazardous Polymerization:	No
Incompatibility:	Reactive with alkalis, oxidizing agents, reducing agents, amines, alcohols and water.
Conditions to Avoid:	No applicable information found
Hazardous Decomposition Products:	No applicable information found.

11. TOXICOLOGICAL INFORMATION

Estimated Oral LD50:	>5000 mg kg
Estimated Dermal LD50:	>2000 mg kg
Estimated Inhalation LC50:	>4000 mg kg

Causes Severe Irritation. High concentrations are destructive to tissues of the mucous membranes and the upper respiratory tract.

Exposure limits:

ACGIH TLV: 0.2ppm

TWA, OSHA: none

12. ECOLOGICAL INFORMATION

No applicable information found.

13. DISPOSAL CONSIDERATIONS

Cyanoacrylates must be disposed of in accordance with all national and local regulations.

14. TRANSPORTATION INFORMATION

Not considered hazardous for the purpose of transportation.

15. REGULATORY INFORMATION (NOT MEANT TO BE ALL INCLUSIVE)

TSCA

All ingredients of this product are listed, or are exempt from listing, on the TSCA inventory.

California Proposition 65

No California Proposition 65 listed chemicals are known to be present.

Canada DSL

All ingredients of this product are listed, or are exempt from listing, on the Canada DSL.

SARA

CERCLA/SARA Section 302EHS: None above reporting de minimus

CERCLA/SARA Section 311/312: Fire, Reactive, Delayed Health,
Immediate Health

CERCLA/SARA Section 313: None above reporting de minimus

Risk Phrases

R36/37/38 Irritating to eyes, respiratory system and skin



MATERIALS SAFETY DATA SHEET

Date Prepared July 14, 2010 3rd Edition

FOR CHEMICAL EMERGENCY

During Business Hours: (800) 966-3458

Outside Business Hours: (800) 420-7186

Safety Phrases

S2 Keep out of reach of children.

S23 Do not breathe fumes.

S24 Avoid contact with skin

S25 Avoid contact with eyes

S26 In case of emergency rinse immediately with plenty of water and seek medical advice.

S46 If swallowed, seek medical advice immediately and show this container or label.

16. OTHER INFORMATION

The information herein is presented in good faith and believed to be accurate as of the effective date given. However no warranty, expressed or implied, is given. It is the buyer's responsibility to ensure that its activities comply with Federal, State or Provincial, and Local laws.



LOCTITE[®] Superflex[®] Clear RTV Silicone

December 2010

PRODUCT DESCRIPTION

LOCTITE[®] Superflex[®] Clear RTV Silicone provides the following product characteristics:

Technology	Silicone
Chemical Type	Acetoxy silicone
Appearance (uncured)	Clear ^{LMS}
Components	One component - requires no mixing
Viscosity	Thixotropic paste
Cure	Room temperature vulcanizing (RTV)
Odor	Acetic Acid
Application	Sealing
Specific Benefit	• Non-slumping • Superior adhesion and flexibility • Seals out moisture and contaminants • Fills large cracks and seams • Non-flammable • Non-toxic

LOCTITE[®] Superflex[®] Clear RTV Silicone is a single component, room temperature vulcanizing compound designed to provide an excellent adhesive sealant for mechanical assemblies. This material cures on exposure to moisture in the air to form a tough, flexible, silicone rubber seal. This product resists aging, weathering and thermal cycling without hardening, shrinking or cracking. Designed for superior bonding and sealing properties to most surfaces (not recommended for concrete). Formulated to withstand extreme temperature cycling, UV light and ozone. Typical applications include electrical insulation, protection of leads from mechanical shock, trim bonding, and sealing of ductwork, vents, flues, doors, and windows.

NSF International

Certified to ANSI/NSF Standard 51 for use with plastic materials and components used in food equipment not exceeding 204°C. **Note:** This is a regional approval. Please contact your local Technical Service Center for more information and clarification.

UL Classification

Classified by Underwriters Laboratories Inc.[®] E257711 - Plastics & Components. Please visit the UL website for additional information. **Note:** This is a regional approval. Please contact your local Technical Service Center for more information and clarification

TYPICAL PROPERTIES OF UNCURED MATERIAL

Specific Gravity @ 25 °C	1.01
Extrusion Rate, g/min	350 to 750 ^{LMS}
Flash Point - See MSDS	

TYPICAL CURING PERFORMANCE

LOCTITE[®] Superflex[®] Clear RTV Silicone cures on exposure to moisture in the air. The product dries tack free in 45 minutes and fully cures in 24 hours. Cure times will vary with temperature, humidity and gap.

Tack Free Time / Surface Cure

Tack Free Time, minutes	≤45 ^{LMS}
Full cure time, hours	24

TYPICAL PROPERTIES OF CURED MATERIAL

Cured for 1 week @ RT

Physical Properties:

Tensile Strength, ISO 37	N/mm ² (psi)	≥0.8 ^{LMS} (≥120)
Elongation, ISO 37, %		≥275 ^{LMS}
Shore Hardness, ISO 868, Durometer A		≥14 ^{LMS}

TYPICAL ENVIRONMENTAL RESISTANCE

Silicones provide excellent environmental resistance due to their unique chemical structure and the inherent properties of the materials.

GENERAL INFORMATION

This product is not recommended for use in pure oxygen and/or oxygen rich systems and should not be selected as a sealant for chlorine or other strong oxidizing materials

For safe handling information on this product, consult the Material Safety Data Sheet (MSDS).

Loctite Material Specification^{LMS}

LMS dated July 6, 2005. Test reports for each batch are available for the indicated properties. LMS test reports include selected QC test parameters considered appropriate to specifications for customer use. Additionally, comprehensive controls are in place to assure product quality and consistency. Special customer specification requirements may be coordinated through Henkel Quality.

Directions for use:

1. Clean and dry surfaces. Remove all oil and grease.
2. Apply product to surface. For bonding applications, apply to one surface only and join surfaces immediately. When using pressurized cans and cartridges, apply silicone by pushing the product in the direction of use (Forward) into the surface.
3. Wipe away excess material immediately.

Clean-up

1. Allow excess material to extend beyond the extension nozzle or aerosol tip to cure, sealing and protecting the remaining product from moisture. For reuse, simply remove the cured product from the tip.
2. Remove uncured product from parts and hand-tools with a dry cloth. If skinned over, break film with a dry cloth to remove as much as possible.
3. Clean hands with a dry cloth or hand cleaner.

Storage

Store product in the unopened container in a dry location. Storage information may be indicated on the product container labeling.

Optimal Storage: 8 °C to 21 °C. Storage below 8 °C or greater than 28 °C can adversely affect product properties.

Material removed from containers may be contaminated during use. Do not return product to the original container. Henkel Corporation cannot assume responsibility for product which has been contaminated or stored under conditions other than those previously indicated. If additional information is required, please contact your local Technical Service Center or Customer Service Representative.

Conversions

$(^{\circ}\text{C} \times 1.8) + 32 = ^{\circ}\text{F}$
 $\text{kV/mm} \times 25.4 = \text{V/mil}$
 $\text{mm} / 25.4 = \text{inches}$
 $\mu\text{m} / 25.4 = \text{mil}$
 $\text{N} \times 0.225 = \text{lb}$
 $\text{N/mm} \times 5.71 = \text{lb/in}$
 $\text{N/mm}^2 \times 145 = \text{psi}$
 $\text{MPa} \times 145 = \text{psi}$
 $\text{N}\cdot\text{m} \times 8.851 = \text{lb}\cdot\text{in}$
 $\text{N}\cdot\text{m} \times 0.738 = \text{lb}\cdot\text{ft}$
 $\text{N}\cdot\text{mm} \times 0.142 = \text{oz}\cdot\text{in}$
 $\text{mPa}\cdot\text{s} = \text{cP}$

Note

The data contained herein are furnished for information only and are believed to be reliable. We cannot assume responsibility for the results obtained by others over whose methods we have no control. It is the user's responsibility to determine suitability for the user's purpose of any production methods mentioned herein and to adopt such precautions as may be advisable for the protection of property and of persons against any hazards that may be involved in the handling and use thereof. In light of the foregoing, **Henkel Corporation specifically disclaims all warranties expressed or implied, including warranties of merchantability or fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation specifically disclaims any liability for consequential or incidental damages of any kind, including lost profits.** The discussion herein of various processes or compositions is not to be interpreted as representation that they are free from domination of patents owned by others or as a license under any Henkel Corporation patents that may cover such processes or compositions. We recommend that each prospective user test his proposed application before repetitive use, using this data as a guide. This product may be covered by one or more United States or foreign patents or patent applications.

Trademark usage

Except as otherwise noted, all trademarks in this document are trademarks of Henkel Corporation in the U.S. and elsewhere. ® denotes a trademark registered in the U.S. Patent and Trademark Office.

Reference 0.1



HIGH TEMP RED Spec Sheet #S0117 September 2006

100% silicone sealant

Industrial / Plumbers Grade RTV



DESCRIPTION

HIGH PERFORMANCE one-step RED colored 100% silicone sealant for high temperature applications, provides a strong, durable, and flexible seal to wood, glass, metal, porcelain, ceramic, painted surfaces, and many plastics and rubber materials. Resistant to weathering, vibration, shrinking, peeling, or cracking. It allows for a permanently flexible waterproof seal. Ideal for pipes, ducts/vents, valves, tanks, gaskets, and flues. Performs at temperatures ranging from -80°F to +600°F. Joint movement +/- 25%; superior gunning and tooling; all season ease of application.

SIZES AND PACKING

STOCK NO.	SIZE	PACKING	WEIGHT/CASE
25666	10.1 fl. oz.	12	11.0 lbs.



specifications

**HIGH TEMP
RED
100% silicone
sealant**

HIGH TEMP RED

100% silicone sealant

Industrial / Plumbers Grade RTV

APPROVALS AND LISTINGS

Meets specification for Federal Meat and Poultry Inspection Program: FDA Regulation: No. 21 CFR 177.2600 for incidental food contact and ASTM C-920, Type S, Grade NS, Class 25, Use NT, G,A,O; TT-S-00230C, Type II, Class A; CAN-19.13M87. Recognized under UL QMFZ2, NSF Std 51, MIL-A-46106A, and CARB 2003 for VOC content.

SPECIFIC USES

High Temp Red is a general purpose, one component 100% RTV acetoxysilicone sealant designed for high temperature applications.

High performance silicone sealant ideal for high temperature applications where retention of flexibility, resistance to weathering, vibration, shrinking, peeling, or cracking is important.

SPECIFIC APPLICATIONS*

Construction

- Perimeter sealing, glazing
- Countertops, sanitary seals
- Kitchen/Bath; HVAC
- Roofing

Industrial

- Heating/Refrigeration units
- Foam in place gaskets
- Appliance trim
- RV, marine, truck sealing

PHYSICAL PROPERTIES

Color	Red
Odor	Vinegar like odor
Hardness, Shore A	25 +/- 5
Skin-over Time	10 minutes
Tack-free Time	15 minutes
Cure Rate	24 hours / 1/8" caulk thickness
Service Temp	-80°F to +600°F

WARNINGS OR CAUTIONS

UNCURED SEALANT CAN CAUSE IRRITATION. Avoid contact with sensitive areas. Contact lens wearers take appropriate precautions.

IN CASE OF CONTACT flush eyes or exposed area with water. Call physician. If skin contact should occur, wipe skin with dry cloth and then wash thoroughly with soap and water. Sealant releases vinegar-like odor during curing.

DIRECTIONS FOR USE

1. Clean and dry surfaces - remove any oil, dirt, grease, or soaps. If void is more than ½ inch deep fill with appropriate filler prior to application of silicone sealant.
2. Cut nozzle to gain appropriate bead size and apply with standard caulking gun.
3. Clean up excess caulk immediately with sharp edge tool or dry cloth.
4. Silicone forms dry skin within 10 minutes and cures in one hour. Comes to full strength and adhesive value within 24 hours per ⅛" of caulk.

STORAGE

Store in a dry place at ambient temperature. Avoid storage in areas over 90°F.

MATERIAL SAFETY INFORMATION

FOR MORE INFORMATION ON THIS PRODUCT, REQUEST MATERIAL SAFETY DATA SHEET - (MSDS) #117

For Delivery by Fax	Call 1-800-942-4636
Internet	See MSDS section of www.herchem.com
Mail	Contact Hercules at address below or any Hercules representative

INGREDIENTS

INGREDIENTS	CAS#
Dimethyl siloxane	70131-67-8
Hydro-treated middle petroleum distillates	64742-46-7
Silica, amorphous	7631-86-9
Ethyltriacetoxysilane	17689-77-9
Methyltriacetoxysilane	4253-34-3

HMIS Hazard Rating 2-1-0-A

*For special applications which may not be covered on this or other Hercules literature, please contact Hercules Technical Services Department by phone 1-800-221-9330, or fax 1-800-333-3456, or visit our technical database web-site at www.herchem.com.



Hercules Chemical Company, Inc.

111 South Street, Passaic, NJ 07055-9100

Phone: 800-221-9330 • Fax: 800-333-3456

e-mail: info@herchem.com

<http://www.herchem.com>

ISO 9001: 2000 Certified





MATERIAL SAFETY DATA SHEET

Date Prepared: 1/15/2011



SECTION 1 – Product Identification

PRODUCT NAME: J-B Weld, J-B Professional (Resin)
PRODUCT CODE: 8265, 8265S, 8265SF, 8280, 7265S
SYNONYM/CROSS REFERENCE: Epoxy Paste Resin

COMPANY: J-B Weld Company
P.O. Box 483
1130 Como Street
Sulphur Springs, TX 75482

Tel: (903) 885-7696
Fax: (903) 885-5911

SECTION 2 – Hazard Identification

Potential Health Effects

EYE: May cause moderate eye irritation.

SKIN: Has caused allergic skin reactions in humans. A single exposure not likely to cause skin irritation. Prolonged and repeated contact may cause skin irritation with local redness.

INGESTION: Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

INHALATION: Vapors are unlikely due to physical properties.

CHRONIC (CANCER) INFORMATION: N/A

TERATOLOGY (BIRTH DEFECT) INFORMATION: N/A

REPRODUCTION INFORMATION: N/A



MATERIAL SAFETY DATA SHEET

Date Prepared: 1/15/2011



SECTION 3 – Composition, Information or Ingredients

Component/Exposure Limits	CAS#	% by Wt.
Diglycidyl Ether of Bisphenol A INGESTION LD(50): >5000 mg/kg (rat) SKIN ABSORPTION: 20000 mg/kg (rabbit)	25068-38-6	15% to 40%
Diglycidyl ether of bisphenol F Oral LD50 rats >2000 mg/kg	28064-14-4	5% to 10%

SECTION 4 – First Aid Measures

EYES:

Flush eyes thoroughly with water for several minutes. If effects occur, consult a physician, preferably an ophthalmologist.

SKIN: Wash skin with plenty of soap and water.

INGESTION: No emergency medical treatment necessary.

INHALATION: N/A

NOTE TO PHYSICIANS: Consider additional thorough skin wash with mild, nonabrasive soap and plenty of warm water for at least fifteen minutes.

SECTION 5 – Fire-Fighting Measures

FLAMMABLE PROPERTIES:

FLASH POINT: > 140F Method: N/A

FLAMMABLE LIMITS:

Lower flammable limit: N/A

Upper flammable limit: N/A

AUTOIGNITION TEMPERATURE: N/A

HAZARDOUS COMBUSTION PRODUCTS: Carbon dioxide, carbon monoxide, oxides of nitrogen and sulfur.

EXTINGUISHING MEDIA:

FOAM, ALCOHOL FOAM, CO₂, DRY CHEMICAL, WATER FOG, OTHER



MATERIAL SAFETY DATA SHEET

Date Prepared: 1/15/2011



FIREFIGHTING INSTRUCTIONS:

Respiratory equipment should be worn to avoid inhalation of concentrated vapors. Water should not be used except as fog to keep nearby containers cool. Fire Fighters and others who may be exposed to the products of combustion should be equipped with NIOSH approved positive pressure self-contained breathing apparatus (SCBA) and full protective clothing.

SECTION 6 – Accidental Release Measures

SPILLS:

Dispose of in normal manner in accordance to all applicable state, federal, and local laws. Not a hazardous waste.

SECTION 7 – Handling and Storage

HANDLING:

No special precautions needed.

Personal hygiene- Wash thoroughly after handling, especially before eating, drinking, smoking, and using restroom facilities. Professionally launder contaminated clothing before use.

Empty container precautions- Do not reuse empty containers for food, clothing, or products for human or animal consumption, or where skin contact can occur.

STORAGE:

Temperature - Less than 90 F.

Conditions - Store in cool, dry, well-ventilated area.

SECTION 8 – Exposure Controls and Personal Protection

ENGINEERING CONTROLS:

Local exhaust: Use to keep exposures below recommendations.

Use if material is heated above 100 F.

RESPIRATORY PROTECTION:

None required in a well-ventilated area.

SKIN PROTECTION:

Appropriate impervious gloves. Because a variety of protective gloves exist, consult glove manufacturer to determine the proper type for the specific operation.

EYE PROTECTION:

Safety glasses or goggles.



MATERIAL SAFETY DATA SHEET

Date Prepared: 1/15/2011



SECTION 9 – Physical and Chemical Properties

BOILING POINT: 392F/200C

MELTING POINT: N/A

VAPOR PRESSURE: N/A

VAPOR DENSITY: N/A

SOLUBILITY IN WATER: Insoluble in water

SPECIFIC GRAVITY: 1.9313

pH: N/A

VOLATILE ORGANIC COMPOUNDS: <0.1%

ODOR: Sweet, Acrid

APPEARANCE: THICK PASTE

SECTION 10 – Stability and Reactivity

CHEMICAL STABILITY (CONDITIONS TO AVOID): This product is stable.

INCOMPATIBILITY: None.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon dioxide, aldehydes, acids, oxides of sulfur and nitrogen

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 – Toxicological Information

EYE: N/A

SKIN: N/A

INGESTION: N/A

INHALATION: N/A

SUBCHRONIC: N/A

CHRONIC/CARCINOGENICITY: N/A

TERATOLOGY: N/A

REPRODUCTION: N/A

MUTAGENICITY: N/A

SECTION 12 – Ecological Information

ECOTOXICOLOGICAL INFORMATION: N/A

CHEMICAL FATE INFORMATION: N/A



MATERIAL SAFETY DATA SHEET

Date Prepared: 1/15/2011



SECTION 13 – Disposal Considerations

Incinerate in furnace or bury in landfill in accordance with all applicable regulations.
Not classified as a hazardous waste.

SECTION 14 – Transport Information

Not DOT regulated.

SECTION 15 – Regulatory Information

U.S. FEDERAL REGULATIONS: TSCA: All ingredients are TSCA listed.

OSHA: Not OSHA regulated.

CERCLA: SARA HAZARD CATEGORY: Not regulated.

SECTION 313: Not regulated.

INTERNATIONAL REGULATIONS:

CANADIAN WHMIS: DB2 skin sensitizer.

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA): N/A

EINECS: EINECS listed.

STATE REGULATIONS: CALIFORNIA PROPOSITION 65

This product contains the following chemicals known to the state of California to cause cancer or reproductive toxicity. None

The following ingredients are present in this material and are subject to reporting in accordance to the Pennsylvania, New Jersey, and/or Massachusetts Right-to-Know (RTK) laws:

Iron Powder (CAS 7439-89-6)

Calcium Carbonate (CAS 1317-65-3)

SECTION 16 – Other Information

Hazard Ratings

NFPA Ratings: Health: 1 Fire: 0 Physical Data: 0 PPE: B

MSDS Last Revised: 01/15/2011 Created by: I. David Crossan



MATERIAL SAFETY DATA SHEET

Date Prepared: 1/15/2011



USERS RESPONSIBILITY: A bulletin such as this cannot be expected to cover all possible individual situations. As the user has the responsibility to provide a safe workplace, all aspects on an individual operation should be examined to determine if, or where, precautions - in addition to those described herein - are required. Any health hazard and safety information herein should be passed on to your customers or employees as the case may be.

DISCLAIMER OF LIABILITY: The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damage incurred by the use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. No representation of warranties, either expressed or implied, of merchantability, fitness for a particular purpose or any other nature are made hereunder with respect to the information refers. It is the responsibility of the user to comply with all applicable federal, state, and local laws and regulations.

PREPARED BY:

J-B Weld Company

P.O. Box 483

1130 Como Street

Sulphur Springs, TX 75482

Tel: (903) 885-7696

Fax: (903) 885-5911

MATERIAL SAFETY DATA SHEET

WM731B

This MSDS complies with OSHA'S Hazard Communication standard 29 CFR 1910.1200 and OSHA Form 174

IDENTITY AND MANUFACTURER'S INFORMATION

NFPA Rating: Health-0; Flammability-1; Reactivity 0 ; Special-		HMIS Rating: Health-0; Flammability-1; Reactivity-0; Personal Protection--	
Manufacturer's Name: DYNAFLUX, INC. 241 Brown Farm Rd. Cartersville, GA 30120		DOT Hazard Classification: Welding Compound 50390	
Manufactured for: I.W.D.C. Indianapolis, IN 46219		Identity (trade name as used on label): WELDMARK NOZZLE DIP WM731	
Prepared By: GS		MSDS Number: WM731B	Revision: 11/3/2008
Information Calls: (800)334-4420		NOTICE: JUDGMENT BASED ON INDIRECT TEST DATA	
Emergency Response Number: CHEMTEL US: (800)-255-3924 / International: 813-248-0585			

SECTION 1 - MATERIAL IDENTIFICATION AND INFORMATION

COMPONENTS-CHEMICAL NAMES AND COMMON NAMES (Hazardous Components 1% or greater; Carcinogens 0.1% or greater)	CAS NUMBER	SARA III LIST	OSHA PEL (PPM)	ACGIH TLV (ppm)	Carcinogen Ref. source*
No hazardous materials					
% BY WT.					
Contents: Petrolatum 100%	8009-03-8				
VOC: 0%					

SECTION 2 - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point: NA	Specific Gravity (H2O=1): 0.831
Vapor Pressure: (PSIG @ 70° F (Aerosols):NA	Vapor Pressure: (Non-Aerosols)(mm Hg and Temperature): .0005
Vapor Density: (Air=1): NA	Evaporation Rate (BUAC=1): NA
Solubility in Water: Negligible	Water Reactive: No
Appearance and Odor: Blue paste hydrocarbon; no odor	

SECTION 3 - FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY as per USA FLAME	Auto Ignition Temperature	Flammability Limits in Air by % in Volume:	
PROJECTION TEST (aerosols): NA	Unknown	%LEL: Unknown	%UEL: Unknown
FLASH POINT AND METHOD USED (non-aerosols): 425° F TCC		EXTINGUISHER MEDIA:	
SPECIAL FIRE FIGHT PROCEDURES: None		Dry Foam, carbon dioxide	
Unusual Fire & Explosion Hazards: None			

SECTION 4 - REACTIVITY HAZARD DATA

STABILITY: ☒ STABLE ☐ UNSTABLE		HAZARDOUS POLYMERIZATION ☐ WILL ☒ WILL NOT OCCUR	
Incompatibility (Mat. to Avoid): Strong oxidizing agents.			Conditions to Avoid: None
Hazardous Decomposition Products: carbon monoxide and dioxide.			

SECTION 5 - HEALTH HAZARD DATA

PRIMARY ROUTES OF ENTRY: ☐ INHALATION ☐ INGESTION ☐ SKIN ABSORPTION ☐ EYE ☒ NOT HAZARDOUS			
ACUTE EFFECTS:			
Inhalation: None			
Eye contact: Reddening of eyes			
Skin contact: Reddening of skin			
Ingestion: None			
CHRONIC EFFECTS: Mild irritant			
Medical conditions Generally Aggravated by Exposure: Existing dermatitis			

EMERGENCY FIRST AID PROCEDURES

Eye Contact: Wash with water.
Skin Contact: Wash with water.
Inhalation: NA
Ingestion: Drink two glasses of water.

SECTION 6 - CONTROL AND PROTECTIVE MEASURES

Respiratory Protection (specify type): Normally not required.
Protective Gloves: Rubber if desired.
Eye Protection: Safety glasses or face shield.
Ventilation Requirements: NA
Other Protective Clothing & Equipment: Normally not required.
Hygienic Work Practices: NA

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps To Be Taken if Material Is Spilled Or Released: Sweep up onto paper and discard. Larger spill should be collected and reused.
Waste Disposal Methods: In accordance with local, state and federal regulations.
Precautions To Be Taken In Handling & Storage: Keep in cool place. Empty containers must be considered a fire hazard.
Other Precautions &/or Special Hazards: KEEP OUT OF REACH OF CHILDREN.

We believe the statements, technical information and recommendations contained herein are reliable, but they are given without warranty or guarantee of any kind.

*Chemical Listed as Carcinogen or Potential Carcinogen. [a] NPT [b] IARC Monograph [c] OSHA [d] Not Listed [e] Animal Data Only

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Material Safety Data Sheet



Revision Number: 001.0

Issue date: 02/02/2011

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Loctite Blue 242 Threadlocker Auto
Product type: Anaerobic Sealant
IDH number: 1289273
Region: United States
Company address: Henkel Corporation
One Henkel Way
Rocky Hill, Connecticut 06067
Contact information: Telephone: 800.624.7767
MEDICAL EMERGENCY Phone: Poison Control Center
1-877-671-4608 (toll free) or 1-303-592-1711
TRANSPORT EMERGENCY Phone: CHEMTREC
1-800-424-9300 (toll free) or 1-703-527-3887
Internet: www.henkelna.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Physical state: Liquid
Color: blue
Odor: Mild
HMIS:
HEALTH: *2
FLAMMABILITY: 1
PHYSICAL HAZARD: 1
Personal Protection: See MSDS Section 8
WARNING: CAUSES EYE IRRITATION.
MAY CAUSE SKIN IRRITATION.
MAY CAUSE ALLERGIC SKIN REACTION.
MAY CAUSE RESPIRATORY TRACT IRRITATION.

Relevant routes of exposure: Skin, Inhalation, Eyes

Potential Health Effects

Inhalation: May cause respiratory tract irritation.
Skin contact: May cause allergic skin reaction. May cause skin irritation.
Eye contact: Contact with eyes will cause irritation.
Ingestion: Not expected to be harmful by ingestion.

Existing conditions aggravated by exposure: Eye, skin, and respiratory disorders.

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous components	CAS NUMBER	%
Polyglycol dimethacrylate	25852-47-5	60 - 100
Oleic acid 5.5EO	9004-96-0	10 - 30
Saccharin	81-07-2	1 - 5
Silica, amorphous, fumed, crystal-free	112945-52-5	1 - 5
Cumene hydroperoxide	80-15-9	1 - 5
Propanediol-1,2	57-55-6	1 - 5
Titanium dioxide	13463-67-7	0.1 - 1

4. FIRST AID MEASURES

Inhalation:	Move to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. Keep warm and quiet. Get medical attention.
Skin contact:	Wash with soap and water. Remove contaminated clothing and footwear. Wash clothing before reuse. If symptoms develop and persist, get medical attention.
Eye contact:	Flush with copious amounts of water, preferably, lukewarm water for at least 15 minutes, holding eyelids open all the time. Get medical attention.
Ingestion:	Do not induce vomiting. Keep individual calm. Get medical attention.

5. FIRE FIGHTING MEASURES

Flash point:	> 93.3 °C (> 199.94 °F) Tagliabue closed cup
Flame projection:	Not applicable
Autoignition temperature:	Not determined
Flammable/Explosive limits - lower:	2.6 % (propylene glycol)
Flammable/Explosive limits - upper:	12.5 % (propylene glycol)
Extinguishing media:	Foam, dry chemical or carbon dioxide.
Special firefighting procedures:	None
Unusual fire or explosion hazards:	None
Hazardous combustion products:	Oxides of carbon. Oxides of sulfur. Oxides of nitrogen. Irritating organic vapours.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions:	Do not allow product to enter sewer or waterways.
Clean-up methods:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Store in a partly filled, closed container until disposal.

7. HANDLING AND STORAGE

Handling:	Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling.
Storage:	For safe storage, store at or below 38 °C (100.4 °F) Keep in a cool, well ventilated area away from heat, sparks and open flame. Keep container tightly closed until ready for use.

For information on product shelf life, please review labels on container or check the Technical Data Sheet.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous components	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Polyglycol dimethacrylate	None	None	None	None
Oleic acid 5.5EO	None	None	None	None
Saccharin	None	None	None	None
Silica, amorphous, fumed, crystal-free	10 mg/m3 TWA Inhalable dust. 3 mg/m3 TWA Respirable fraction.	20 MPPCF TWA 0.8 mg/m3 TWA	None	None
Cumene hydroperoxide	None	None	1 ppm (6 mg/m3) TWA (SKIN)	None
Propanediol-1,2	None	None	10 mg/m3 TWA Aerosol.	None
Titanium dioxide	10 mg/m3 TWA	15 mg/m3 TWA Total dust.	None	None

Engineering controls:

No specific ventilation requirements noted, but forced ventilation may still be required if concentrations exceed occupational exposure limits.

Respiratory protection:

Use NIOSH approved respirator if there is potential to exceed exposure limit(s).

Eye/face protection:

Safety goggles or safety glasses with side shields.

Skin protection:

Use impermeable gloves and protective clothing as necessary to prevent skin contact. Neoprene gloves. Butyl rubber gloves. Natural rubber gloves.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Color:	blue
Odor:	Mild
Odor threshold:	Not available
pH:	Not applicable
Vapor pressure:	< 5 mm hg (27 °C (80.6 °F))
Boiling point/range:	> 149 °C (> 300.2 °F)
Melting point/ range:	Not available
Specific gravity:	1.1 at 23.9 °C (75.02 °F)
Vapor density:	Not available
Flash point:	> 93.3 °C (> 199.94 °F) Tagliabue closed cup
Flame projection:	Not applicable
Flammable/Explosive limits - lower:	2.6 % (propylene glycol)
Flammable/Explosive limits - upper:	12.5 % (propylene glycol)
Autoignition temperature:	Not determined
Evaporation rate:	Not available
Solubility in water:	Slight
Partition coefficient (n-octanol/water):	Not available
VOC content:	4.48 %; 49.3 g/l EPA Method 24

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous reactions:	Will not occur.
Hazardous decomposition products:	Oxides of carbon. Oxides of sulfur. Oxides of nitrogen. Irritating organic vapours.
Incompatible materials:	Strong oxidizing agents. Free radical initiators. Strong reducing agents. Alkalis. Oxygen scavengers. Other polymerization initiators. Copper. Iron. Zinc. Aluminum. Rust.
Conditions to avoid:	See "Handling and Storage" (Section 7) and "Incompatibility" (Section 10).

11. TOXICOLOGICAL INFORMATION

Acute oral product toxicity: LD50 (rat) > 10,000 mg/kg

Acute dermal product toxicity: LD50 (rabbit) > 5,000 mg/kg

Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Polyglycol dimethacrylate	No	No	No
Oleic acid 5.5EO	No	No	No
Saccharin	No	No	No
Silica, amorphous, fumed, crystal-free	No	No	No
Cumene hydroperoxide	No	No	No
Propanediol-1,2	No	No	No
Titanium dioxide	No	Group 2B	No

Hazardous components	Health Effects/Target Organs
Polyglycol dimethacrylate	Irritant, Allergen
Oleic acid 5.5EO	Irritant
Saccharin	No Target Organs
Silica, amorphous, fumed, crystal-free	Nuisance dust
Cumene hydroperoxide	Allergen, Central nervous system, Corrosive, Irritant, Mutagen
Propanediol-1,2	Irritant
Titanium dioxide	Irritant, Respiratory, Some evidence of carcinogenicity

12. ECOLOGICAL INFORMATION

Ecological information: Not available

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Follow all local, state, federal and provincial regulations for disposal.

Hazardous waste number: Not a RCRA hazardous waste.

14. TRANSPORT INFORMATION

The shipping classifications in this sections are for non-bulk packaging only (unless otherwise specified). Shipping classification may be different for bulk packaging.

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

International Air Transportation (ICAO/IATA)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

Water Transportation (IMO/IMDG)

Proper shipping name: Not regulated
Hazard class or division: None
Identification number: None
Packing group: None

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status:	All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.
TSCA 12(b) Export Notification:	None above reporting de minimus
CERCLA/SARA Section 302 EHS:	None above reporting de minimus
CERCLA/SARA Section 311/312:	Immediate Health, Delayed Health
CERCLA/SARA 313:	This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). Cumene hydroperoxide (CAS# 80-15-9).
California Proposition 65:	This product contains a chemical known in the State of California to cause cancer. This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Canada Regulatory Information

CEPA DSL/NDL Status:	All components are listed on or are exempt from listing on the Canadian Domestic Substances List.
WHMIS hazard class:	D.2.A, D.2.B

16. OTHER INFORMATION

This material safety data sheet contains changes from the previous version in sections: New Material Safety Data Sheet format.

Prepared by: Karim Nasr, Regulatory Affairs

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MATERIAL SAFETY DATA SHEET

***** SECTION 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION *****

PRODUCT NAME.....: 271 HIGH STRENGTH THREADLOCKER RED
 PRODUCT NUMBER.....: 87101
 PRODUCT DESCRIPTION...:
 DATE PREPARED.....: 07/16/96
 SUPPLIER NAME AND ADDRESS.....: Parts Associates, Inc.
 12420 Plaza Drive Parma, Ohio 44130 216-433-7700
 EMERGENCY PHONE - 24 HOURS.....: CALL CHEM-TEL, INC. (800) 255-3924

***** SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS *****

INGREDIENTS	CAS NO.	%
POLY DIMETHACRYLATE	25852-47-5	65-70
BISPHENOL A FUMARATE RESIN	39382-25-7	20-25
SACCHARIN		81-07-2 3-5
CUMENE HYDROPEROXIDE*	80-15-9	1-3
N,N-DIALKYL TOLUIDINES	613-48-9	0.2-1

*THIS COMPONENT IS LISTED AS A SARA SECTION 313 TOXIC CHEMICAL.

***** SECTION 3 HAZARDS IDENTIFICATION*****

EMERGENCY OVERVIEW.....:N/A (color, clarity, odor, liquid/solid, irritant)
 POTENTIAL HEALTH EFFECTS
 INHALATION.....:N/A
 EYE CONTACT.....:N/A
 SKIN CONTACT.....:N/A
 INGESTION.....:N/A
 CHRONIC.....:
 PRIMARY ROUTES OF ENTRY: NONE KNOWN
 MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: NONE KNOWN
 LITERATURE REFERENCED CARCINOGEN
 INGREDIENTS TARGET ORGAN AND OTHER HEALTH EFFECTS NTP IARC OSHA POLYGLYCOL DIMETH-
 ACRYLATE ALG IRR NO NO NO
 BISPHENOL A FUMARATE
 RESIN ALG IRR NO NO NO
 SACCHARIN NO DATA YES 2B NO
 CUMENE HYDROPEROXIDE ALG CNS COR IRR MUT NO NO NO
 N,N-DIALKYL TOLUIDINES NO DATA NO NO NO
 ABBREVIATIONS:
 2B POSSIBLY CARCINOGENIC TO HUMANS MUT MUTAGEN
 ALG ALLERGEN CNS CENTRAL NERVOUS SYSTEM
 COR CORROSIVE IRR IRRITANT

***** SECTION 4 FIRST AID MEASURES *****

INHALATION.....:DOES NOT APPLY
 EYE CONTACT.....:FLUSH AT LEAST 15 MINUTES WITH WATER. OBTAIN MEDICAL ATTENTION.
 SKIN CONTACT.....:FLUSH WITH WATER.
 INGESTION.....:DO NOT INDUCE VOMITING. KEEP INDIVIDUAL CALM. OBTAIN MEDICAL ATTENTION.

***** SECTION 5 FIRE FIGHTING MEASURES *****

FLASHPOINT AND METHOD.....: > 200 F (TCC)
 FLAMMABLE LIMITS:
 GENERAL HAZARD.....:NONE
 FIRE FIGHTING INSTRUCTIONS.....:NONE
 FIRE FIGHTING EQUIPMENT.....:CARBON DIOXIDE, FOAM, DRY CHEMICAL.
 HAZARDOUS COMBUSTION PRODUCTS.....: IRRITATING ORGANIC VAPORS.

***** SECTION 6 ACCIDENTAL RELEASE MEASURES *****

LAND SPILL.....:SOAK UP IN AN INERT ABSORBENT. STORE IN A PARTLY FILLED, CLOSED CONTAINER UNTIL DISPOSAL.
 WATER SPILL.....:N/A

***** SECTION 7 HANDLING AND STORAGE *****

STORAGE TEMPERATURE.....:AMBIENT
 STORAGE PRESSURE.....:ATMOSPHERIC
 GENERAL.....:STORE BELOW 100 F. SERVICE 1-800-243-4874 FOR SHELF LIFE INFORMATION). AVOID PROLONGED

RECEIVED
 6/21/01

SKIN CONTACT. KEEP AWAY FROM EYES.

***** SECTION 8 EXPOSURE CONTROLS AND PERSONAL PROTECTION *****

ENGINEERING CONTROLS

VENTILATION.....DOES NOT APPLY.

PERSONAL PROTECTION

RESPIRATOR.....ND

PROTECTIVE CLOTHING.....NEOPRENE, RUBBER OR BUTYL GLOVES.

***** SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES *****

VAPOR PRESSURE.....<5MM @ 80F VAPOR DENSITY.....N/A SPECIFIC GRAVITY.....1.10 @80F (air=1)
SOLUBILITY IN WATER...SLIGHT EVAPORATION RATE.....N/A pH.....N/A (n-Butyl Acetate=1) BOILING
POINT.....>300 F FREEZING POINT.....ND
VISCOSITY.....ND ODOR.....MILD APPEARANCE.....RED PHYSICAL STATE.....LIQUID

***** SECTION 10 STABILITY AND REACTIVITY *****

GENERAL.....NA

INCOMPATIBLE MATERIALS AND CONDITIONS TO AVOID.....NONE

HAZARDOUS DECOMPOSITION.....NONE

STABILITY.....STABLE

HAZARDOUS POLYMERIZATION..... WILL NOT OCCUR

***** SECTION 11 TOXICOLOGICAL INFORMATION *****

EYE IRRITANT. ESTIMATED ORAL LD50 MORE THAN 5000 MG/KG.

ESTIMATED DERMAL LD50 MORE THAN 2000MG/KG.

***** SECTION 12 ECOLOGICAL INFORMATION *****

NO DATA AVAILABLE

***** SECTION 13 DISPOSAL CONSIDERATIONS *****

INCINERATE FOLLOWING EPA AND LOCAL REGULATIONS.

EPA HAZARDOUS WASTE NUMBER - NH - NOT A RCRA HAZARDOUS WASTE MATERIAL.

***** SECTION 14 TRANSPORT INFORMATION *****

DOT (Department Of Transportation)

PROPER SHIPPING NAME.....UNRESTRICTED

UN NUMBER.....ND

HAZARD CLASS.....UNRESTRICTED

IDENTIFICATION NUMBER...NONE

PACKING GROUP.....ND

IATA

PROPER SHIPPING NAME.....UNRESTRICTED

CLASS OR DIVISION.....UNRESTRICTED

UN OR ID NUMBER.....NONE

***** SECTION 15 REGULATORY INFORMATION *****

CA PROPOSITION 65: THIS PRODUCT CONTAINS SACCHARIN. NO PROP 65 HAZARD WARNING IS NECESSARY IF THIS PRODUCT IS USED AS REASONABLY ANTICIPATED.

***** SECTION 16 OTHER INFORMATION *****

HMIS HEALTH: 1 FIRE: 1 REACTIVITY: 1 NFPA HEALTH: 1 FIRE: 1 REACTIVITY: 1



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MSDS

Common Name: SLIME SUPER DUTY TIRE SEALANT

Manufacturer: ACCESSORIES MARKETING

MSDS Revision Date: 3/10/2008

Grainger Item Number(s): 1MRD9, 1MRE1, 1MRE2, 1MRE3, 1MRE5, 1MRE6, 1MRF7, 3CZP8

Manufacturer Model Number(s):

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Click the desired link below to jump directly to that section in the MSDS.

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MATERIAL SAFETY DATA SHEET

SLIME

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION



PRODUCT NAME: SLIME SUPER DUTY TIRE SEALANT

GENERAL USE: SEALANT

PRODUCT DESCRIPTION:
GREEN PASTE WITH BLACK SPECKS, SLIGHT ODOR; MAY ALSO BE BLUE, WHITE, ORANGE

OR YELLOW IN COLOR

MANUFACTURER'S NAME: ACCESSORIES MARKETING, INC.

ADDRESS (NUMBER, STREET, P.O. BOX): 800 FARROLL ROAD
(CITY, STATE AND ZIP CODE): GROVER BEACH, CA 93433
COUNTRY: USA

DATE PREPARED: MARCH 10, 2008

SUPERSEDES: OCTOBER 5, 2005

TELEPHONE NUMBER FOR INFORMATION: (805) 489-0490

EMERGENCY TELEPHONE NUMBER:
CHEMTEL INC.: 1-(800) 255-3924
INTL.: + 01 (813) 248-0585

DISTRIBUTOR'S NAME: SAME
ADDRESS (NUMBER, STREET, P.O. BOX):
(CITY, STATE AND ZIP CODE):
COUNTRY:

TELEPHONE NUMBER FOR INFORMATION:

EMERGENCY TELEPHONE NUMBER:

SECTION 2 - HAZARDOUS INGREDIENTS



HAZARDOUS COMPONENTS	CAS #	% (BY WEIGHT)	OSHA PEL		ACGIH TWA		SARA TITLE	RQ LBS
			PPM	MG/M3	PPM	MG/M3		
			III					

NO HAZARDOUS MATERIALS
PRESENT AS DEFINED BY
OSHA - 29 CFR 1910.1000;
EPA - 40 CFR 260 - 281,
302, 355, 370, 372;
DOT - 49 CFR 172;
WHMIS OR EC DIRECTIVE
91 / 155 / EEC.

SECTION 3 - HAZARDS IDENTIFICATION



EMERGENCY OVERVIEW: MILD PASTE, INGESTION MAY CAUSE GASTRIC DISTRESS.

POTENTIAL HEALTH EFFECTS:

INHALATION:

NONE EXPECTED, HOWEVER, CERTAIN INDIVIDUALS MAY EXPERIENCE MINOR NAUSEA OR HEADACHES.

SKIN: NONE EXPECTED, HOWEVER, PROLONGED CONTACT MAY CAUSE IRRITATION.

EYES: CONTACT WITH EYES MAY CAUSE IRRITATION.

INGESTION: MAY CAUSE GASTRIC DISTRESS, VOMITING AND DIARRHEA.

CARCINOGENICITY:
NTP?: NO
IARC MONOGRAPHS?: NO
OSHA REGULATED?: NO

SECTION 4 - FIRST AID MEASURES

 top

INHALATION:
REMOVE AFFECTED PERSON TO FRESH AIR; IF SYMPTOMS PERSIST SEEK MEDICAL ATTENTION.

SKIN:
REMOVE CONTAMINATED CLOTHING; WASH AFFECTED AREA WITH SOAP AND WATER;
LAUNDER CONTAMINATED CLOTHING BEFORE REUSE; IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION.

EYES:
REMOVE CONTACT LENSES. FLUSH EYES WITH WATER FOR 15 MINUTES; IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION.

INGESTION:
GIVE TWO GLASSES OF WATER FOR DILUTION; DO NOT INDUCE VOMITING; NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON; SEEK MEDICAL ATTENTION.

SECTION 5 - FIRE FIGHTING MEASURES

 top

FLASH POINT (METHOD USED): NON-FLAMMABLE

FLAMMABLE LIMITS:
LEL: NOT APPLICABLE
UEL: NOT APPLICABLE

AUTOIGNITION TEMPERATURE: NOT DETERMINED

NFPA CLASS: NONE

GENERAL HAZARDS:
PRODUCT IS NOT CONSIDERED FLAMMABLE OR COMBUSTIBLE. PRODUCTS OF COMBUSTION INCLUDE COMPOUNDS OF CARBON, HYDROGEN AND OXYGEN, INCLUDING CARBON MONOXIDE.

EXTINGUISHING MEDIA:

CARBON DIOXIDE, WATER, WATER FOG, DRY CHEMICAL, CHEMICAL FOAM

FIRE FIGHTING PROCEDURES:

KEEP CONTAINERS COOL WITH WATER SPRAY TO PREVENT CONTAINER RUPTURE DUE TO STEAM BUILDUP; FLOOR WILL BECOME SLIPPERY IF MATERIAL IS RELEASED.

UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE

HAZARDOUS COMBUSTION PRODUCTS: SMOKE, FUMES, OXIDES OF CARBON

SECTION 6 - ENVIRONMENTAL RELEASE MEASURES



STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

SMALL SPILLS: WASH TO SANITARY SEWER WITH PLENTY OF WATER.

LARGE SPILLS:

SOAK UP WITH APPROVED ABSORBENT, SHOVEL PRODUCT INTO APPROVED CONTAINER FOR DISPOSAL. WASH AREA WITH PLENTY OF WATER.

SECTION 7 - HANDLING AND STORAGE



PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

KEEP CONTAINER CLOSED WHEN NOT IN USE; PROTECT CONTAINERS FROM ABUSE; PROTECT FROM EXTREME TEMPERATURES.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION



ENGINEERING CONTROLS:

THE USE OF LOCAL EXHAUST VENTILATION IS RECOMMENDED. NO OTHER SPECIAL CONTROLS ARE INDICATED.

PERSONAL PROTECTION:

RESPIRATORY PROTECTION (SPECIFY TYPE): NONE REQUIRED

PROTECTIVE GLOVES: NONE REQUIRED

EYE PROTECTION:

RECOMMENDED FOR GENERAL PROTECTION REFER TO 29 CFR 1910.133 OR EUROPEAN STANDARD EN166.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: SAFETY EYEBATH NEARBY

WORK / HYGIENIC PRACTICES:

PRACTICE SAFE WORKPLACE HABITS. MINIMIZE BODY CONTACT WITH THIS, AS WELL AS

ALL CHEMICALS IN GENERAL.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES



VAPOR PRESSURE (MMHg): NOT DETERMINED

VAPOR DENSITY (AIR = 1): >1

SPECIFIC GRAVITY (WATER = 1): 1.16 +/- 0.1

EVAPORATION RATE (WATER = 1): <1

SOLUBILITY IN WATER: APPRECIABLE

FREEZING POINT: NOT SPECIFIED

pH: 8.8 +/- 1.0

APPEARANCE AND ODOR: VARIOUS COLORED PASTE WITH BLACK SPECKS, SLIGHT ODOR

BOILING POINT: 220 DEG. F (104.4 DEG. C)

PHYSICAL STATE: VISCOUS LIQUID

VISCOSITY: PASTE

VOLATILE ORGANIC COMPOUNDS (TOTAL VOC'S): NONE

SECTION 10 - STABILITY AND REACTIVITY



STABILITY:

UNSTABLE ()

STABLE (X)

CONDITIONS TO AVOID: EXTREME TEMPERATURES, KEEP FROM FREEZING

INCOMPATIBILITY (MATERIALS TO AVOID): STRONG OXIDIZERS, STRONG ACIDS

HAZARDOUS DECOMPOSITION OR BYPRODUCTS:

DECOMPOSITION WILL NOT OCCUR IF HANDLED AND STORED PROPERLY. IN CASE OF A FIRE, OF CARBON, HYDROCARBONS, FUMES, AND SMOKE MAY BE PRODUCED.

HAZARDOUS POLYMERIZATION:

MAY OCCUR ()

WILL NOT OCCUR (X)

CONDITIONS TO AVOID: NONE

SECTION 11 - TOXICOLOGICAL INFORMATION



HAZARDOUS INGREDIENTS	CAS #	EINECS #	LD50 OF INGREDIENT (SPECIFY SPECIES AND ROUTE)	LC50 OF INGREDIENT (SPECIFY SPECIES)
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NO HAZARDOUS MATERIALS
PRESENT AS DEFINED BY
OSHA - 29 CFR 1910.1000;
EPA - 40 CFR 260 - 281,
302, 355, 370, 372;
DOT - 49 CFR 172;
WHMIS OR EC DIRECTIVE
91 / 155 / EEC.

SECTION 12 - ECOLOGICAL INFORMATION



NO DATA ARE AVAILABLE ON THE ADVERSE EFFECTS OF THIS MATERIAL ON THE ENVIRONMENT. NEITHER COD NOR BOD DATA ARE AVAILABLE. BASED ON THE CHEMICAL COMPOSITION OF THIS PRODUCT IT IS ASSUMED THAT THE MIXTURE CAN BE TREATED IN AN ACCLIMATIZED BIOLOGICAL WASTE TREATMENT PLANT SYSTEM IN LIMITED QUANTITIES. HOWEVER, SUCH TREATMENT SHOULD BE EVALUATED AND APPROVED FOR EACH SPECIFIC BIOLOGICAL SYSTEM. NONE OF THE IN THIS MIXTURE ARE CLASSIFIED AS A MARINE POLLUTANT.

SECTION 13 - DISPOSAL CONSIDERATIONS



WASTE DISPOSAL METHOD:
DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.
PRODUCT IS CLASSIFIED AS NON - HAZARDOUS, HOWEVER, NON-HAZARDOUS MATERIALS MAY BECOME HAZARDOUS WASTE UPON CONTACT WITH OTHER PRODUCTS. REFER TO "40 CFR PROTECTION OF ENVIRONMENT PARTS 260 - 299" FOR COMPLETE WASTE DISPOSAL REGULATIONS. CONSULT YOUR LOCAL, STATE, OR FEDERAL ENVIRONMENTAL PROTECTION AGENCY BEFORE DISPOSING OF ANY CHEMICALS.

SECTION 14 - TRANSPORT INFORMATION



PROPER SHIPPING NAME: NOT REGULATED

DOT HAZARD CLASS / PACK GROUP: NOT REGULATED
REFERENCE: NOT APPLICABLE
UN / NA IDENTIFICATION NUMBER: NONE
LABEL: NONE REQUIRED
HAZARD SYMBOLS: NONE

IATA HAZARD CLASS / PACK GROUP: NOT REGULATED

IMDG HAZARD CLASS: NOT REGULATED

RID/ADR DANGEROUS GOODS CODE: NOT REGULATED

UN TDG CLASS / PACK GROUP: NOT REGULATED

HAZARD IDENTIFICATION NUMBER (HIN): NONE

NOTE:

TRANSPORTATION INFORMATION PROVIDED IS FOR REFERENCE ONLY. CLIENT IS URGED TO CONSULT CFR 49 PARTS 100 - 177, IMDG, IATA, EC, UNITED NATIONS TDG, AND WHMIS (CANADA) TDG INFORMATION MANUALS FOR DETAILED REGULATIONS AND EXCEPTIONS COVERING SPECIFIC CONTAINER SIZES, PACKAGING MATERIALS AND METHODS OF SHIPPING.

SECTION 15 - REGULATORY INFORMATION



TSCA (TOXIC SUBSTANCE CONTROL ACT):

ALL COMPONENTS OF THIS PRODUCT ARE LISTED ON THE U.S. TOXIC SUBSTANCES CONTROL ACT CHEMICAL INVENTORY (TSCA INVENTORY) OR ARE EXEMPTED FROM LISTING BECAUSE A LOW VOLUME EXEMPTION HAS BEEN GRANTED IN ACCORDANCE WITH 40 CFR 723.50.

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT):

311/312 HAZARD CATEGORIES: NONE

313 REPORTABLE INGREDIENTS: NONE

CERCLA (COMPREHENSIVE RESPONSE COMPENSATION AND LIABILITY ACT): NONE

CALIFORNIA PROP 65, SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986: THERE ARE NO CHEMICALS PRESENT KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER OR REPRODUCTIVE TOXICITY.

CPR (CANADIAN CONTROLLED PRODUCTS REGULATIONS):

THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CONTROLLED PRODUCTS REGULATIONS AND THE MSDS CONTAINS ALL THE INFORMATION REQUIRED BY THE CONTROLLED PRODUCTS REGULATIONS.

WHMIS CLASSIFICATION: NOT CONTROLLED

IDL (CANADIAN INGREDIENT DISCLOSURE LIST):

COMPONENTS OF THIS PRODUCT IDENTIFIED BY CAS NUMBER AND LISTED ON THE CANADIAN INGREDIENT DISCLOSURE LIST ARE SHOWN IN SECTION 2.

DSL / NDSL (CANADIAN DOMESTIC SUBSTANCES LIST / NON-DOMESTIC SUBSTANCES LIST):

COMPONENTS OF THIS PRODUCT IDENTIFIED BY CAS NUMBER ARE LISTED ON THE DSL OR NDSL, OR ARE OTHERWISE IN COMPLIANCE WITH THE NEW SUBSTANCES NOTIFICATION (NSN) REGULATIONS. ONLY INGREDIENTS CLASSIFIED AS "HAZARDOUS"

ARE LISTED IN SECTION 2 UNLESS OTHERWISE INDICATED.

EINECS (EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICAL SUBSTANCES):
COMPONENTS OF THIS PRODUCT IDENTIFIED BY CAS NUMBERS ARE ON THE EUROPEAN
INVENTORY OF EXISTING COMMERCIAL CHEMICAL SUBSTANCES.

EC RISK PHRASES: NONE

SYMBOL(S) REQUIRED FOR LABEL: NONE

EC SAFETY PHRASES:
S2: KEEP OUT OF THE REACH OF CHILDREN.

SECTION 16 - OTHER INFORMATION

 top

NO SPECIFIC NOTES.

HMIS HAZARD RATINGS:

HEALTH	0
FLAMMABILITY	0
PHYSICAL HAZARD	0

PERSONAL PROTECTIVE EQUIPMENT A SAFETY GLASSES

* = CHRONIC HEALTH HAZARD
0 = INSIGNIFICANT
1 = SLIGHT
2 = MODERATE
3 = HIGH
4 = EXTREME

REVISION SUMMARY:

THIS MSDS HAS BEEN REVISED IN THE FOLLOWING SECTIONS:
SECTION 9, FREEZING POINT

CHEMTEL INC.

MSDS PREPARED BY:
CHEMTEL INC.
1305 N. FLORIDA AVE.
TAMPA, FLORIDA USA 33602
(888) 255-3924

INTL.: 01+ (813) 248-0573

WWW.CHEMTELINE.COM

THE INFORMATION CONTAINED HEREIN IS BELIEVED TO BE ACCURATE BUT IS NOT
WARRANTED TO BE SO. DATA AND CALCULATIONS ARE BASED ON INFORMATION
FURNISHED BY THE MANUFACTURER OF THE PRODUCT AND MANUFACTURERS OF THE
COMPONENTS OF THE PRODUCT. USERS ARE ADVISED TO CONFIRM IN ADVANCE OF NEED

THAT INFORMATION IS CURRENT, APPLICABLE AND SUITED TO THE CIRCUMSTANCES OF USE. VENDOR ASSUMES NO RESPONSIBILITY FOR INJURY TO VENDEE OR THIRD PERSONS PROXIMATELY CAUSED BY THE MATERIAL IF REASONABLE SAFETY PROCEDURES ARE NOT ADHERED TO AS STIPULATED IN THE DATA SHEET. FURTHERMORE, VENDOR ASSUMES NO RESPONSIBILITY FOR INJURY CAUSED BY ABNORMAL USE OF THIS MATERIAL EVEN IF REASONABLE SAFETY PROCEDURES ARE FOLLOWED. ANY QUESTIONS REGARDING THIS PRODUCT SHOULD BE DIRECTED TO THE MANUFACTURER OF THE PRODUCT AS DESCRIBED IN SECTION 1.

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MATERIAL SAFETY DATA SHEET (MSDS)

PRODUCT NAME: MEK

Team, Inc.
Team Industrial Services, Inc.
TECO Manufacturing, Inc.
200 Hermann Drive
Alvin, Texas 77511

Prepared By: James H. Varner
Revision Date: July 1, 2006
Team Main: 281-331-6154
8 - 5 CDT: 281-388-5618
Answering Service: 281-482-3530
CHEMTREC: 800-424-9300

1. General Notes

This formulation is a trade secret and considered confidential and proprietary information of Team, Inc.

UND = Undetermined

NA = Not Applicable

2. Product Information

Product Part Number / Name: 804-0004 / MEK
Chemical Family: Ketone
Product Use: Industrial Leak Sealant
Product Description: Solvent

3. Hazardous Ingredients

<u>Compound</u>	<u>CAS Number</u>	<u>Percent</u>	<u>OSHA</u> <u>PEL</u> <u>(mg/m3)</u>	<u>ACGIH</u> <u>TLV</u> <u>(mg/m3)</u>	<u>OSHA</u> <u>PEL</u> <u>(ppm)</u>	<u>ACGIH</u> <u>TLV</u> <u>(ppm)</u>	<u>Possible</u> <u>Carcinogen</u>
methyl ethyl ketone	78-93-3	50 +			200	200	

Notes

4. Physical Data

Boiling Point (F): 175 F. Specific Gravity (H2O = 1): .806 @ 68 F.
Vapor Pressure (mm Hg): 70 mmHg @ 68 F. Melting Point (F): UND.
Solubility in H2O: 26.8 % at 20 C. Evaporation Rate (Butyl Acetate = 1): 5.70 (N- Butyl Acetate)
Appearance and Odor: Clear, colorless, mobile liquid, with a strong characteristic " Ketone " odor.

5. Fire and Explosion Hazard Information

Flash Point (Closed Cup) (F): 23 F
Flammability Limits in Air (%): Low: 2.0 % High: 11.5 %
Extinguishing Media: Regular foam, carbon dioxide, dry chemical.
Special Fire Fighting Procedures: SCBA with full faceshield
Unusual Fire and Explosion: Product is highly volatile and gives off vapors which will ignite.

6. Reactivity Data

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CHEMTREC:	800-424-9300

Stability: Stable.

Conditions to Avoid: None known.

Materials to Avoid: Avoid contact with: strong oxidizing agents.

Hazardous Decomposition Products: May form: carbon dioxide and carbon monoxide.

Hazardous Polymerization: Will not occur.

7. Health Hazards

Routes of Entry:

Inhalation: Yes

Skin: Yes

Eyes: Yes

Ingestion: Yes

Acute Symptoms:

Inhalation: May cause irritation to the mucous membrane of throat and respiratory tract.

Skin: Repeated or prolonged exposure may cause irritation.

Eyes: May cause irritation and in extreme cases, possibly blindness.

Ingestion: May cause dizziness, unconsciousness, CNS disorder (headache, nausea, vomiting) and if ingested in large quantities, possibly death.

Carcinogenicity:

National Toxicology: None.

IARC Monographs: None.

OSHA Regulated: None.

Chronic Symptoms:

Repeated or prolonged exposures may result in shorting the time of onset or worsens the liver and kidney damage induced by other chemicals.

Medical Conditions Aggravated: None Known.

MATERIAL SAFETY DATA SHEET (MSDS)

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CHEMTREC:	800-424-9300

1st Aid Procedures:

Inhalation:	Immediately remove from contaminated area to fresh air. Keep individual quiet. In case of respiratory distress, give oxygen or give artificial respiration. Obtain medical attention.
Skin:	Thoroughly wash affected area with soap and water. Flush area with water for 15 minutes. If irritation develops, obtain medical attention.
Eyes:	Flush with water for at least 15 minutes. If irritation develops, obtain medical attention.
Ingestion:	Do not induce vomiting. Obtain medical attention.

8. Safe Handling / Disposal / Use

Releases or Spills:	Soak up with absorbent material. Place in container for disposal. If needed, on small spills flush with large quantities of water and detergent.
Disposal:	Dispose of in accordance with all applicable local, state and federal regulations.
Ventilation:	Use adequate ventilation.
Other Storage Precautions:	Keep away from open flames. Avoid prolonged contact with skin.

9. Control Measures

Respiratory Protection:	If ventilation is poor, an organic vapor respirator is recommended.
Ventilation:	Local exhaust is usually adequate. If necessary use mechanical exhaust.
Hand Protection:	Hydrocarbon resistant gloves recommended.
Eye Protection:	Safety goggles or glasses.
Other:	Other equipment as necessary.
Hygienic Practices:	Wash hands with soap and water.

10. Hazard Ratings

MATERIAL SAFETY DATA SHEET (MSDS)

PRODUCT NAME: MEK

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CHEMTREC:	800-424-9300

NFPA

Health:	1
Flammability:	3
Reactivity:	0

11. Additional Information

This data is offered in good faith as typical values and not as a product specification. No warranty, is either expressed or implied. The recommended handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use.

End of Document

MATERIAL SAFETY DATA SHEET

I. PRODUCT IDENTIFICATION

MANUFACTURER'S
NAME: Armor All

REGULAR TEL. #:
EMERGENCY TEL. #: 714-362-0600

ADDRESS: 6 Liberty, Aliso Viejo, CA 92656

TRADE NAME: Armor All Car Cleaner

SYNONYMS:

II. HAZARDOUS INGREDIENTS

MATERIAL OR COMPONENT	%	HAZARD DATA
N-Propoxypropanol	<10.00	
Tetrapotassium Pyrophosphate	< 5.00	
lonyl Phenol Ethoxylate	<10.00	

III. PHYSICAL DATA

BOILING POINT: 205°F

MELTING POINT:

SPECIFIC GRAVITY: 1.030

VAPOR PRESSURE: 2.1

VAPOR DENSITY: 1

SOLUBILITY IN H2O
% BY WEIGHT: About 97% Soluble

% VOLATILES BY VOLUME:

EVAPORATION RATE
(BUTYL ACETATE): 0.3

APPEARANCE AND ODOR: Clear liquid with fragrance.

MATERIAL SAFETY DATA SHEET

IV. FIRE AND EXPLOSION DATA

FLASH POINT (TEST METHOD)	Not Available. Combustible.	AUTOIGNITION TEMPERATURE	
FLAMMABLE LIMITS IN AIR % BY VOLUME		LOWER	UPPER
EXTINGUISHING MEDIA	Foam or CO2. Use water to cool fire-exposed containers.		
SPECIAL FIRE FIGHTING PROCEDURES	Wear self contained breathing apparatus with facepiece operated in pressure demand or other positive pressure mode.		
UNUSUAL FIRE AND EXPLOSION HAZARD	None known.		

V. HEALTH HAZARD INFORMATION

HEALTH HAZARD DATA:

ROUTES OF EXPOSURE INHALATION: Avoid prolonged or repeated breathing of vapor.

SKIN CONTACT: Avoid prolonged or repeated contact with skin.

SKIN ABSORPTION:

EYE CONTACT: Avoid prolonged or repeated contact with eyes.

INGESTION:

EFFECTS OF OVEREXPOSURE/ACUTE OVEREXPOSURE:

CHRONIC OVEREXPOSURE:

MATERIAL SAFETY DATA SHEET

V. HEALTH HAZARD INFORMATION (CONTINUED)

EMERGENCY AND FIRST AID PROCEDURES:

EYES: Flush thoroughly with water for 15 minutes. If irritation persists, call a physician.

SKIN: Flush skin with water.

INHALATION: Remove to fresh air.

INGESTION: If swallowed, do not induce vomiting. Call a physician immediately.

NOTES TO PHYSICIAN:

VI. REACTIVITY DATA

CONDITIONS CONTRIBUTING TO INSTABILITY:

INCOMPATIBILITY:

HAZARDOUS DECOMPOSITION PRODUCTS:

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION:

VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Use absorbent material to collect and contain for salvage and/or disposal. Remove all sources of ignition and wear protective equipment.

NEUTRALIZING CHEMICALS:

WASTE DISPOSAL METHOD: In accordance with local, state and federal regulations.

MATERIAL SAFETY DATA SHEET

VIII. SPECIAL PROTECTION INFORMATION

VENTILATION REQUIREMENTS:

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT:

RESPIRATORY (SPECIFIC DETAIL):

EYE:

GLOVES:

OTHER CLOTHING AND EQUIPMENT:

IX. SPECIAL PRECAUTIONS

PRECAUTIONARY STATEMENTS:

OTHER HANDLING AND STORAGE REQUIREMENTS:

PREPARED BY:

ADDRESS:

DATE:

CH11.MSD

Material Safety Data Sheet



Revision Number: 002.1

Issue date: 12/01/2010

1. PRODUCT AND COMPANY IDENTIFICATION

Product name: Loctite(R) Extend(R) Rust Treatment
Product type: Rust converter

IDH number: 234928
Item number: 30539
Region: United States

Company address:
Henkel Corporation
One Henkel Way
Rocky Hill, Connecticut 06067

Contact information:
Telephone: 860.571.5100
MEDICAL EMERGENCY Phone: Poison Control Center
1-877-671-4608 (toll free) or 1-303-592-1711
TRANSPORT EMERGENCY Phone: CHEMTREC
1-800-424-9300 (toll free) or 1-703-527-3887
Internet: www.henkelna.com

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Physical state: Aerosol, Liquid
Color: Translucent
Odor: Acetone

HMIS:

HEALTH: *2
FLAMMABILITY: 3
PHYSICAL HAZARD: 1
Personal Protection: See MSDS Section 8

DANGER: CONTENTS UNDER PRESSURE.
EXTREMELY FLAMMABLE LIQUID AND VAPOR.
VAPOR HARMFUL.
MAY CAUSE EYE, SKIN AND RESPIRATORY TRACT IRRITATION.
MAY CAUSE EYE, SKIN AND RESPIRATORY BURNS.

Relevant routes of exposure: Skin, Inhalation, Eyes, Ingestion

Potential Health Effects

Inhalation: Mists, vapors or liquid may cause severe irritation or burns. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.
Skin contact: Exposure to mists, vapors and liquid may cause severe skin irritation or burns.
Eye contact: High concentration of product vapors can cause severe irritation of eyes. Direct spray or vapors will irritate and may harm eyes.
Ingestion: Harmful if swallowed.

Existing conditions aggravated by exposure: Not available

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous components	CAS NUMBER	%
2-Butoxyethanol	111-76-2	30 - 60
Acetone	67-64-1	30 - 60
Formic acid	64-18-6	5 - 10

4. FIRST AID MEASURES

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Seek medical advice.

Skin contact:	Remove contaminated clothing and footwear. Wash with soap and water. If symptoms develop and persist, get medical attention. Wash clothing before reuse.
Eye contact:	Immediately flush eyes with water for at least 15 minutes, while holding eyelids open. Seek medical attention at once.
Ingestion:	Rinse mouth, drink 1-2 glasses of water, do not induce vomiting, consult a doctor.

5. FIRE FIGHTING MEASURES

Flash point:	< -17.7 °C (< 0.14 °F) ; This product exhibits flashback when tested for flame extension.
Autoignition temperature:	Not available
Flammable/Explosive limits - lower:	1.1 %
Flammable/Explosive limits - upper:	57 %
Extinguishing media:	Carbon dioxide. Dry chemical. Foam
Special firefighting procedures:	Use water spray to keep fire exposed containers cool and disperse vapors. Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.
Unusual fire or explosion hazards:	Closed containers may rupture (due to build up of pressure) when exposed to extreme heat. Vapours may accumulate in low or confined areas, travel considerable distance to source of ignition, and flash back.
Hazardous combustion products:	Oxides of carbon. Hydrocarbons

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.	
Environmental precautions:	Do not allow material to contaminate ground water system. Do not let product enter drains. Absorb spill with inert material. Shovel material into appropriate container for disposal.
Clean-up methods:	Absorb the spilled material with an inert absorbent (nonflammable) material.

7. HANDLING AND STORAGE

Handling:	Avoid breathing mists or aerosols of this product. Keep away from sources of ignition - no smoking. Avoid contact with eyes, skin and clothing.
Storage:	Store in a cool, dry area. Keep containers closed when not in use.

For information on product shelf life contact Henkel Customer Service at (800) 243-4874.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous components	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
2-Butoxyethanol	20 ppm TWA	50 ppm (240 mg/m ³) TWA (SKIN)	None	None
Acetone	500 ppm TWA 750 ppm STEL	1,000 ppm (2,400 mg/m ³) TWA	None	None
Formic acid	5 ppm TWA 10 ppm STEL	5 ppm (9 mg/m ³) TWA	None	None

Engineering controls:	Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.
Respiratory protection:	Use NIOSH approved respirator if there is potential to exceed exposure limit(s).
Eye/face protection:	Safety glasses with sideshields or chemical safety goggles should be worn if there is a risk of splashing.
Skin protection:	Use impermeable gloves and protective clothing as necessary to prevent skin contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Aerosol, Liquid
Color:	Translucent
Odor:	Acetone
Odor threshold:	Not available
pH:	Not available
Vapor pressure:	Not available
Boiling point/range:	Not available
Melting point/ range:	Not available
Specific gravity:	1.0000
Vapor density:	Not available
Flash point:	< -17.7 °C (< 0.14 °F) ; This product exhibits flashback when tested for flame extension.
Flammable/Explosive limits - lower:	1.1 %
Flammable/Explosive limits - upper:	57 %
Autoignition temperature:	Not available
Evaporation rate:	Not available
Solubility in water:	Not available
Partition coefficient (n-octanol/water):	Not available
VOC content:	50.4 %

10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous reactions:	Will not occur.
Hazardous decomposition products:	Irritating organic vapours. Oxides of carbon.
Incompatible materials:	Acids and bases. Oxidizing agents.
Conditions to avoid:	Keep away from heat, spark and flame.

11. TOXICOLOGICAL INFORMATION

Hazardous components	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
2-Butoxyethanol	No	No	No
Acetone	No	No	No
Formic acid	No	No	No

Hazardous components	Health Effects/Target Organs
2-Butoxyethanol	Blood, Central nervous system, Irritant, Kidney, Liver
Acetone	Blood, Central nervous system, Irritant, Reproductive
Formic acid	Central nervous system, Corrosive, Irritant, Kidney, Metabolic

12. ECOLOGICAL INFORMATION

Ecological information:

No specific studies have been conducted by Henkel on the ecotoxicity or environmental fate of this material; however, commonly available data on the material indicate that uncontrolled releases to soil, ground water, or surface waters could entail acute and/or chronic ecological effects, depending on the quantity and concentration of such releases. Releases of volatile components to the atmosphere are not believed to entail significant ecological consequences provided such releases are within the exposure levels set forth in this document. Accordingly, all appropriate measures should be taken to avoid uncontrolled releases to the environment, and any spills or other uncontrolled releases which may occur should be contained and cleaned up immediately in accordance with Section 6.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Dispose of according to Federal, State and local governmental regulations.

Hazardous waste number: D001: Ignitable.

14. TRANSPORT INFORMATION

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name: Aerosols
Hazard class or division: 2.1
Identification number: UN 1950
Packing group: None
DOT Reportable quantity: Acetone

International Air Transportation (ICAO/IATA)

Proper shipping name: Aerosols, flammable
Hazard class or division: 2.1
Identification number: UN 1950
Packing group: None

Water Transportation (IMO/MDG)

Proper shipping name: AEROSOLS
Hazard class or division: 2.1
Identification number: UN 1950
Packing group: None

15. REGULATORY INFORMATION

United States Regulatory Information

TSCA 8 (b) Inventory Status: All components are listed or are exempt from listing on the Toxic Substances Control Act Inventory.

TSCA 12(b) Export Notification: None above reporting de minimus

CERCLA/SARA Section 302 EHS: None above reporting de minimus
CERCLA/SARA Section 311/312: Immediate Health, Delayed Health, Fire, Sudden Release
CERCLA/SARA 313: This product contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372). 2-Butoxyethanol (CAS# 111-76-2). Formic acid (CAS# 64-18-6).

California Proposition 65:

This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. This product contains a chemical known in the State of California to cause cancer.

Canada Regulatory Information

CEPA DSL/NDL Status:

All components are listed on or are exempt from listing on the Canadian Domestic Substances List.

WHMIS hazard class:

A, B.1, D.2.A, D.2.B

16. OTHER INFORMATION

This material safety data sheet contains changes from the previous version in sections: New Material Safety Data Sheet format.

Prepared by: Lou Fabrizio, Regulatory Affairs Specialist

DISCLAIMER: The data contained herein are furnished for information only and are believed to be reliable. However, Henkel Corporation does not assume responsibility for any results obtained by persons over whose methods Henkel Corporation has no control. It is the user's responsibility to determine the suitability of Henkel's products or any production methods mentioned herein for a particular purpose, and to adopt such precautions as may be advisable for the protection of property and persons against any hazards that may be involved in the handling and use of any of Henkel Corporation's products. In light of the foregoing, Henkel Corporation specifically disclaims all warranties, express or implied, including warranties of merchantability and fitness for a particular purpose, arising from sale or use of Henkel Corporation's products. Henkel Corporation further disclaims any liability for consequential or incidental damages of any kind, including lost profits.

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MATERIAL SAFETY DATA SHEET

E-404
01 00

MANUFACTURER'S NAME
THE NOCO COMPANY
23300 Mercantile Rd.
Cleveland, OH 44122-5921

EMERGENCY TELEPHONE NO.
(800) 424-9300

DATE OF PREPARATION
07-AUG-00

INFORMATION TELEPHONE NO.
(216) 464-8131

Section I - PRODUCT IDENTIFICATION

PRODUCT NUMBER

E-404

HMIS CODES

Health	2
Flammability	4
Reactivity	0

PRODUCT NAME

NOCO* H2SO4 Battery Cleaner and Acid Detector

PRODUCT CLASS

Aerosol Cleaner

Section II - HAZARDOUS INGREDIENTS

INGREDIENT

CAS No.

% by WT

ACGIH

OSHA

TLV

PEL

UNITS

V.P.

Propane

3

2500

1000 PPM

760.00

74-98-6

Butane

7

800

800 PPM

760.00

106-97-8

2-Propanol

6

400

400 PPM

33.00

67-63-0

STEL

500

500 PPM

pH - 7.0

Section III - PHYSICAL DATA

PRODUCT WEIGHT

7.69 lb/gal 921 g/l

SPECIFIC GRAVITY

0.93

BOILING POINT

<0 - 213 F <-18 - 100 C

MELTING POINT

Not Available

VOLATILE VOLUME

98 %

EVAPORATION RATE

Faster than ether

VAPOR DENSITY

Heavier than air

SOLUBILITY IN WATER

N.A.

VOLATILE ORGANIC COMPOUNDS (VOC Theoretical)

Volatile Weight 15.90 % Less Federally Exempt Solvents

HMIS - 2 4 0

Section IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT

LEL

UEL

Propellant < 0 F

1.9

12.7

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Alcohol Foam

Continued on page 2

=====

UNUSUAL FIRE AND EXPLOSION HAZARDS

Closed containers may explode (due to the build-up of pressure) when exposed to extreme heat.

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

=====

Section V - HEALTH HAZARD DATA

ROUTES OF EXPOSURE

Exposure may be by INHALATION and/or SKIN or EYE contact, depending on conditions of use. To minimize exposure, follow recommendations for proper use, ventilation, and personal protective equipment.

ACUTE Health Hazards

EFFECTS OF OVEREXPOSURE

Irritation of eyes, skin and respiratory system. May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.

Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

None generally recognized.

EMERGENCY AND FIRST AID PROCEDURES

If INHALED: If affected, remove from exposure. Restore breathing.

Keep warm and quiet.

If on SKIN: Wash affected area thoroughly with soap and water.

Remove contaminated clothing and launder before re-use.

If in EYES: Flush eyes with large amounts of water for 15 minutes.

Get medical attention.

If SWALLOWED: Get medical attention.

CHRONIC Health Hazards

No ingredient in this product is an IARC, NTP or OSHA listed carcinogen.

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

=====

Section VI - REACTIVITY DATA

STABILITY - Stable

CONDITIONS TO AVOID

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION

Will not occur

Continued on page 3

Section VII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Remove all sources of ignition. Ventilate and remove with inert absorbent.

WASTE DISPOSAL METHOD

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.

Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State, and Local regulations regarding pollution.

Section VIII - PROTECTION INFORMATION

PRECAUTIONS TO BE TAKEN IN USE

Use only with adequate ventilation. Avoid breathing vapor and spray mist. Avoid contact with skin and eyes. Wash hands after using.

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section II is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section II.

PROTECTIVE GLOVES

None required for normal application of aerosol products where minimal skin contact is expected. For long or repeated contact, wear chemical resistant gloves.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

Section IX - PRECAUTIONS

DOL STORAGE CATEGORY

1A

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.

During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.

Consult NFPA Code. Use approved Bonding and Grounding procedures.

Contents under pressure. Do not puncture, incinerate, or expose to temperature above 120F. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of the reach of children.

OTHER PRECAUTIONS

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

Section X - OTHER REGULATORY INFORMATION

SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION

Continued on page 4

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CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
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=====

No ingredients in this product are subject to SARA 313 (40 CFR 372.65C) Supplier Notification.

TSCA CERTIFICATION

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

**PACKAGING TAPE,
INCORPORATED**4900 West Stewart Avenue
Wausau, WI. 54402**MATERIAL SAFETY DATA SHEET**

Revision Date: 10/13/2005

MSDS No.: PTH-795

Emergency Phones: 800-826-4405

800-424-9300 (CHEMTREC)

PLEASE NOTE: This MSDS is being provided to your company for the purpose of providing current health and safety information to your management and for your employees who work with this material. Please read the information on these sheets, and then provide this information to those people at your company whose responsibility it is to comply with FEDERAL and STATE RIGHT-TO-KNOW regulations. Also make this information available to any employee who requests it. It is your obligation to comply with these regulations.

SECTION I - PRODUCT IDENTITY**PRODUCT NAME: 'POWER CLEAN' DEGREASER**

Formula: Mixture, Sodium hydroxide, inorganic detergent builders, detergents, solvent, and additives in water.

Chemical Type: as above

HMIS RATINGS

Health = 3 (Serious)	Flammability = 0 (Minimal)
Reactivity = 0 (Minimal)	Protection = D (Face Shield, Gloves, Synthetic Apron)

SECTION II - HAZARDOUS INGREDIENTS

	PERCENT	TLV	CARCINOGEN (OSHA, IARC)
Sodium Hydroxide CAS No. 1310-73-2	> 6%	2 mg/m3 ceiling	no
2-Butoxyethanol CAS No. 11170-2	< 15%	25 ppm	

SECTION III - CHEMICAL AND PHYSICAL

Appearance: green liquid	Boiling Point: 212° F.
Odor: solvent	Melting Point: N/A
pH: >13.5	Spec. Gravity (H ₂ O = 1): 1.09
Water Solubility: Completely	Vapor Pressure (mm Hg): n/a
Viscosity, Cp. @ 25°C.: A-5 (thinner)	VOC Content: >13%

SECTION IV - FIRE AND EXPLOSION HAZARDS

Flash Point (Method): none	Explosion Limits: Upper: N/A Lower: N/A
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Extinguishing Media: not flammable.

Special Firefighting Procedures and Hazards: Avoid skin and eye contact, and breathing of acid vapors. Wear head and body protection and alkali respirator if exposure to liquid is likely. Fire waters may become corrosive with product contact.

SECTION V - REACTIVITY INFORMATION

Stable: ☒	Unstable: ☐
---	------------------------------------

Precautions:

Incompatibility: strong acids, materials not resistant to alkalis, active metals (zinc, aluminum, magnesium, etc.).

Hazardous Decomposition Products: Contact with active metals can release flammable hydrogen gas.

Hazardous Polymerization: Occurs:

Does Not Occur: x

SECTION VI - HEALTH HAZARDS - PROTECTIVE MEASURES - FIRST AID

- Inhalation:** Breathing of mists can cause respiratory irritation or burns. Wear approved alkali mist respirator if exposure is likely. Remove to fresh air. Give artificial respiration or oxygen if needed. Get prompt medical attention.
- Skin:** Corrosive! Extended contact may cause irritation. Prolonged contact with 2-butoxyethanol may result in the absorption of potentially harmful amounts leading to possible liver and kidney damage. Flush skin with water for 15 minutes. Wear protective gloves if needed. Get medical attention for any irritation.
- Eyes:** Corrosive. Causes eye damage. Wear splash proof goggles. Provide convenient eyewash stations. Flush immediately with water for 15 minutes. Get prompt medical attention.
- Ingestion:** Corrosive. Causes irritation and burning in mouth, esophagus, throat and stomach. Avoid swallowing. Drink lots of water or, preferably, milk. Get medical attention if effects persist. Do not induce vomiting.

Most likely routes of entry: Skin, Eyes, Inhalation

Other Important Medical or Precautionary Information: none

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

Spills and Leaks: Small spills can be flushed into normal drainage or into ground with copious amounts of water, or taken up with absorbent material. Larger spills should be contained by dike or other methods and held for collection and/or reuse, or for neutralization with alkali before collection & disposal. People should use eye and skin protection & respirator.

Storage and Handling: Check daily for any leaks from containers, vessels, pumps, and piping. Have water hoses and acid (acetic, glycolic acids etc.) convenient. Only use containers and equipment designed for acid service.

Waste Disposal: If neutralized may be disposable in sewers if local regulations permit. Otherwise, send to licensed treatment and disposal facility. As supplied, this product is a RCRA hazardous waste.

Empty Containers: Rinse well before handling and disposal.

Other Precautions: none

SECTION VIII - REGULATORY INFORMATION

Reportable for SARA Title III, S.313 (Form R): 2-butoxyethanol

The information herein has been compiled from sources believed to be reliable and is accurate to the best of our knowledge. However, PTI cannot give any guarantees regarding information from other sources, and expressly does not make any warranties, nor assumes any liability, for its use.

Section 1. Product and Company Identification

Product Name	PROFESSIONAL RESOLVE® SPOT & STAIN CARPET CLEANER (TRIGGER)	MSDS#	Not available.
Product Description	Not available.	Validation Date	5/3/2004
Manufacturer	Reckitt Benckiser North America, Inc. Morris Corporate Center IV 399 Interpace Parkway (P.O. Box 225) Parsippany, N.J. 07054-0225	Print Date	5/5/2004
Product Identifier	Not available.	<u>In case of Emergency:</u>	Telephone: 800-677-9218 (Professional Products)
Item Number	36241-97402-08	<u>Transportation Emergencies:</u>	Chemtrec: 1-800-424-9300 (U.S. & Canada) Outside the U.S. & Canada (North America), call: 703-527-3887
Formula Number	713-179 (F/F 378171); 732-191 (F/F 375602)		
UPC Number	36241-97402 (32 oz.) Trigger.		

Section 2. Composition and Information on Ingredients

Name	CAS #	% by Weight	Exposure Limits : TLV/PEL
1) ISOPROPYL ALCOHOL	67-63-0	1-2	TWA: 983 STEL: 1230 (mg/m ³) from ACGIH (TLV) [United States] TWA: 400 STEL: 500 (ppm) from ACGIH (TLV) [United States] TWA: 980 STEL: 1230 (mg/m ³) from OSHA (PEL) [United States] TWA: 400 (ppm) from OSHA (PEL) [United States]

Section 3. Hazards Identification

Emergency Overview	No adverse effects are expected from exposure to the recommended use of this product. KEEP OUT OF REACH OF CHILDREN.
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Section 4. First Aid Measures

Eye Contact	In case of eye contact, immediately rinse eyes thoroughly with plenty of water. Remove any contact lenses and continue rinsing for at least 15 minutes. If irritation persists, consult a physician.
Skin Contact	In keeping with good hygienic practices, wash exposed areas thoroughly with soap and water.
Inhalation	None required. Remove to fresh air.
Ingestion	Rinse mouth with water. Contact a physician or poison control center if symptoms develop. NEVER give an unconscious person anything to ingest.

Section 5. Fire and Explosion Data

Flammability	Not flammable. See Section 14 for any Shipping Classifications.
Flash Point	CLOSED CUP: Higher than 93.3°C (>200°F). (Tagliabue.).
Explosive Limits in Air	Not available.
Products of Combustion	Not available.
Fire and Explosion Hazards	None known.
Fire Fighting Media and Instructions	Use water spray, foam, dry chemical or carbon dioxide, as suitable for the surrounding fire.
Special Fire Fighting Instructions	Wear self-contained breathing apparatus and protective clothing appropriate for fighting a chemical fire.

Section 6. Accidental Release Measures

Accidental Spill	Small spills: Soak up with an inert absorbent material and dispose of in an appropriate waste container. Rinse surface residue and flush to sink or sanitary sewer. Large spills should be diked, contained and collected for later disposal according to local, state or federal regulations.
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Section 7. Handling and Storage

Handling and Storage	Do not mix with bleach or use in conjunction with other household products. Keep from freezing. Store in original container in a secure area, inaccessible to children and pets. KEEP OUT OF REACH OF CHILDREN.
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Section 8. Exposure Controls/Personal Protection

Ventilation Requirements	None required.
Eye Protection	Emergency responders should wear full eye and face protection.
Skin Protection	None required.
Respiratory Protection	None required.
Other Protection	None required.
Work/Hygienic Practices	Washing with soap and water after use is recommended as good hygienic practice to prevent possible eye irritation from hand contact.

Section 9. Physical and Chemical Properties

Description	Clear liquid. Thin	Odor	Citrus / Herbaceous.
pH	6.7 [Neutral.]	Color	Pale amber color.
Boiling/Condensation Point	Not available.		
Specific Gravity	0.9985(Water = 1)		
Vapor Pressure	Not determined.		

Continued on Next Page

**PROFESSIONAL RESOLVE® SPOT & STAIN
CARPET CLEANER (TRIGGER)****Page Number: 3**

Vapor Density	Not determined.
Viscosity	Not available.
Solubility	Complete.
Physical Chemical Comments	Not available.

Section 10. Stability and Reactivity Data

Chemical Stability	The product is stable.
Conditions of Instability	None known.
Incompatibility with Various Substances	Do not mix with bleach or other household cleaners.
Hazardous Decomposition Products	None known.
Hazardous Polymerization	Will not occur.

Section 11. Toxicological Information**Exposure effects**

Eye Contact	None expected. May cause eye irritation upon direct contact with the eyes.
Skin Contact	None expected.
Inhalation	None expected.
Ingestion	None expected.
Carcinogenicity	Not listed as carcinogenic by OSHA, NTP or IARC.

Section 12. Ecological Information

Ecotoxicity	Not available.
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Section 13. Disposal Considerations

Waste Disposal	Rinse empty container thoroughly and discard in trash or rinse and recycle container.
	Large quantity disposal: Dispose of in accordance with local, state and federal regulations.

Section 14. Transport Information

DOT Classification	Not a DOT regulated material (United States).
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Proper Shipping Name	Not applicable.
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DOT Identification Number	Not applicable
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Packing Group	Not applicable
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Maritime Transportation	Not applicable.
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Continued on Next Page

**PROFESSIONAL RESOLVE® SPOT & STAIN
CARPET CLEANER (TRIGGER)**

Page Number: 4

Hazardous Substances Reportable Quantity	Not applicable.
Special Provisions for Transport	Not applicable.
TDG Classification	Not regulated under TDG.
ADR Classification	Not applicable.
IMDG Classification	Not regulated under IMDG.
IATA Classification	Not regulated under IATA.

Section 15. Regulatory Information

Federal and State Regulations	SARA Title III, Section 313 Toxic Chemical Notification & Release Reporting: 1) ISOPROPYL ALCOHOL Not available. 1-2 Not available California Proposition 65: This product contains the following ingredients which require a warning under the Safe Drinking Water & Toxic Enforcement Act: None		
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Other Classifications	WHMIS (Canada) Not controlled under WHMIS (Canada).
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New Jersey Right-To-Know Regulation:	WATER CAS #: 7732-18-5 ISOPROPYL ALCOHOL CAS #: 67-63-0 SODIUM LAURYL SULFATE CAS #: 151-21-3 TETRASODIUM EDTA CAS #: 64-02-8 ETHYLENE GLYCOL HEXYL GLYCOL CAS #: 112-25-4
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Section 16. Other Information

HMIS (U.S.A.)	Health Hazard	0	National Fire Protection Association (U.S.A.)	Health		Fire Hazard
	Fire Hazard	0				Reactivity
	Reactivity	0				Specific hazard
	Personal Protection	A				

	NFPA Aerosol Level Not applicable.
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Validated by Product Safety on 5/3/2004.	Printed 5/5/2004.
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Notice to Reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

=====MSDS

Safety Information

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[TOP](#)

FSC: 7930 NIIN: 01-306-8369 MSDS Date: 03/01/1993 MSDS Num: BWKZD

Submitter: F BT Tech Review: 08/31/1994 Status CD: C

Product ID: 13005 SIMPLE GREEN MFN: 02
Article: N Kit Part: N

Responsible Party Cage: IO907
Name: SUNSHINE MAKERS INC

Address: 15922 PACIFIC COAST HWY Box: N/K
City: HUNTINGTON HARBOR State: CA Zip: 92649-5000

Country: US
Info Phone Number: 800-228-0709/213-592-3034
Emergency Phone Number: 213-592-3034/800-228-0709

Preparer's Name: N/P

Proprietary Ind: N Review Ind: Y
Published: Y Special Project CD: N

=====Preparer

Co. when other than Responsible Party Co.

=====

[TOP](#)

Cage: IO907 Assigned Ind: Y

Name: SUNSHINE MAKERS INC
Address: 15922 PACIFIC COAST HIGHWAY Box: N/K

City: HUNTINGTON HARBOUR State: CA Zip: 92649

=====Contractor

Summary

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[TOP](#)

Cage: IO907 Name: SUNSHINE MAKERS INC
Address: 15922 PACIFIC COAST HIGHWAY Box: N/K
City: HUNTINGTON HARBOUR State: CA Zip: 92649
Country: US Phone: 310-795-6000

Cage: 1Z575 Name: SUNSHINE MAKERS, INC.
Address: 15922 PACIFIC COAST HIGHWAY
City: HUNTINGTON HARBOUR State: CA Zip: 92649
Country: US Phone: 800-228-0709/562-795-6000

=====Item

Description Information

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[TOP](#)

Item Manager: GSA

Item Name: CLEANING COMPOUND,SOLVENT-DETERGENT
Specification Number: NK Type/Grade/Class: NK

Unit of Issue: BX Quantitative Expression: 00000000006EA

UI Container Qty: 0

Type of Container:

Ingredients

[TOP](#)

Cas: 111-76-2

Code: M

RTECS #: KJ8575000

Code: M

Name: 2-BUTOXYETHANOL (ETHYLENEGLYCOL MONOBUTYL ETHER), BUTYL CELLOSOLVE, BUTYL GLYCOL, GLYCOL ETHER EB

% Text: <6

Environmental Wt:

Other REC Limits: 25 PPM (SKIN)

OSHA PEL: 50 PPM (SKIN)

Code: M

OSHA
STEL:

Code:

ACGIH TLV: 25 PPM (SKIN)

Code: M

ACGIH N/P
STEL:

Code:

EPA Rpt Qty:

DOT Rpt
Qty:

Ozone Depleting Chemical: N

Cas:

Code: X

RTECS #: 9999999VO

Code: M

Name: VOL ORGANIC CMPD: 7.96 G/L

% Text: N/K

Environmental Wt:

Other REC Limits: N/K

OSHA PEL: N/K

Code: M

OSHA
STEL:

Code:

ACGIH TLV: N/K

Code: M

ACGIH N/P
STEL:

Code:

EPA Rpt Qty:

DOT Rpt
Qty:

Ozone Depleting Chemical:

Hazards Data

Health

[TOP](#)

LD50 LC50 Mixture ORAL LD50(RAT): >5 G/KG

Route Of Entry Inds – Inhalation: YES

Skin: NO

Ingestion: NO

Carcinogenicity Inds – NTP: NO

IARC: NO

OSHA: NO

Health Hazards Acute And Chronic

EYES: REDDENING MAY DEVELOP, MILD IRRITANT. SKIN: REVERSIBLE REDDENING MAY OCCUR IN SOME DERMAL-SENSITIVE USERS. REPEATED DAILY APPLICATION W/O RINSING/CONTINUOUS CONTACT MAY LEAD TO TEMPORARY, BUT REVERSIBLE, IRRITATION. INHALATION: MILD IRRITATION OF NASAL PASSAGES/THROAT.

Explanation Of Carcinogenicity

NONE

Signs And Symptoms Of Overexposure

IRRITATION, REDDENING.

Medical Cond Aggravated By Exposure

DERMAL – SENSITIVE USERS MAY REACT TO DERMAL CONTACT.

First Aid

EYES: RINSE W/LARGE QUANTITIES OF COOL WATER FOR 10-15 MINS/UNTIL MATERIAL IS REMOVED, BE SURE TO REMOVE CONTACT LENSES. SKIN: RINSE W/WATER. INGESTION: GIVE SEVERAL GLASSES OF WATER TO DILUTE. DON'T INDUCE VOMITING. INHALATION: REMOVE TO FRESH AIR. OBTAIN MEDICAL ATTENTION IN ALL CASES.

Spill Release Procedures

RECOVER USABLE MATERIAL BY CONVENIENT METHOD. RESIDUAL MAY BE REMOVED BY WIPE/WET MOP. IF NECESSARY, UNRECOVERABLE MATERIAL MAY BE WASHED TO DRAIN W/LARGE QUANTITIES OF WATER.

Neutralizing Agent

N/K

Waste Disposal Methods

PRODUCT IS WATER SOLUBLE & BIODEGRADABLE. IT WILL NOT HARM SEWAGE TREATMENT MICROORGANISMS IF DISPOSAL BY SEWER/DRAIN IS NECESSARY. DISPOSE OF IAW/LOCAL, STATE & FEDERAL REGULATIONS.

Handling And Storage Precautions

N/K

Other Precautions

N/K

Explosion Hazard Information

Fire and

[TOP](#)

Flash Point Method: N/P

Flash Point:

Flash Point Text: NONFLAMMABLE

Autoignition Temp:

Autoignition Temp Text: N/A

Lower Limits: N/K

Upper Limits: N/K

Extinguishing Media

NO SPECIAL PROCEDURES REQUIRED.

Fire Fighting Procedures

NONE REQUIRED.

Unusual Fire/Explosion Hazard

NONE REQUIRED.

Measures

Control

[TOP](#)

Respiratory Protection

NO SPECIAL PRECAUTIONS REQUIRED.

Ventilation

NO SPECIAL VENTILATION IS REQUIRED DURING USE.

Protective Gloves

NO SPECIAL PRECAUTIONS REQUIRED.

Eye Protection

REQUIRED

Other Protective Equipment

N/K

Work Hygienic Practices

REMOVE/LAUNDER CONTAMINATED CLOTHING BEFORE REUSE. RINSE COMPLETELY FROM SKIN BEFORE TOUCHING EYES/CONTACT LENSES.

Supplemental Safety and Health

PRODUCT RESIDUES CAN BE COMPLETELY REMOVED BY RINSING W/WATER, THE CONTAINER MAY BE RECYCLED/APPLIED TO OTHER USES.

Physical/Chemical Properties

TOP

HCC: NRC/State LIC No:

Net Prop WT For Ammo: B.P. Text: 231F
Boiling Point:

Melt/Freeze Pt: M.P/F.P Text: 16F
Decomp Temp: Decomp Text: N/K

Vapor Pres: 17 Vapor Density: 1.3
Volatile Org Content %: Spec Gravity: 1.0257

VOC Pounds/Gallon: PH: 9.5
VOC Grams/Liter: Viscosity: N/P

Evaporation Rate & Reference: N/K
Solubility in Water: COMPLETE
Appearance and Odor: TRANSLUCENT GREEN LIQUID W/CHARACTERISTIC SASSAFRAS ODOR.

Percent Volatiles by Volume: N/K Corrosion Rate: N/K

Reactivity

TOP

Data

Stability Indicator: YES

Stability Condition To Avoid: N/K

Materials To Avoid: N/K

Hazardous Decomposition Products: N/K

Hazardous Polymerization Indicator: NO

Conditions To Avoid Polymerization N/K

:

Toxicological Information

TOP

Toxicological Information:N/P

===== Ecological
Information
=====

TOP

Ecological: N/P

===== MSDS
Transport Information
=====

TOP

Transport Information:N/P

===== Regulatory
Information
=====

TOP

Sara Title III Information: N/P

Federal Regulatory Information: N/P

State Regulatory Information: N/P

===== Other
Information
=====

TOP

Other Information: N/P

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turtle wax, inc
625 Willowbrook Ctr Pkwy
Willowbrook, Illinois 60527

Material Safety Data Sheet

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME **TURTLE WAX F-21 SUPER PROTECTANT**

PRODUCT CODE **T-096R, 097R, 098R(C)**

CHEMICAL FAMILY Vinyl and Rubber Protectant

CHEMICAL NAME Mixture: water, silicone, emulsifiers, additives

FORMULA Mixture

MANUFACTURER

Turtle Wax, Inc.
625 Willowbrook Centre Parkway
Willowbrook, IL 60527
Phone: 630-455-3700
Fax: 630-455-3868

EMERGENCY TELEPHONE NUMBERS

Transportation:
CHEMTREC: 800-424-9300
Medical:
Contact your local Poison Control Center

2. POSITION/INFORMATION ON INGREDIENTS

COMPONENT	CAS NUMBER	CONCENTRATION (wt %)
(None)		

EXPOSURE LIMITS 8 hrs. TWA(ppm)

OSHA PEL

ACGIH TLV

CARCINOGEN
(OSHA,NPT,IARC)

3. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS

INHALATION: Repeated or excessive inhalation of vapor can cause irritation and nausea. No chronic effects known.

INGESTION: Can cause digestive system upsets and nausea. Avoid sucking into lungs. No chronic effects known.

SKIN CONTACT: Repeated or excessive contact can cause moderate irritation, de-fatting or dermatitis. No chronic effects known.

EYE CONTACT: Can cause irritation. No chronic effects known

4. **FIRST AID MEASURES**

EYE: Flush with water for 15 minutes. Get prompt medical attention if effects persist.

SKIN: Remove contaminated clothing. Wash effected areas thoroughly with soap and water. Launder clothing before re-use.

INHALATION: Remove to fresh air. Use artificial respiration and oxygen if needed.

INGESTION: Rinse mouth. Never give anything orally to someone who is unconscious. Give several large classes of water to drink. If liquid is sucked into lungs, get prompt medical attention.

5. **FIRE FIGHTING MEASURES**

FLASH POINT: (Cl. Cup): > 200°F (93°C) Explosive Limits: Lower: n/av Upper: n/av

EXTINGUISHING MEDIA: Water Spray, Alcohol Foam, Carbon Dioxide, Dry Chemical.

SPECIAL FIRE FIGHTING PROCEDURES: Avoid flow of material to sewers. See Sec. 8 for personal protection.

6. **ACCIDENTAL RELEASE MEASURES**

SPILL OR LEAK PROCEDURES: Take up large spills and put into closed container. Flush small spills (less than 1 gallon) to sewers. Floors may be slippery. See Section 8 for other protective measures.

7. **HANDLING AND STORAGE**

STORAGE TEMPERATURE (MIN./MAX.): 32° F (0° C)/120° F (49° C)

SHELF LIFE: 7 years minimum when the original container is kept tightly closed and properly stored.

SPECIAL SENSITIVITY: None.

HANDLING AND STORAGE PRECAUTIONS: Store in cool and ventilated places, but avoid freezing. Keep containers closed.

8. **EXPOSURE CONTROLS/PERSONAL PROTECTION**

EYE PROTECTION REQUIREMENTS: Wear goggles. Have convenient eye wash stations.

SKIN PROTECTION REQUIREMENTS: Wear chemical resistant gloves and other clothing as needed to prevent exposure.

RESPIRATOR/VENTILATION PROTECTION REQUIREMENTS: Provide sufficient ventilation to avoid exposure levels above the established TLV.

INGESTION PROTECTION REQUIREMENTS: Avoid swallowing or sucking into lungs.

EXPOSURE LIMITS: Not established for product as whole.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL FORM: Opaque thin liquid

COLOR: white to light tan

ODOR: Leather

BOILING POINT: n/av

MELT/FREEZE POINT: n/av

PH: 9.0

SOLUBILITY IN WATER: Dispersable

SPECIFIC GRAVITY: 0.997

% NON-VOLATILE BY WEIGHT: 21.0%

VAPOR PRESSURE: n/av

VAPOR DENSITY: n/av

10. REACTIVITY

STABILITY: Stable

HAZARDOUS POLYMERIZATION: Does not occur.

INCOMPATIBILITIES: Strong oxidizers such as peroxides.

DECOMPOSITION PRODUCTS: If burning: CO₂, CO, Hydrocarbons.

11. TOXICOLOGICAL INFORMATION

ACUTE INHALATION: Can cause irritation and nausea.

CHRONIC INHALATION: None known.

ACUTE SKIN CONTACT: Can cause irritation, de-fatting, or dermatitis.

CHRONIC SKIN CONTACT: None known.

ACUTE EYE CONTACT: Can cause irritation.

12. ECOLOGICAL INFORMATION

Product is readily biodegradable when diluted and used according to label directions.

13. DISPOSAL CONSIDERATIONS

RCRA HAZARDOUS WASTE: Is not a RCRA hazardous waste.

WASTE DISPOSAL METHOD: Dispose of product in accordance with all local, state and federal laws and regulations.

14. **TRANSPORT INFORMATION**

DOT INFORMATION:	Not regulated as a hazardous material.	
PROPER SHIPPING NAME:	None	
TECHNICAL SHIPPING NAME:	None	
HAZARD CLASS:	None	
UN NUMBER:	None (Canada)	
PRODUCT RQ (lbs):	n/ap	
LABEL:	Non Bulk Bulk	None None
PLACARD:	Non Bulk Bulk	None None
FREIGHT CLASS BULK:	n/ap	
FREIGHT CLASS PACKAGE:	None	
PRODUCT LABEL:	None	

15. **REGULATORY INFORMATION**

TSCA STATUS: All ingredients are commercially available and listed by manufacturer. All ingredients are listed under TSCA.

CERCLA REPORTABLE QUANTITY: None

SARA TITLE III:

SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES	None
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**SECTION 311/312
HAZARD CATEGORIES**

Acute Health	Yes
Chronic Health	No
Fire	No
Reactive	No
Sudden Release of Pressure	No

SECTION 313

<u>CHEMICAL NAME</u>	<u>CAS NUMBER</u>	<u>CONCENTRATION</u>
None		

CANADIAN STATUS: All materials contained in this product are listed on the Canadian Domestic Substances List. Consult Turtle Wax, Inc. regarding status of ingredients.

EUROPEAN UNION: All materials contained in this product are listed on EINECS.

STATE REGULATORY INFORMATION

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

COMPONENT/

CAS NUMBER

CONCENTRATION

STATE CODE

16. **OTHER INFORMATION**

HMIS CLASSIFICATION

Health 1

Flammability 1

Reactivity 0

PPI A

NFPA RATING

Health 1

Fire 1

Reactivity 0

Special None

REASON FOR ISSUE

Three Year Up-date

PREPARED BY

James P. Heidel

TITLE

Technical Director, R&D

APPROVAL DATE

September 1, 2010

SUPERCEDES DATE

September 11, 2007

REVISION NUMBER

A-2

This information is to the best of Turtle Wax, Inc.'s knowledge and belief, accurate and reliable. However, no representation, warranty, or guarantee is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use.

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Material Safety Data Sheet

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SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3M™ Tire and Wheel Cleaner PN 39036

MANUFACTURER: 3M

DIVISION: Automotive Aftermarket

ADDRESS: 3M Center
St. Paul, MN 55144-1000

EMERGENCY PHONE: 1-800-364-3577 or (651) 737-6501 (24 hours)

Issue Date: 07/07/09

Supersedes Date: 06/30/09

Document Group: 26-9401-6

Product Use:

Intended Use: Automotive
Specific Use: AUTOMOTIVE TIRE AND WHEEL CLEANER

SECTION 2: INGREDIENTS

<u>Ingredient</u>	<u>C.A.S. No.</u>	<u>% by Wt</u>
WATER	7732-18-5	80 - 100
ALCOHOLS, C10-16, ETHOXYLATED	68002-97-1	0.1 - 1.0
POLY(OXY-1,2-ETHANEDIYL),.ALPHA.-UNDECYL-OMEGA.-HYDROXY-	34398-01-1	0.1 - 1.0
2-HYDROXY-1,2,3-PROPANETRICARBOXYLIC ACID, TRISODIUM SALT, DIHYDRATE	6132-04-3	0.1 - 1.0
D-LIMONENE	5989-27-5	< 0.01
CITRAL	5392-40-5	< 0.002

SECTION 3: HAZARDS IDENTIFICATION

3.1 EMERGENCY OVERVIEW

Odor, Color, Grade: Clear/yellow liquid with lemon fragrance

General Physical Form: Liquid

Immediate health, physical, and environmental hazards:

3.2 POTENTIAL HEALTH EFFECTS

Eye Contact:

Moderate Eye Irritation: Signs/symptoms may include redness, swelling, pain, tearing, and blurred or hazy vision.

Skin Contact:

Moderate Skin Irritation: Signs/symptoms may include localized redness, swelling, itching, and dryness.

Inhalation:

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Ingestion:

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

SECTION 4: FIRST AID MEASURES

4.1 FIRST AID PROCEDURES

The following first aid recommendations are based on an assumption that appropriate personal and industrial hygiene practices are followed.

Eye Contact: Flush eyes with large amounts of water. If signs/symptoms persist, get medical attention.

Skin Contact: Remove contaminated clothing and shoes. Immediately flush skin with large amounts of water. Get medical attention. Wash contaminated clothing and clean shoes before reuse.

Inhalation: Remove person to fresh air. If signs/symptoms develop, get medical attention.

If Swallowed: Do not induce vomiting unless instructed to do so by medical personnel. Give victim two glasses of water. Never give anything by mouth to an unconscious person. Get medical attention.

SECTION 5: FIRE FIGHTING MEASURES

5.1 FLAMMABLE PROPERTIES

Autoignition temperature
Flash Point

No Data Available
Not Applicable

5.2 EXTINGUISHING MEDIA

Non-combustible. Choose material suitable for surrounding fire.

5.3 PROTECTION OF FIRE FIGHTERS

Special Fire Fighting Procedures: Wear full protective equipment (Bunker Gear) and a self-contained breathing apparatus (SCBA).

Unusual Fire and Explosion Hazards: Not applicable. None inherent in this product.

Note: See STABILITY AND REACTIVITY (SECTION 10) for hazardous combustion and thermal decomposition information.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Accidental Release Measures: Observe precautions from other sections. Call 3M- HELPS line (1-800-364-3577) for more information on handling and managing the spill. Ventilate the area with fresh air. Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Collect as much of the spilled material as possible. Clean up residue with water. Collect the resulting residue containing solution. Place in a closed container approved for transportation by appropriate authorities. Dispose of collected material as soon as possible.

In the event of a release of this material, the user should determine if the release qualifies as reportable according to local, state, and federal regulations.

SECTION 7: HANDLING AND STORAGE

7.1 HANDLING

Avoid breathing of vapors, mists or spray. Avoid prolonged or repeated skin contact. Avoid eye contact with vapors, mists, or spray. Keep out of the reach of children.

7.2 STORAGE

Keep container tightly closed. Keep from freezing.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ENGINEERING CONTROLS

Use in a well-ventilated area. Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below Occupational Exposure Limits and/or control mist, vapor, or spray. If ventilation is not adequate, use respiratory protection equipment.

8.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

8.2.1 Eye/Face Protection

Avoid eye contact with vapors, mists, or spray.

The following eye protection(s) are recommended: Safety Glasses with side shields.

8.2.2 Skin Protection

Avoid prolonged or repeated skin contact. Select and use gloves and/or protective clothing to prevent skin contact based on the results

of an exposure assessment. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible materials.

8.2.3 Respiratory Protection

Avoid breathing of vapors, mists or spray.

8.2.4 Prevention of Swallowing

Do not eat, drink or smoke when using this product. Wash exposed areas thoroughly with soap and water. Do not ingest.

8.3 EXPOSURE GUIDELINES

None Established

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Odor, Color, Grade:	Clear/yellow liquid with lemon fragrance
General Physical Form:	Liquid
Autoignition temperature	No Data Available
Flash Point	Not Applicable
Boiling point	212 °F
Density	8.3 - 8.4 lb/gal
Vapor Density	No Data Available
Vapor Pressure	No Data Available
Specific Gravity	1 [Ref Std: WATER=1]
pH	10
Melting point	Not Applicable
Solubility in Water	Complete
Hazardous Air Pollutants	0.064 % weight [Test Method: Calculated]
Volatile Organic Compounds	2.25 g/l [Test Method: calculated SCAQMD rule 443.1] [Details: excluding exempt compounds]
Volatile Organic Compounds	0.22 % [Test Method: calculated SCAQMD rule 443.1] [Details: excluding exempt compounds]
VOC Less H2O & Exempt Solvents	85.67 g/l [Test Method: calculated SCAQMD rule 443.1]

SECTION 10: STABILITY AND REACTIVITY

Stability: Stable.

Materials and Conditions to Avoid: Strong oxidizing agents; Strong acids

Hazardous Polymerization: Hazardous polymerization will not occur.

Hazardous Decomposition or By-Products

Substance

Carbon monoxide
Carbon dioxide

Condition

During Combustion
During Combustion

SECTION 11: TOXICOLOGICAL INFORMATION

Please contact the address listed on the first page of the MSDS for Toxicological Information on this material and/or its components.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION

Not determined.

CHEMICAL FATE INFORMATION

Not determined.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal Method: Dispose of waste product in a facility permitted to accept chemical waste.

EPA Hazardous Waste Number (RCRA): Not regulated

Since regulations vary, consult applicable regulations or authorities before disposal.

SECTION 14: TRANSPORT INFORMATION

LB-K100-0702-9

Please contact the emergency numbers listed on the first page of the MSDS for Transportation Information for this material.

SECTION 15: REGULATORY INFORMATION

US FEDERAL REGULATIONS

Contact 3M for more information.

311/312 Hazard Categories:

Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate Hazard - Yes Delayed Hazard - No

STATE REGULATIONS

Contact 3M for more information.

CHEMICAL INVENTORIES

The components of this product are in compliance with the chemical notification requirements of TSCA.

All applicable chemical ingredients in this material are listed on the European Inventory of Existing Chemical Substances (EINECS), or are exempt polymers whose monomers are listed on EINECS.

Contact 3M for more information.

INTERNATIONAL REGULATIONS

Contact 3M for more information.

This MSDS has been prepared to meet the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200.

SECTION 16: OTHER INFORMATION

NFPA Hazard Classification

Health: 2 Flammability: 1 Reactivity: 0 Special Hazards: None

National Fire Protection Association (NFPA) hazard ratings are designed for use by emergency response personnel to address the hazards that are presented by short-term, acute exposure to a material under conditions of fire, spill, or similar emergencies. Hazard ratings are primarily based on the inherent physical and toxic properties of the material but also include the toxic properties of combustion or decomposition products that are known to be generated in significant quantities.

Revision Changes: Not Applicable

DISCLAIMER: The information in this Material Safety Data Sheet (MSDS) is believed to be correct as of the date issued. 3M MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a

particular purpose and suitable for user's method of use or application.

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=====MSDS=====

Safety Information

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[TOP](#)

FSC:MSDS Date:MSDS Num:

793007/02/1990BVYXQ

Submitter:LIIN:Tech Review:Status CD:

N EN00N05491410/31/1995C

Product ID:MFN:

0132Z, WINDEX GLASS CLEANER POWERIZED (SUPDAT)01

Article:Kit Part:

NN

Cage:

Responsible PartyDRACK

Name:

DRACKETT PRODUCTS CO

Address:

1020 SPRING GROVE AVE

City:State:Zip:

CINCINNATIOH45232-1988

Country:

US

Info Phone Number:

513-632-1500

Emergency Phone Number:

513-632-1500

Radioactive Ind:

N

Preparer's Name:

N/P

Proprietary Ind:

NReview Ind: N

Published: YSpecial Project CD: N

=====Contractor=====

Summary

=====

[TOP](#)

Cage:Name:

85234DRACKETT CO

Address:

5020 SPRING GROVE AVE

City:State:Zip:

CINCINNATIOH45232-1926

Country:Phone:

US513-632-7409

Cage:Name:

DRACKDRACKETT PRODUCTS CO

Address:

Box:

City: 5020 SPRING GROVE AVE

State: N/K
Zip:

CINCINNATI
Country:

Phone:

OH

45232-1988

US

513-632-1500

Ingredients

[TOP](#)

Cas: 111-76-2

M

KJ8575000

M

Code:

RTECS #:

Code:

Name: ETHANOL, 2-BUTOXY-; (2-BUTOXYETHANOL) (SARA III)

% Text: <5

Environmental Wt:

Other REC Limits: N/K

OSHA PEL:

S, 50 PPM

Code: M OSHA
STEL:

Code:

ACGIH TLV: S, 25 PPM

Code: M ACGIH N/P
STEL:

Code:

EPA Rpt Qty:

DOT
Rpt
Qty:

Ozone Depleting Chemical:

N

Hazards Data

Health

[TOP](#)

LD50 LC50 Mixture

NONE SPECIFIED BY MANUFACTURER.

Route Of Entry Inds – Inhalation:NO

Skin:YES

Ingestion:NO

Carcinogenicity Inds – NTP:NO

IARC:NO

OSHA:NO

Health Hazards Acute And Chronic

ANIMAL STUDIES HAVE CLEARLY DEMONSTRATED DOSE-RELATED ADVERSE EFTS ON THE CNS, HEMATOPOIETIC TISS, BLOOD, KIDNEYS & LIVER ASSOC W/ADMIN OF ETHYLENE GLYCOL MONOBUTYL ETHER (EGBE). (EXTRACTED FROM DHHS (NIOSH) PUB NO. 90-118) (FP N). ACUTE:EYE:SENSATION OF IRRITATION.

Explanation Of Carcinogenicity

NOT RELEVANT.

Signs And Symptions Of Overexposure

SEE HEALTH HAZARDS.

Medical Cond Aggravated By Exposure

NONE KNOWN.

First Aid

INHAL:REMOVE TO FRESH AIR. SUPPORT BREATHING (GIVE O2/ARTIFICIAL RESPIRATION) (FP N).
EYES:FLUSH WITH WATER FOR @ LEAST 15 MINUTES. SKIN:FLUSH WITH WATER. INGEST:DRINK MILK OR
WATER FREELY.

Spill Release Procedures

FLUSH AREA WITH WATER. KEEP OUT OF WATERSHEDS AND WATER SYSTEMS.

Neutralizing Agent

NONE SPECIFIED BY MANUFACTURER.

Waste Disposal Methods

DISPOSE ONLY IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS AND
REGULATIONS.

Handling And Storage Precautions

UNPLUG ELECTRICAL APPLIANCES BEFORE USING PRODUCT ON THEM.

Other Precautions

NONE SPECIFIED BY MANUFACTURER.

===== Fire and
Explosion Hazard Information
=====

TOP

Flash Point Method:

SCC

Flash Point:

Flash Point Text: >212F,>100C

Autoignition Temp:

Autoignition Temp Text: N/A

Lower Limits: N/A

Upper Limits: N/A

Extinguishing Media

IF INVOLVED IN FIRE, USE WATER, DRY ALCOHOL-TYPE/ALL PURPOSE FOAM, DRY CHEM, CO2 OR OTHER CLASS B EXTING AGENTS.

Fire Fighting Procedures

FULL PROT EQUIP, INCLDG NIOSH/MSHA PRESS DEMAND SCBA & TURNOUT EQUIP SHOULD BE WORN BY FIREFIGHTERS & OTHERS EXPOSED TO COMBUSTION BY-PRODUCTS.

Unusual Fire/Explosion Hazard

NOT APPLICABLE

===== Control

Measures =====

[TOP](#)

Respiratory Protection

NOT APPLICABLE. USE NIOSH/MSHA APPROVED RESPIRATOR APPROPRIATE FOR EXPOSURE OF CONCERN (FP N).

Ventilation

NOT APPLICABLE

Protective Gloves

NOT APPLICABLE

Eye Protection

ANSI APPROVED SAFETY GLASSES (FP N).

Other Protective Equipment

NONE SPECIFIED BY MANUFACTURER.

Work Hygienic Practices

NOT APPLICABLE

Supplemental Safety and Health

MFR TRADE NAME/PART NO:FORMULA-INSTITUTIONAL.

=====

Physical/Chemical Properties

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[TOP](#)

HCC:

B3

NRC/State LIC No:

Net Prop WT For Ammo:

Boiling Point:

B.P. Text: 212F,100C

Melt/Freeze Pt:

M.P/F.P Text: N/A

Decomp Temp:

Decomp Text: N/K

Vapor Pres: 17.4

Vapor Density: 1.2

Volatile Org Content %:

Spec Gravity: 0.99 (WATER=1)

VOC Pounds/Gallon:

PH: 11

VOC Grams/Liter:

Viscosity: N/P

Evaporation Rate & Reference: 0.3 (BUAC =1)

Solubility in Water: 100 (W/V%)

Appearance and Odor: CLEAR, BLUE LIQUID WITH SLIGHT AMMONIA ODOR

Percent Volatiles by Volume: N/K

Corrosion Rate: N/K

Reactivity Data

[TOP](#)

Stability Indicator:

YES

Stability Condition To Avoid: NOT APPLICABLE

Materials To Avoid: NOT APPLICABLE

Hazardous Decomposition Products: NOT APPLICABLE

Hazardous Polymerization Indicator: NO

Conditions To Avoid Polymerization NOT RELEVANT.

:

Toxicological Information

[TOP](#)

Toxicological Information:

N/P

Ecological Information

[TOP](#)

Ecological:

N/P

===== MSDS Transport
Information =====

[TOP](#)

Transport Information:

N/P

===== Regulatory Information
=====

[TOP](#)

Sara Title III Information:

N/P

Federal Regulatory Information: N/P

State Regulatory Information: N/P

===== Other Information
=====

[TOP](#)

Other Information:

N/P

===== HMIS
=====

HAZCOM Label

[TOP](#)

[Print Labels](#)

Product ID:

0132Z, WINDEX GLASS CLEANER POWERIZED (SUPDAT)

Cage: DRACK

Assigned IND: N

Company Name:

DRACKETT PRODUCTS CO

Street: 5020 SPRING GROVE AVE

PO Box: N/K

City:

CINCINNATI

State: OH

Zipcode: 45232-1988

Country: US

Health Emergency Phone:

513-632-1500

Label Required IND:

Y

Date Of Label Review: 11/06/1994

Status Code: C

MFG Label NO:

Label Date: 11/06/1994

Year Procured:

Origination Code:

G

Chronic Hazard IND: Y

Eye Protection IND: N/P

Skin Protection IND: N/P

Signal Word: CAUTION

Respiratory Protection N/P
IND:

Health Hazard:

None

Contact Hazard: Slight

Fire Hazard:

None

Reactivity Hazard: None

Hazard And Precautions

ACUTE:EYE:SENSATION OF IRRITATION. CHRONIC:ANIMAL STUDIES HAVE CLEARLY DEMONSTRATED DOSE-RELATED ADVERSE EFFECTS ON THE CENTRAL NERVOUS SYSTEM, BLOOD FORMING TISSUE, BLOOD, KIDNEYS & LIVER ASSOCIATED WITH ADMINISTRATION OF ETHYLENE GLYCOL MONOBUTYL ETHER (FP N).

=====

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MATERIAL SAFETY DATA SHEET

MATERIAL IDENTITY: -20F Super Tech Windshield Washer Fluid

SECTION 1 - MANUFACTURER'S INFORMATION

Manufacturer: Fox Packaging Company
51 East Maryland Avenue
St. Paul, MN 55117-4615

Telephone: (651) 489-8211

Facsimile: (651) 489-8247

Chemical Transportation Emergency Center (for immediate information about a chemical or to seek assistance from a manufacturer): 1-800-424-9300

National Response Center (to report spills of oil and hazardous material): 1-800-424-8802

Date Prepared: March 24, 2005

SECTION 2 - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Common Name: Windshield Washer Fluid

Product Use: Used for cleaning windshields

Product Identification: Windshield Washer Fluid

NFPA HAZARD RATINGS

HEALTH - 1

FLAMMABILITY - 3

REACTIVITY - 0

OTHER - NOT APPLICABLE

Hazardous Component*	Approximate Composition	OSHA Permissible Exposure Limit**	NIOSH REL	ACGIH Threshold Limit Value	IDLH (NIOSH)
Methanol (Methyl Alcohol) -CAS 67-56-1 -UN 1230 (DOT Guide 28)	30 percent by weight	200 ppm (260 mg/m ³) 8-Hour TWA (Skin)	200 ppm (260 mg/m ³) 8-Hour TWA 250 ppm (310 mg/m ³) Ceiling (Skin)	200 ppm (260 mg/m ³) 8-Hour TWA 250 ppm (310 mg/m ³) Short-term Exposure Limit (15-minute TWA) (Skin)	6,000 ppm (0.6 percent in air)

* The hazardous component listed is not a known or suspected human carcinogen as listed or determined by the National Agency for Research on Cancer, National Toxicological Program "NTP Seventh Annual Report on Carcinogens," or International Agency for Research on Cancer (IARC) monograph reviews. In addition, it is not considered a carcinogen by the Occupational Safety and Health Administration or the National Institute for Occupational Safety and Health.

** This MSDS contains the 1989 PEL's and from the June 1993 Air Contaminants Final Rule, specified in Tables Z-1, Z-2, and Z-3 [Federal Register; 58(124): 35338-35351; June 30, 1993].

MATERIAL IDENTITY: -20F Super Tech Windshield Washer Fluid

SECTION 3 - PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point: Approximately 180°F (for product)

Flash Point: 93°F

Solubility in Water: Soluble

Vapor Pressure: 100mm @ 21.2° (methanol)

Vapor Density: 1.11 (methanol)

Ionization Potential: 10.84 cV (methanol)

Freezing Point: -20°F

Appearance and Odor: The windshield washer is blue, and it has a mild characteristic pungent odor from the methanol. The odor threshold for methanol is 10 ppm.

SECTION 4 - FIRE AND EXPLOSION HAZARD DATA

Flammable Limits: UEL - 36 percent for methanol LEL - 6 percent for methanol

Autoignition Temperature: 878°F for methanol

Extinguishing Media for Methanol

Small Fires: Dry chemical, carbon dioxide, water spray or alcohol resistant foam.

Large Fires: Water spray, fog or alcohol-resistant foam.

Special Fire Fighting Procedures: Move container away from fire area if you can do so without risk. Dike fire control water for later disposal; do not scatter the material. Apply cooling water to the sides of containers exposed to flames until well after the fire is out.

Unusual Fire and Explosion Hazards for Methanol: Flammable/combustible material; may be ignited by heat, spark or flame. Vapors may travel to a source of ignition and flash back. Container may explode in heat of fire. Vapor explosion and poison hazard indoors, outdoors, or in sewers. Runoff to sewer may create fire or explosion hazard.

SECTION 5 - REACTIVITY DATA

Stability/Polymerization: In a closed container, methyl alcohol is stable at room temperature and it is stable under routine handling and storage. Hazardous polymerization will not occur.

Incompatibility (Material to Avoid): Incompatible with beryllium dihydride; metals; oxidants; potassium tert-butoxide; carbon tetrachloride + metals; dichloromethane. Can react vigorously with oxidizing materials.

Explosive reaction with chloroform + sodium methoxide; diethyl zinc. Violent reaction with alkyl aluminum salts; acetylene bromide; chloroform + sodium hydroxide; CrO_3 ; cyanuric chloride; (I + ethanol + HgO); $\text{Pb}(\text{ClO}_4)_2$; HClO_4 ; P_2O_3 ; ($\text{KOH} + \text{CHCl}_2$); nitric acid¹

Hazardous Decomposition or By-products: When methanol is heated to decomposition, carbon dioxide and carbon monoxide may be produced, as well as formaldehyde may be produced, and it emits acrid smoke and irritating fumes.

¹Lewis, Richard J., Sr.: *Sax's Dangerous Properties of Industrial Materials, Eighth Edition*. New York, New York: Van Nostrand Reinhold, 1992.

SECTION 6 - HEALTH HAZARD DATA

Routes of Entry (Methanol): The primary routes of entry are inhalation, ingestion, and absorption.

Health Hazards and Signs and Symptoms of Exposure (Methanol): Irritant to eyes, skin, and upper respiratory system. Headaches, drowsiness, dizziness, vertigo, light-headed, nausea, and vomiting. Visual disturbance, optic nerve damage, and blindness. Skin exposure hazard.

Target Organs: Central nervous system, digestive tract, eyes, and skin.

Acute Effects: Eye irritation. Inhalation can result nose irritation, headache, fatigue, nausea, visual impairment or complete and possible blindness, acidosis, convulsions, circulatory collapse, respiratory fatigue, and death. Ingestion can cause gastrointestinal (GI) irritation followed by the symptoms described for inhalation and possible kidney impairment. Skin contact results in a cold sensation, dryness, and cracking, possibly leading to dermatitis. Methyl alcohol may be absorbed through the skin and may cause headache, fatigue, and visual disturbances. Eye contact results in irritation with lacrimation, inflamed lids, and photophobia.

Chronic Effects: Chronic exposure may result in visual impairment or blindness.

Medical Conditions Generally Aggravated by Exposure: Ocular, respiratory, or dermal disorders may be aggravated by methanol exposure.

Emergency and First Aid Procedures:

Eyes:	Rinse with water 15 to 20 minutes, seek medical assistance.
Skin:	Flush with water for 15 minutes.
Inhalation:	Remove from source to fresh air, provide respiratory support as needed.
Ingestion:	Call Physician, hospital emergency room or Poison Control Center immediately.

GET PROMPT MEDICAL ATTENTION

SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be taken in Case Material is Released or Spilled:

- Keep unnecessary people away; isolate hazard area and deny entry.
- Stay upwind; keep out of low areas.
- Shut off ignition sources; no flares, smoking or flames in hazard area.
- Positive pressure self-contained breathing apparatus and chemical protective clothing is recommended for personnel involved in clean-up procedures with no fire.
- Do not walk through spilled material; stop leak if it can be done without risk.
- Water spray may reduce vapor; but it will not prevent ignition in closed spaces.

Waste Disposal Method: Dispose of in accordance with federal, state and local regulations.

EPA Designations:

RCRA Hazardous Waste (40 CFR 261.33): Hazardous Waste No. U154
CERCLA Hazardous Substance (40 CFR 302.4): Not Listed
SARA Extremely Hazardous Substance (40 CFR 355): Not Listed
SARA Toxic Chemical (40 CFR 372.65): Not Listed

DOT Designation: Based on flash point and alcohol content, this is a Class 3, combustible liquid.

MATERIAL SAFETY DATA SHEET

MATERIAL IDENTITY: -20F Super Tech Windshield Washer Fluid

SECTION 8 - SPECIAL PROTECTION INFORMATION

Respiratory Protection: Under normal use conditions (outdoor windshield cleaning), respiratory protection is not justified.

Protective Eye Wear: Splash goggles are recommended when handling the solution. Contact lens use is not recommended.

Protective Clothing: The selection of protective clothing and gloves is dependent upon anticipated exposure. As reported by the manufacturer, Best Glove style 725R (PVC) offers excellent protection for up to 240 minutes of complete immersion.

SECTION 9 - OTHER HAZARDOUS INFORMATION AND DEFINITIONS

OSHA PEL: The Occupational Safety and Health Administration's Permissible Exposure Limit, which is defined as the maximum concentration of contaminant to which a normal healthy individual may be exposed 8-hours per day, 40-hours per week, without experiencing adverse health effects over a working lifetime.

ACGIH TLV: American Conference of Governmental Industrial Hygienist's Threshold Limit Value, similar to the OSHA PEL but not considered a legal standard.

SECTION 10 - TRANSPORTATION INFORMATION

DOT HAZARD DESCRIPTION: combustible liquid., consumer commodity, ORM-D n.o.s (methanol) 3 UN1992
pgIII

MSDS Prepared by: Maxim Technologies, Inc.

Judgements as to the suitability herein for the user's purposes are necessarily the user's responsibility. Therefore, although reasonable care has been taken in the preparation of such information, Maxim Technologies, Inc., extends no warranties, makes no representations, and assumes no responsibility as to the accuracy or suitability of such information for application to the intended purposes or for the consequences of its use.

MATERIAL SAFETY DATA SHEET

Page 1 of 4

MSDS # 111811002

OFF! INSECT REPELLENT II

Date Issued: 06Oct1998

Supersedes: 18Aug1998

US MANUFACTURER:

S.C. Johnson & Son, Inc.
Phone: (800) 725-6737
Racine, Wisconsin 53403-2236
Emergency Phone: (888) 779-7920
International Emergency Phone:
(262) 886-1480

CANADIAN MANUFACTURER:

S.C. Johnson and Son, Limited
Phone: (800) 725-6737
1 Webster Street
Brantford, Ontario N3T 5R1
Transportation Emergency:
CANUTEC (collect) (613) 996-6666
Poison Control: (888) 779-7920

HAZARD RATING	HMIS	HAZARD	NFPA	DISTRIBUTED IN CANADA BY:
4-Very High	1	Health	1	S.C. Johnson and Son, Limited
3-High	4	Flammability	4	Phone: (800) 725-6737
2-Moderate	0	Reactivity	0	1 Webster Street
1-Slight		Special		Brantford, Ontario N3T 5R1
0-Insignificant				

SECTION 1 - PRODUCT IDENTIFICATION

PRODUCT NAME..... OFF! INSECT REPELLENT II
REASON FOR CHANGE..... Name change.
PRODUCT USE..... Insect repellent

UPC	SCJ CODE	QUANTITY	US SIZE	CANADIAN SIZE
62300 01910	1255	12		170 GM

SECTION 2 - INGREDIENT INFORMATION

INGREDIENT	WEIGHT%	EXPOSURE LIMIT/TOXICITY
Diethyl toluamide (CAS# 134-62-3).....	10-30	NOT ESTABLISHED
Ethanol (CAS# 64-17-5).....	60-100	1000 ppm ACGIH/OSHA TWA

SECTION 3 - HEALTH HAZARDS IDENTIFICATION (Also See Section 11)

ROUTE(S) OF ENTRY..... Skin contact. Eye contact. Inhalation.
EFFECTS OF ACUTE EXPOSURE:
EYE..... May cause: Moderate eye irritation.
SKIN..... May cause skin reactions in rare cases.
INHALATION..... None known.
INGESTION..... None known.
MEDICAL CONDITIONS..... None known.
GENERALLY RECOGNIZED
AS BEING AGGRAVATED
BY EXPOSURE

SECTION 4 - FIRST AID MEASURES

EYE CONTACT..... Rinse with plenty of water. If irritation persists, get medical attention.
SKIN CONTACT..... If reaction occurs, wash skin and seek medical attention.
INHALATION..... No special requirements.
INGESTION..... Contact nearest poison control center.

MATERIAL SAFETY DATA SHEET

Page 2 of 4

MSDS # 111811002

OFF! INSECT REPELLENT II

Date Issued: 06Oct1998

Supersedes: 18Aug1998

SECTION 5 - FIRE AND EXPLOSION INFORMATION

FLASH POINT..... < 20°F (< -7°C) (TCC) (propellant)
FLAMMABLE LIMITS..... Not available.
AUTOIGNITION..... Not available.
TEMPERATURE
EXTINGUISHING MEDIA.... Foam. CO2. Dry chemical. Water fog.
SPECIAL FIREFIGHTING... Fight fire from maximum distance or protected area. Cool and use
PROCEDURES caution when approaching or handling fire-exposed containers.
Fire fighters should wear self-contained breathing apparatus and
protective clothing.
UNUSUAL FIRE AND..... Aerosol product - Containers may rocket or explode in heat of
EXPLOSION HAZARDS fire.

SECTION 6 - PREVENTIVE RELEASE MEASURES

STEPS TO BE TAKEN IN... Eliminate all ignition sources. Dike large spills. Absorb with
CASE MATERIAL IS oil-dri or similar inert material. Sweep or scrape up and
RELEASED OR SPILLED containerize.

SECTION 7 - HANDLING AND STORAGE

PRECAUTIONARY..... WARNING: Harmful if swallowed. Avoid contact with eyes and lips.
INFORMATION Do not allow children to rub eyes if hands have been treated .
FLAMMABLE: CONTENTS UNDER PRESSURE. Do not use near open fire,
flames or heat. Do not puncture or incinerate. Do not store at
temperatures above 120 °F (50 °C).
OTHER HANDLING AND..... Keep out of reach of children.
STORAGE CONDITIONS

SECTION 8 - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION. No special requirements under normal use conditions.
VENTILATION..... Not applicable.
PROTECTIVE GLOVES..... No special requirements under normal use conditions.
EYE PROTECTION..... No special requirements under normal use conditions.
OTHER PROTECTIVE..... No special requirements.
MEASURES

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

COLOR..... Clear
PRODUCT STATE..... Dispensed as a spray mist.
ODOR..... Fragrant
pH..... Not applicable.
ODOR THRESHOLD..... Not available.
SOLUBILITY IN WATER.... Appreciable
SPECIFIC GRAVITY..... 0.78
(H2O=1)
VAPOR DENSITY (AIR=1).. Not available.
EVAPORATION RATE (BUTYL ACETATE=1) Not available.
VAPOR PRESSURE (mm HG). Not available.
BOILING POINT..... Not available.
FREEZING POINT..... Not available.

MATERIAL SAFETY DATA SHEET

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SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES (continued)

COEFFICIENT OF..... Not available.
WATER/OIL
PERCENT VOLATILE BY.... Not available.
VOLUME (%)
VOLATILE ORGANIC..... Not available.
COMPOUND (VOC)
THEORETICAL VOC..... Not available.
(LB/GAL)

SECTION 10 - STABILITY AND REACTIVITY

STABILITY..... Stable
STABILITY - CONDITIONS. Excessive heat.
TO AVOID
INCOMPATIBILITY..... Avoid contact with: Rubber, Plastic.
HAZARDOUS DECOMPOSITION PRODUCTS When exposed to fire: Produces normal products of combustion.
HAZARDOUS..... Will not occur.
POLYMERIZATION
HAZARDOUS..... Not applicable.
POLYMERIZATION -
CONDITIONS TO AVOID

SECTION 11 - TOXICOLOGY INFORMATION (Also See Section 3)

LD50 (ACUTE ORAL TOX).. Not available.
LD50 (ACUTE DERMAL TOX) Not available.
LC50 (ACUTE INHALATION. Not available.
TOX)
EFFECTS OF CHRONIC..... None known.
EXPOSURE
SENSITIZATION..... None known.
CARCINOGENICITY..... None known.
REPRODUCTIVE TOXICITY.. None known.
TERATOGENICITY..... None known.
MUTAGENICITY..... None known.

SECTION 12 - ECOLOGICAL INFORMATION

ENVIRONMENTAL DATA..... Not available.

SECTION 13 - DISPOSAL CONSIDERATIONS

WASTE DISPOSAL..... If possible, recycle empty aerosol can to nearest steel
INFORMATION recycling center. Use up package or give to someone who can.

SECTION 14 - TRANSPORTATION INFORMATION

US DOT INFORMATION..... Not applicable.
CANADIAN SHIPPING NAME. OFF! INSECT REPELLENT II

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Date Issued: 06Oct1998

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----- SECTION 14 - TRANSPORTATION INFORMATION (continued) -----

TDG CLASSIFICATION..... Not applicable.
PIN/NIP..... Not applicable.
PACKING GROUP..... Not applicable.
EXEMPTION NAME..... Consumer commodity

----- SECTION 15 - REGULATORY INFORMATION -----

WHMIS CLASSIFICATION... Non-regulated.

All ingredients of this product are listed or are excluded from listing on the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

All ingredients in this product comply with the New Substances Notification requirements under the Canadian Environmental Protection Act (CEPA).

This product is not subject to the reporting requirements under California's Proposition 65.

----- SECTION 16 - OTHER INFORMATION -----

ADDITIONAL INFORMATION. NFPA 30B Level 2 Aerosol. PCP NO. 22708
EPA REGISTRATION #..... 4822-380

----- PREPARATION INFORMATION -----

PREPARED BY..... Manufacturer's Technical Support Department. Refer to page 1
(Manufacturer) for contact information.

This document has been prepared using data from sources considered technically reliable. It does not constitute a warranty, express or implied, as to the accuracy of the information contained herein. Actual conditions of use and handling are beyond seller's control. User is responsible to evaluate all available information when using product for any particular use and to comply with all Federal, State, Provincial and Local laws and regulations.

PRINT DATE: 07Jun2000

WPC Brands, Inc.
P. O. Box 4406
Bridgeton, MO 63044-0406

Material Safety Data Sheet

Complies with OSHA's Hazard Communication Standard, 29 CFR 1910.1200

Hazardous Material Identification System – (HMIS)

HEALTH – 2

REACTIVITY – 0

FLAMMABILITY – 2

PERSONAL – None

I Trade Name: Repel Insect Repellent Sportsmen Formula 29% DEET

Product Type: Aerosol Insect repellent

Product Item Number: 32901.1

Formula Code Number: 21-0751

EPA Registration Number

Manufacturer

Emergency Telephone Numbers

305-49

Chemsico
Division of United Industries Corporation
8494 Chapin Industrial Drive
St. Louis, MO 63114

For Chemical Emergency: 1-800-633-2873
For Information: 1-800-8801181
Prepared by: C. A. Duckworth
Date Prepared: October 16, 2003

II Hazards Ingredient/Identity Information

Chemical	%	OSHA PEL	ACGIH TLV
DEET (N,N-diethyl-m-toluamide)	29.0	NA	NA
CAS# 134-62-3			
Ethanol	48.1	1000 ppm	1000 ppm
CAS #64-17-5/ 977021-81-0			
Hydrocarbon Propellant	15.0	NA	NA
CAS #75-28-5/74-98-6			

III Physical and Chemical Characteristics

Appearance & Odor:	Light mist spray with an alcohol odor
Boiling Point:	NA
Vapor Pressure:	NA
Specific Gravity:	0.88 at 72° F (H ₂ O = 1)
Vapor Density:	1.6
% Volatile (by vol.):	>90%
Solubility in Water:	NA
Evaporation Rate:	Approximately 1 (Butyl Acetate = 1)

IV Fire and Explosive Hazards Data

Flash Point: NA
Flame Extension: 18"
Autoignition Temperature: N/A
Fire Extinguishing Media: Carbon dioxide, Foam, Dry chemical
Decomposition Temperature: NA
Special Fire-Fighting Procedures: For Small Fires: Use Carbon dioxide or dry chemical extinguisher. For Large Fires: Use copious amounts of water.
Unusual Fire and Explosion Hazards: Also see Section VII

V Reactivity Data

Stability: Stable
Polymerization: Will not occur
Conditions to Avoid: None
Incompatible Materials: May soften or damage some synthetics such as rayon. May damage leather.
Hazardous Decomposition or Byproducts: None

VI Health Hazard Data

Ingestion: Harmful if swallowed. **First Aid:** Contact a Poison Control Center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a Poison Control Center or doctor. Do not give anything by mouth to an unconscious person.
Special Notes: Use of this product may cause skin reactions in rare cases. If you suspect a reaction to this product discontinue use. Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Contact a Poison Control Center or doctor. Have the product container with you when calling or going for treatment.

Health conditions Aggravated by Exposure: None known
Ingredients listed by NTP, OSHA, or IARC as Carcinogens or Potential Carcinogens: None

VII Precautions for Safe Handling and Use

Steps to be Taken in Case Material is Released or Spilled:
Flammable material. Remove all possible ignition sources. Soak up with absorbent material. Wash small quantities away with soapy water.
Waste Disposal:
Do not puncture or incinerate. If empty: Place in trash or offer for recycling. If partially filled: Call your local solid waster disposal agency or 1-800-CLEANUP for disposal instructions.
Handling & Storage Precautions:
Keep away from heat, sparks, or open flame. Exposure to temperatures higher than 130°F may cause bursting.

VIII Control Measures

Read and follow label directions. They are your best guide to using this product effectively, and give necessary safety precautions to protect your health.

IX Transportation Data

DOT Shipping Name: Consumer Commodity
DOT Hazard Class: ORM-D

The information and statements herein are believed to be reliable but are not to be construed as warranty or representation for which we assume legal responsibility. Users should undertake sufficient verification and testing to determine the suitability for their own particular purpose of any information or products referred to herein. NO WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE IS MADE.

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MATERIAL SAFETY DATA SHEET

PS, PSH, PSG and PG Valve Regulated (VRLA) Batteries Absorbed Electrolyte (AGM)

Section 1 - Product Identification

Manufacturers Name Power-Sonic Corporation, 7550 Panasonic Way San Diego, CA 92154	Emergency Telephone Numbers: CHEMTREC (Domestic): (800) 424-9300 CHEMTREC (International): (703) 527-3887
	Telephone Number for Information Power-Sonic Corporation: (619) 661-2020
	Date Issued: January 25, 2010

The information contained within is provided as a service to our customers and is for their information only. The information and recommendations set forth herein are made in good faith and are believed to be accurate at the date compiled. Power-Sonic Corporation makes no warranty expressed or implied.

Section 2 - Hazardous Ingredients/Identity Information

Components	CAS Number	Approx Wt. %	OSHA PEL (µg/m³)	ACGIH TLV (µg/m³)	NIOSH (µg/m³)
Inorganic Lead/Lead Compounds	7439-92-1	65%-75%	50	150	10
Tin	7440-31-5	<0.5%	2000	2000	N/A
Calcium	7440-70-2	<0.1%	N/A	N/A	N/A
Electrolyte: Dilute sulfuric Acid	7664-93-9	14-20%	1000	1000	1000
Fiberglass Separator	-	5%	N/A	N/A	N/A
Case Material: Acrylonitrile Butadine Styrene (ABS)	9003-56-9	5-10%	N/A	N/A	N/A

Inorganic lead and electrolyte (sulfuric acid) are the main components of every Valve Regulated Lead Acid battery supplied by Power-Sonic Corporation. Other ingredients may be present dependent upon the specific battery type. For additional information contact Power-Sonic Corporation Technical Department.

Section 3 - Physical/Chemical Characteristics

Components	Density	Melting Points	Solubility (H2O)	Odor	Appearance
Lead	11.34	621 °F	None	None	Silver-Gray
Lead Sulfate	6.20	1950 °F	40mg/l (60 °F)	None	White Powder
Lead Dioxide	9.40	554 °F	None	None	Brown Powder
Sulfuric Acid	About 1.30	203-240 °F	100%	Sharp penetrating pungent	Clear Colorless Liquid
Fiberglass Separator	N/A	N/A	Slight	None	White Fibrous
Case Material: Acrylonitrile Butadine Styrene (ABS)	N/A	N/A	None	None	Solid

Section 4 – Flammability Data

Components	Flashpoint	Explosive Limit	Comments
Lead and Sulfuric Acid	None	None	None
Hydrogen		LEL = 4.1%	Sealed batteries can emit hydrogen if overcharged (float voltage > 2.40 VPC)
Fiberglass Separator	N/A	N/A	Toxic vapors may be released. In case of fire, wear self contained breathing apparatus
Acrylonitrile Butadiene Styrene (ABS)	None	N/A	Temp over 527°F (300°C) may release combustible gases. In case of fire, wear self contained breathing apparatus

Section 5 - Reactivity Data

Stability	Unstable		Conditions to Avoid
	Stable	X	Prolonged overcharge on high current, ignition sources. Sulfuric acid remains stable at all temperatures
Incompatibility (Materials to Avoid) Sulfuric acid: Contact with combustibles and organic materials may cause fire and explosion. Also reacts violently with strong reducing agents, metals, sulfur trioxide gas, strong oxidizers, and water. Contact with metals may produce toxic sulfur dioxide fumes and may release flammable hydrogen gas. Lead Compounds: Avoid contact with strong acids, bases, halides, halogenates, potassium nitrate, permanganate, peroxides, nascent hydrogen, and reducing agents.			
Hazardous Decomposition or Byproducts Sulfuric acid: Sulfur trioxide, carbon monoxide, sulfuric acid mist, sulfur dioxide, and hydrogen sulfide. Lead Compounds: High temperatures above the melting point are likely to produce toxic metal fume, vapor, or dust; contact with strong acid or base or presence of nascent hydrogen may generate highly toxic arsine gas. Hazardous Polymerization.			
Polymerization: Sulfuric acid will not polymerize			
Decomposition Products: Sulfuric Dioxide, Trioxide, Hydrogen Sulfide, Hydrogen.			
Conditions to Avoid: Prohibit smoking, sparks, etc. from battery charging area. Avoid mixing acid with other chemicals.			

Section 6 - Health Hazard Data

Routes of Entry Sulfuric acid: Harmful by all routes of entry Lead compounds: Hazardous Exposure can occur only when product is heated, oxidized, or otherwise processed or damaged to create dust, vapor or fume.
Inhalation Sulfuric acid: Breathing sulfuric acid vapors and mists may cause severe respiratory problems. Lead compounds: Dust or fumes may cause irritation of upper respiratory tract or lungs. Fiberglass Separator: Fiberglass is an irritant to the upper respiratory tract, skin and eyes. For exposure up to 10°F/ use MSA Comfoll with type H filter. Above 10°F use Ultra Twin with type H filter. This product is not considered carcinogenic by NTP or OSHA.
Skin Contact Sulfuric acid: Severe irritation, burns and ulceration. Lead compounds: Not absorbed through the skin

Ingestion

Sulfuric acid: May cause severe irritation of the mouth, throat, esophagus, and stomach.

Lead compounds: May cause abdominal pain, nausea, vomiting, diarrhea, and severe cramping. Acute ingestion should be treated by a physician.

Eye Contact

Sulfuric acid: Severe irritation, burns, cornea damage and possible blindness.

Lead Compounds: May cause eye irritation.

Acute Health Hazards

Sulfuric acid: Severe skin irritation, burns, damage to cornea may cause blindness, upper respiratory irritation.

Lead compounds: May cause abdominal pain, nausea, headaches, vomiting, loss of appetite, severe cramping, muscular aches and weakness, and difficulty sleeping. The toxic effects of lead are cumulative and slow to appear. It affects the kidneys, reproductive and central nervous systems. The symptoms of lead overexposure are listed above. Exposure to lead from a battery most often occurs during lead reclamation operations through the breathing or ingestion of lead dust or fumes.

Chronic Health Hazards

Sulfuric acid: Possible scarring of the cornea, inflammation of the nose, throat and bronchial tubes, possible erosion of tooth enamel.

Lead compounds: May cause anemia, damage to kidneys and nervous system, and damage to reproductive system in both males and females.

Carcinogenicity

Sulfuric acid: The National Toxicological Program (NTP) and The International Agency for Research on Cancer (IARC) have classified strong inorganic acid mist containing sulfuric acid as a Category 1 carcinogen, a substance that is carcinogenic to humans. The ACGIH has classified strong inorganic acid mist containing sulfuric acid as an A2 carcinogen (suspected human carcinogen). These classifications do not apply to liquid forms of sulfuric acid or sulfuric acid solutions contained within a battery. Inorganic acid mist (sulfuric acid mist) is not generated under normal use of this product. Misuse of the product, such as overcharging, may result in the generation of sulfuric acid mist.

Lead compounds: Human studies are inconclusive regarding lead exposure and an increased cancer risk. The EPA and the International Agency for Research on Cancer (IARC) have categorized lead and inorganic lead compounds as a B2 classification (probable/possible human carcinogen) based on sufficient animal evidence and inadequate human evidence.

Medical Conditions Generally Aggravated by Exposure

Inorganic lead and its compounds can aggravate chronic forms of kidney, liver, and neurological diseases. Contact of battery electrolyte (acid) with the skin may aggravate skin diseases such as eczema and contact dermatitis. Overexposure to sulfuric acid mist may cause lung damage and aggravate pulmonary conditions.

Emergency and First Aid ProceduresInhalation

Sulfuric acid: Remove to fresh air immediately. If breathing is difficult, give oxygen

Lead compounds: Remove from exposure, gargle, wash nose and lips, consult physician

Ingestion

Sulfuric acid: Do not induce vomiting, consult a physician immediately.

Lead compounds: Consult a physician immediately

Eyes

Sulfuric acid: Flush immediately with water for 15 minutes, consult a physician.

Lead compounds: Flush immediately with water for 15 minutes, consult a physician

Skin

Sulfuric acid: Flush with large amounts of water for at least 15 minutes, remove any contaminated clothing. If irritation develops seek medical attention.

Lead compounds: Wash with soap and water.

Section 7 - Precautions for Safe Handling and Use

Steps to be Taken in Case Material is Released or Spilled

There is no release of material unless the case is damaged or battery is misused/overcharged. If release occurs stop flow of material, contain/absorb all spills with dry sand, earth, or vermiculite. Do not use combustible materials. Neutralize spilled material with soda ash, sodium bicarbonate, lime, etc. Wear acid-resistant clothing, boots, gloves, and face shield. Dispose of as hazardous waste. Do not discharge acid to sewer

Waste Disposal Method

Spent Batteries - send to secondary lead smelter for recycling. Follow applicable federal, state and local regulations. Neutralize as in preceding step. Collect neutralized material in sealed container and handle as hazardous waste as applicable. A copy of this MSDS must be supplied to any scrap dealer or secondary lead smelter with the battery.

Precautions to be Taken in Handling and Storing

Store batteries in a cool, dry, well ventilated area that are separated from incompatible materials and any activities which may generate flames, sparks, or heat. Keep all metallic articles that could contact the negative and positive terminals on a battery and create a short circuit condition.

Electrical Safety

Due to the battery's low internal resistance and high power density, high levels of short circuit current can be developed across the battery terminals. Do not rest tools or cables on the battery. Use insulated tools only. Follow all installation instructions and diagrams when installing or maintaining battery systems.

Fiberglass Separator

Fiberglass is an irritant to the upper respiratory tract, skin and eyes. For exposure up to 10°F/ use MSA Comfoll with type H filter. Above 10°F use Ultra Twin with type H filter. This product is not considered carcinogenic by NTP or OSHA.

Section 8 - Control Measures

Respiratory Protection

None required under normal conditions. If battery is overcharged and concentrations of sulfuric acid are known to exceed PEL use NIOSH or MSH approved respiratory protection.

Engineering Controls

Store and handle batteries in a well ventilated area. If mechanical ventilation is used, components must be acid resistant

Protective Gloves

None needed under normal conditions. If battery case is damaged use rubber or plastic elbow length gauntlets

Eye Protection

None needed under normal conditions. If handling damaged or broken batteries use chemical splash goggles or face shield

Other Protective Clothing or Equipment

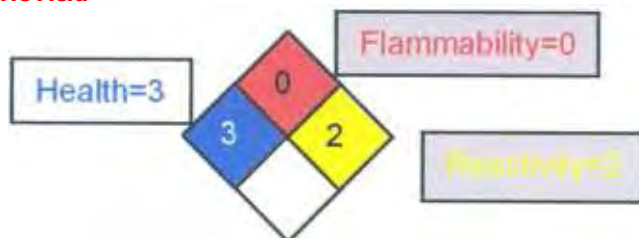
None needed under normal conditions. In case of damaged or broken battery use an acid resistant apron. Under severe exposure or emergency conditions wear acid resistant clothing.

Work Hygienic Practices

Handle batteries carefully to avoid damaging the case. Do not allow metallic articles to contact the battery terminals during handling. Avoid contact with the internal components of the battery.

Section 9 Regulatory Information

NFPA Hazard Rating for Sulfuric Acid



Transportation Batteries. Non-Restricted Status

Shipment of Power-Sonic Rechargeable Sealed Lead Acid Batteries NORTH AMERICA – SURFACE AND AIR SHIPMENTS Non-Restricted Status

Our non-spillable lead acid batteries are listed in the U.S. Department of Transportation (DOT) hazardous materials regulations, but are excepted from these regulations since they met all of the following requirements found under 49 CFR 173.159 and 49 CFR 173.159(a)

49 CFR 173.159:

(f) Batteries can be considered as non-spillable provided they are capable of withstanding the following two tests, without leakage of battery fluid from the battery:

(1) Vibration test. The battery must be rigidly clamped to the platform of a vibration machine, and a simple harmonic motion having an amplitude of 0.8 mm (0.03 inches) with a 1.6 mm (0.063 inches) maximum total excursion must be applied. The frequency must be varied at the rate of 1 Hz/min between the limits of 10 Hz to 55 Hz. The entire range of frequencies and return must be traversed in 95 ± 5 minutes for each mounting position (direction of vibrator) of the battery. The battery must be tested in three mutually perpendicular positions (to include testing with fill openings and vents, if any, in an inverted position) for equal time periods.

(2) Pressure differential test. Following the vibration test, the battery must be stored for six hours at $24\text{ }^{\circ}\text{C} \pm 4\text{ }^{\circ}\text{C}$ ($75\text{ }^{\circ}\text{F} \pm 7\text{ }^{\circ}\text{F}$) while subjected to a pressure differential of at least 88 kPa (13 psig). The battery must be tested in three mutually perpendicular positions (to include testing with fill openings and vents, if any, in an inverted position) for at least six hours in each position.

49 CFR 173.159 (a)

Non-spillable batteries are excepted from the packaging requirements of §173.159 under the following conditions:

(1) Non-spillable batteries must be securely packed in strong outer packaging and meet the requirements of §173.159(a). A non-spillable battery which is an integral part of and necessary for the operation of mechanical or electronic equipment must be securely fastened in the battery holder on the equipment;

(2) The battery and outer packaging must be plainly and durably marked "NON-SPILLABLE" or "NON-SPILLABLE BATTERY." The requirement to mark the outer package does not apply when the battery is installed in a piece of equipment that is transported unpackaged.

(d) Non-spillable batteries are excepted from all other requirements of this subchapter when offered for transportation and transported in accordance with paragraph (c) of this section and the following:

(1) At a temperature of $55\text{ }^{\circ}\text{C}$ ($131\text{ }^{\circ}\text{F}$), the battery must not contain any unabsorbed free-flowing liquid, and must be designed so that electrolyte will not flow from a ruptured or cracked case; and

(2) For transport by aircraft, when contained in a battery-powered device, equipment or vehicle must be prepared and packaged for transport in a manner to prevent unintentional activation in conformance with §173.159(b)(2) of this Subpart.

January 25, 2010

Shipment of Power-Sonic Rechargeable Sealed Lead Acid Batteries INTERNATIONAL Non-Restricted Status

Our non-spillable lead acid batteries also are *excepted* from the international hazardous materials (also known as "dangerous goods") regulations since they comply with the following requirements:

- The vibration and pressure differential tests found in Packing Instruction 806 and Special Provision A67 of the International Air Transport Association (IATA) Dangerous Goods Regulations;
- The vibration and pressure differential tests found in Packing Instruction 806 and Special Provision A67 of the International Civil Aviation Organization (ICAO) Technical Instructions for the Safe Transport of Dangerous Goods by Air; and
- The vibration, pressure differential, and "crack" tests found in Special Provision 238.1 and 238.2 of the International Maritime Dangerous Goods (IMDG) Code.
- Under I.A.T.A. classification Power-Sonic batteries fall under UN number 2800: "Batteries, wet, non-spillable, electric storage".

January 25, 2010

Regulatory Information

RCRA: Spent lead acid batteries are not regulated as hazardous waste by the EPA when recycled, however state and international regulations may vary.

CERCLA (superfund) and EPCRA:

- (a) Reportable Quantity (RQ) for spilled 100% sulfuric acid under CERCLA (superfund) and EPCRA (Emergency Planning Community Right to Know Act) is 1,000lbs. State and local reportable quantities for spilled sulfuric acid may vary.
- (b) Sulfuric acid is a listed "Extremely Hazardous Substance" under EPCRA with a Threshold Planning Quantity (TPQ) of 1,000lbs.
- (c) EPCRA Section 302 Notification is required if 1,000lbs. or more of sulfuric acid is present at one site. The quantity of sulfuric acid will vary by battery type. Contact Power-Sonic Corporation for additional information.
- (d) EPCRA Section 312 Tier 2 reporting is required for batteries if sulfuric acid is present in quantities of 500lbs. or more and/or lead is present in quantities of 10,000lbs. or more.
- (e) Supplier Notification: This product contains toxic chemicals which may be reportable under EPCRA Section 313 Toxic Chemical Release Inventory (Form R) requirements. If you are a manufacturing facility under SIC codes 20 through 39 the following information is provided to enable you to complete the required reports:

Regulatory Information continued:

(f)

Toxic Chemical	CAS Number	Approximate % by weight
Lead	7439-92-1	60
Sulfuric Acid	7664-93-9 10-	30
Arsenic	7440-38-2	0.2

If you distribute this product to other manufacturers in SIC codes 20 through 39, this information must be provided with the first shipment in a calendar year. The Section 313 supplier notification requirement does not apply to batteries which are "consumer products". Not present in all battery types. Contact Power-Sonic Corporation for further information.

TSCA

Ingredients in Power-Sonic Corporation's batteries are listed in the TSCA Registry as follows:

Components	CAS Number	TSCA Status
Electrolyte Sulfuric Acid (H ₂ SO ₄)	7664-93-9	Listed
Inorganic Lead Compound: Lead (Pb)	7439-92-1	Listed
Lead Oxide (PbO)	1317-36-8	Listed
Lead Sulfate (PbSO ₄)	7446-14-2	Listed
Arsenic (As)	7440-38-2	Listed
Calcium (Ca)	7440-70-2	Listed
Tin (Sn)	7440-31-5	Listed

Power-Sonic Corporation

E-Mail: quality-assurance@power-sonic.com

Website: <http://www.power-sonic.com>

MATERIAL SAFETY DATA SHEET

1307
10 00

DATE OF PREPARATION
Nov 21, 2012

SECTION 1 — PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NUMBER

1307

PRODUCT NAME

KRYLON® Battery Protector

MANUFACTURER'S NAME

THE SHERWIN-WILLIAMS COMPANY

KRYLON Products Group

Cleveland, OH 44115

Telephone Numbers and Websites

Product Information	(800) 247-3266
Regulatory Information	(216) 566-2902 www.paintdocs.com
Medical Emergency	(216) 566-2917
Transportation Emergency*	(800) 424-9300
*for Chemical Emergency ONLY (spill, leak, fire, exposure, or accident)	

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

% by Weight	CAS Number	Ingredient	Units	Vapor Pressure
15	74-98-6	Propane		
		ACGIH TLV	2500 PPM	760 mm
		OSHA PEL	1000 PPM	
15	106-97-8	Butane		
		ACGIH TLV	800 PPM	760 mm
		OSHA PEL	800 PPM	
18	64742-89-8	Lt. Aliphatic Hydrocarbon Solvent		
		ACGIH TLV	100 PPM	53 mm
		OSHA PEL	100 PPM	
16	108-88-3	Toluene		
		ACGIH TLV	20 PPM	22 mm
		OSHA PEL	100 ppm (Skin)	
		OSHA PEL	150 ppm (Skin) STEL	
2	100-41-4	Ethylbenzene		
		ACGIH TLV	20 PPM	7.1 mm
		OSHA PEL	100 PPM	
		OSHA PEL	125 PPM STEL	
13	1330-20-7	Xylene		
		ACGIH TLV	100 PPM	5.9 mm
		ACGIH TLV	150 PPM STEL	
		OSHA PEL	100 PPM	
		OSHA PEL	150 PPM STEL	
2	64742-94-5	Medium Aromatic Hydrocarbons		
		ACGIH TLV	Not Available	0.12 mm
		OSHA PEL	Not Available	
0.3	91-20-3	Naphthalene		
		ACGIH TLV	10 PPM	1 mm
		ACGIH TLV	15 PPM STEL	
		OSHA PEL	10 PPM	
		OSHA PEL	15 PPM STEL	
11	67-64-1	Acetone		
		ACGIH TLV	500 PPM	180 mm
		ACGIH TLV	750 PPM STEL	
		OSHA PEL	1000 PPM	

SECTION 3 — HAZARDS IDENTIFICATION

ROUTES OF EXPOSURE

INHALATION of vapor or spray mist.

EYE or SKIN contact with the product, vapor or spray mist.

EFFECTS OF OVEREXPOSURE

EYES: Irritation.

SKIN: Prolonged or repeated exposure may cause irritation.

INHALATION: Irritation of the upper respiratory system.

May cause nervous system depression. Extreme overexposure may result in unconsciousness and possibly death.

Prolonged overexposure to hazardous ingredients in Section 2 may cause adverse chronic effects to the following organs or systems:

- the liver
- the urinary system
- the cardiovascular system
- the reproductive system

SIGNS AND SYMPTOMS OF OVEREXPOSURE

Headache, dizziness, nausea, and loss of coordination are indications of excessive exposure to vapors or spray mists.

Redness and itching or burning sensation may indicate eye or excessive skin exposure.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

None generally recognized.

CANCER INFORMATION

For complete discussion of toxicology data refer to Section 11.

HMIS Codes

Health	2*
Flammability	4
Reactivity	0

SECTION 4 — FIRST AID MEASURES

EYES: Flush eyes with large amounts of water for 15 minutes. Get medical attention.

SKIN: Wash affected area thoroughly with soap and water.

Remove contaminated clothing and laundry before re-use.

INHALATION: If affected, remove from exposure. Restore breathing. Keep warm and quiet.

INGESTION: Do not induce vomiting. Get medical attention immediately.

SECTION 5 — FIRE FIGHTING MEASURES**FLASH POINT**

Propellant < 0 °F

LEL

0.8

UEL

12.8

EXTINGUISHING MEDIA

Carbon Dioxide, Dry Chemical, Foam

UNUSUAL FIRE AND EXPLOSION HAZARDS

Containers may explode when exposed to extreme heat.

Application to hot surfaces requires special precautions.

During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

SPECIAL FIRE FIGHTING PROCEDURES

Full protective equipment including self-contained breathing apparatus should be used.

Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion when exposed to extreme heat.

SECTION 6 — ACCIDENTAL RELEASE MEASURES**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED**

Remove all sources of ignition. Ventilate the area.

Remove with inert absorbent.

SECTION 7 — HANDLING AND STORAGE**STORAGE CATEGORY**

Not Available

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE

Keep away from heat, sparks, and open flame. Vapors will accumulate readily and may ignite explosively.

During use and until all vapors are gone: Keep area ventilated - Do not smoke - Extinguish all flames, pilot lights, and heaters - Turn off stoves, electric tools and appliances, and any other sources of ignition.

Consult NFPA Code. Use approved Bonding and Grounding procedures.

Contents under pressure. Do not puncture, incinerate, or expose to temperature above 120F. Heat from sunlight, radiators, stoves, hot water, and other heat sources could cause container to burst. Do not take internally. Keep out of the reach of children.

SECTION 8 — EXPOSURE CONTROLS/PERSONAL PROTECTION**PRECAUTIONS TO BE TAKEN IN USE**

Use only with adequate ventilation.

Avoid contact with skin and eyes. Avoid breathing vapor and spray mist.

Wash hands after using.

VENTILATION

Local exhaust preferable. General exhaust acceptable if the exposure to materials in Section 2 is maintained below applicable exposure limits. Refer to OSHA Standards 1910.94, 1910.107, 1910.108.

RESPIRATORY PROTECTION

If personal exposure cannot be controlled below applicable limits by ventilation, wear a properly fitted organic vapor/particulate respirator approved by NIOSH/MSHA for protection against materials in Section 2.

PROTECTIVE GLOVES

None required for normal application of aerosol products where minimal skin contact is expected. For long or repeated contact, wear chemical resistant gloves.

EYE PROTECTION

Wear safety spectacles with unperforated sideshields.

OTHER PRECAUTIONS

Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

PRODUCT WEIGHT	5.92 lb/gal	709 g/l
SPECIFIC GRAVITY	0.71	
BOILING POINT	<0 - 415 °F	<-18 - 212 °C
MELTING POINT	Not Available	
VOLATILE VOLUME	95%	
EVAPORATION RATE	Faster than ether	
VAPOR DENSITY	Heavier than air	
SOLUBILITY IN WATER	Not Available	
pH	7.0	
VOLATILE ORGANIC COMPOUNDS (VOC Theoretical - As Packaged)		
	Volatile Weight 81.18%	Less Water and Federally Exempt Solvents

SECTION 10 — STABILITY AND REACTIVITY**STABILITY — Stable****CONDITIONS TO AVOID**

None known.

INCOMPATIBILITY

None known.

HAZARDOUS DECOMPOSITION PRODUCTS

By fire: Carbon Dioxide, Carbon Monoxide

HAZARDOUS POLYMERIZATION

Will not occur

SECTION 11 — TOXICOLOGICAL INFORMATION**CHRONIC HEALTH HAZARDS**

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage.

Naphthalene is classified by IARC as possibly carcinogenic to humans (2B) based on inadequate evidence in humans and sufficient evidence in laboratory animals.

Ethylbenzene is classified by IARC as possibly carcinogenic to humans (2B) based on inadequate evidence in humans and sufficient evidence in laboratory animals. Lifetime inhalation exposure of rats and mice to high ethylbenzene concentrations resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. These effects were not observed in animals exposed to lower concentrations. There is no evidence that ethylbenzene causes cancer in humans.

TOXICOLOGY DATA

CAS No.	Ingredient Name			
74-98-6	Propane	LC50 RAT LD50 RAT	4HR	Not Available Not Available
106-97-8	Butane	LC50 RAT LD50 RAT	4HR	Not Available Not Available
64742-89-8	Lt. Aliphatic Hydrocarbon Solvent	LC50 RAT LD50 RAT	4HR	Not Available Not Available
108-88-3	Toluene	LC50 RAT LD50 RAT	4HR	4000 ppm 5000 mg/kg
100-41-4	Ethylbenzene	LC50 RAT LD50 RAT	4HR	Not Available 3500 mg/kg
1330-20-7	Xylene	LC50 RAT LD50 RAT	4HR	5000 ppm 4300 mg/kg
64742-94-5	Medium Aromatic Hydrocarbons	LC50 RAT LD50 RAT	4HR	Not Available Not Available
91-20-3	Naphthalene	LC50 RAT LD50 RAT	4HR	Not Available Not Available
67-64-1	Acetone	LC50 RAT LD50 RAT	4HR	Not Available 5800 mg/kg

SECTION 12 — ECOLOGICAL INFORMATION**ECOTOXICOLOGICAL INFORMATION**

No data available.

SECTION 13 — DISPOSAL CONSIDERATIONS**WASTE DISPOSAL METHOD**

Waste from this product may be hazardous as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

Waste must be tested for ignitability to determine the applicable EPA hazardous waste numbers.

Do not incinerate. Depressurize container. Dispose of in accordance with Federal, State/Provincial, and Local regulations regarding pollution.

SECTION 14 — TRANSPORT INFORMATION

Multi-modal shipping descriptions are provided for informational purposes and do not consider container sizes. The presence of a shipping description for a particular mode of transport (ocean, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport.

US Ground (DOT)

May be classed as LTD. QTY. OR ORM-D

UN1950, AEROSOLS, 2.1, LIMITED QUANTITY, (ERG#126)

Canada (TDG)

May be classed as LTD. QTY. OR ORM-D

UN1950, AEROSOLS, CLASS 2.1, LIMITED QUANTITY, (ERG#126)

IMO

May be shipped as Limited Quantity

UN1950, AEROSOLS, CLASS 2.1, LIMITED QUANTITY, Ems F-D, S-U, ADR (D)

IATA/ICAO

UN1950, AEROSOLS, FLAMMABLE, 2.1, LIMITED QUANTITY

SECTION 15 — REGULATORY INFORMATION**SARA 313 (40 CFR 372.65C) SUPPLIER NOTIFICATION**

CAS No.	CHEMICAL/COMPOUND	% by WT	% Element
108-88-3	Toluene	16	
100-41-4	Ethylbenzene	2	
1330-20-7	Xylene	13	
91-20-3	Naphthalene	0.2	

CALIFORNIA PROPOSITION 65

WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

TSCA CERTIFICATION

All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

SECTION 16 — OTHER INFORMATION

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.

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SOUTHEASTERN CHEMICAL

MATERIAL SAFETY DATA SHEET

Service or Information Number: (800)428-2436 / In case of Emergency call Chem-Trec 800-424-9300

#10 LACQUER THINNER

SECTION 1: PRODUCT IDENTIFICATION

SYNONYMS: Acrylic Lacquer Thinner

FORMULA: Paint related material

MOLECULAR WEIGHT: N/A

NFPA 704M/HMIS RATING: 2/2 Health 3/3 Flammability 0/0 Reactivity 0 Other
0 = Insignificant 1 = Slight 2 = Moderate 3 = High 4 = Extreme

SECTION 2: HAZARDOUS INGREDIENTS

INGREDIENT(S)	CAS#	APPROX. %	OSHA
Toluene	108-88-3	25-40%	100
Methanol	67-56-1	12-18%	200
Acetone	67-64-1	16-24%	750
Aliphatic Petroleum Distillates	64742-89-8	10-30%	400

Ethylene Glycol Butyl Ether	111-76-2	1-5%	25
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SECTION 3: FIRST AID INFORMATION

EYES: Flush promptly with copious amounts of water for 15 minutes. Call a physician.
SKIN: Wash thoroughly with soap and water. Remove contaminated cloth. Seek medical attention.
INHALATION: Remove to fresh air. Seek medical attention.
INGESTION: Induce vomiting if victim is conscious. This product contains Methyl Alcohol and cannot be made non-poisonous. Seek medical attention.

SECTION 4: HEALTH EFFECTS/HAZARD INFORMATION

PRIMARY ROUTES OF ENTRY: Dermal ☒ Ingestion ☒ Inhalation ☒
EYE CONTACT: May cause irritation and/or conjunctival inflammation.
SKIN CONTACT: May cause irritation.
INHALATION: May cause irritation to respiratory tract. May cause depression of the central nervous system. Prolonged exposure may result in liver or kidney damage.
MEDICAL CONDITIONS AGGRAVATED BY LONG TERM EXPOSURE: Alcoholism and CNS, kidney, skin or liver disease.

SECTION 5: TOXICOLOGY/CARCINOGENITY INFORMATION

TOXICOLOGY: No specific toxicology information available for this product.

CARCINOGENITY: No specific carcinogenicity information available for this product.

SECTION 6: PHYSICAL AND CHEMICAL PROPERTIES

COLOR: Clear	FORM: Liquid	ODOR: Characteristic
SPECIFIC GRAVITY:	.8017-.8200 @ 60 Degrees F	Solvent
BOILING POINT:	133 Degrees F	
VAPOR PRESSURE:	181.7 Hg @ 68 Degrees F Component	
FLASH POINT:	-18 Degrees F	
VAPOR DENSITY:	Heavier than air	
EVAPORATION RATE:	2.47 (n-Butyl Acetate = 1)	

SOUTHEASTERN CHEMICAL

MATERIAL SAFETY DATA SHEET

Service or Information Number:

In case of Emergency call Chem-Trec 800-424-9300

#10 LACQUER THINNER

SECTION 7: FIRE AND EXPLOSION INFORMATION

FLASH POINT: -18 Degrees F METHOD: (PMCC)
FLAMMABLE LIMITS: LEL: 1; UEL:36

SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

EXTINGUISHING MEDIA: Foam, CO2, dry chemical.

UNUSUAL FIRE AND EXPLOSION HAZARD: This material is extremely flammable and may be ignited by heat, sparks, flame or other sources of ignition. Vapors are heavier than air and may accumulate in low areas.

SECTION 8: REACTIVITY INFORMATION

STABILITY: Stable

INCOMPATIBILITY: Storage in open container, prolonged storage above 100F, exposure to excessive heat or open flame, strong acids or bases, oxidizing agents, amines, anhydrides.

HAZARDOUS DECOMPOSITION PRODUCTS: In the event of combustion CO, CO2 may be formed. Do not breathe smoke or fumes. Wear suitable protective equipment.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 9: PERSONAL PROTECTION EQUIPMENT

RESPIRATORY PROTECTION: Chemical respirator with self-contained air supply is required when concentration of vapor exceed the established exposure limits.

VENTILATION: Good general ventilation (typically 10 air changes per hour) should be sufficient to control airborne levels. Ventilation rates should be matched to conditions. Supplementary local exhaust ventilation, closed systems, or poorly ventilated spaces, evaporation from large surfaces, spraying, heating, etc.

PROTECTIVE EQUIPMENT: Safety glasses with side shields (or goggles) are recommended for any type of industrial chemical handling. Good industrial hygiene practice should be followed which includes preventing eye contact and minimizing skin contact.

SECTION 10: SPILL AND DISPOSAL INFORMATION

IN CASE OF TRANSPORTATION ACCIDENTS, CALL CHEM-TREC AT 800-424-9300.

SPILL CONTROL AND RECOVERY: Extinguish all sources of flame and ignition absorb with inert material such as vermiculite or sand. Sweep up and collect in containers to dispose as solid waste. Wash the area with tri-sodium phosphate and water.

DISPOSAL: Recycle through fuel blending, incineration and/or land disposal. Observe all federal, state, and local laws concerning health and environment.

SOUTHEASTERN CHEMICAL

MATERIAL SAFETY DATA SHEET

Service or Information Number: (800)428-2436 / In case of Emergency call Chem-Trec 800-424-9300

#10 LACQUER THINNER

SECTION 11: ENVIRONMENTAL INFORMATION

No environmental information available for this product.

SECTION 12: TRANSPORTATION INFORMATION

DOT Hazard Classification: Paint Related Material, 3, UN-1263, PGII, Flammable Liquid

SECTION 13: ADDENDUM TO MATERIAL SAFETY DATA SHEET (Identifies SARA 313 Substances)

COMPOUND	SARA EHS Sec. 302 RQ (lb)	TPQ (lb)	SARA Sec. 313	CERCLA Sec. 103 RQ (lbs)	RCRA Sec. 261.33 (If Pure)
Toluene	----	----	YES	1000	YES, U220
Methanol	5000	----	YES	5000	YES, U154
Acetone	5000	----	NO	5000	YES, U002
Aliphatic Petroleum Distillates	----	----	No	----	No
Ethylene Glycol					
Butyl Ether	----	----	NO	----	NO

Monomethyl Ether Acetate

SARA Section 302 RQ: Reportable Quantity of Extremely Hazardous Substances, from 40 CFR 355

SARA Section 302 TPQ: Threshold Planning Quantity of Extremely Hazardous Substances

SARA Section 313 Chemicals: Toxic Substances subject to the annual reporting requirements listing at 40 CFR 302.4

CERCLA Section 103: Releases to air, land, or water of these hazardous substances which exceed the RQ must be reported to the National Response Center, (800-424-8802). Listed at 40 CFR 302.4

RCRA: Commercial chemical product wastes designated as acute hazards and toxic under 40 CFR 261.33

REVISION DATE: 1/5/00

SOUTHEASTERN CHEMICAL IND. Inc provides the information contained in this MSDS in good faith but makes no representation as to its comprehensiveness or accuracy. Individuals receiving the information must exercise their independent judgement in determining its appropriateness for a particular purpose or use.

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M A T E R I A L S A F E T Y D A T A S H E E T

I. IDENTIFICATION

MANUFACTURED BY: Diamond Vogel Paint
1020 Albany Place South
Orange City, Ia 51041

24 Hour Emergency Telephone
CHEMTREC 1-800-424-9300

REVISED: 01/26/1999
PRINTED: 10/24/2001

General Information:
Mon-Fri 8 AM - 5 PM
712-737-4996

TRADE NAME: #10 Mineral Spirits

MFG. PRODUCT NUMBER: N-1110

PROPER SHIPPING NAME: Paint Related Material

II. HAZARDOUS INGREDIENTS

CAS #64741-41-9 Mineral Spirits

WT %: 75-99

Footnote: (1)

ACGIH TLV: 100 PPM

ACGIH STEL:

OSHA PEL: 500 PPM

OSHA CEILING:

OSHA PEAK:

VAPOR PRESSURE: 2.0 mm

LEL%: 7

WARNING MESSAGES:

- (1) Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. Chronic exposure may cause damage to the central nervous system, respiratory system, lung, eye, skin, liver, gastrointestinal tract, spleen, kidneys, and blood.
- (2) See Section IX for reportable Hazardous Air Pollutants.

III. PHYSICAL DATA

BOILING RANGE: 311-380° F

EVAPORATION RATE: * slower than ether *

PERCENT VOLATILE BY VOLUME: 100.00%

WEIGHT PER GALLON: 6.50 LBS

VAPOR DENSITY: * heavier than air *

ACTUAL VOC (lb/gal): 6.50

EPA VOC (lb/gal): 6.50

EPA VOC (g/L): 779.19

IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 39° C 102° F

LEL: Refer to Section II

FLAMMABILITY CLASSIFICATION: CLASS II

DOT CLASSIFICATION (HAZARD CLASS): *Combustible Liquid*

EXTINGUISHING MEDIA: *carbon dioxide, dry chemical, or fire foam*

UNUSUAL FIRE AND EXPLOSION HAZARDS: keep away from heat, sparks, and flame.

SPECIAL FIRE FIGHTING PROCEDURES: Water is unsuitable, but may be used to cool closed containers.

V. HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE: See Section II.

EFFECTS OF OVEREXPOSURE:

ACUTE: High vapor concentrations are irritating to the eyes and the respiratory tract, and may cause headaches, dizziness, anesthesia, drowsiness, unconsciousness, and other central nervous system effects, including death.

Product has a low order of acute oral and dermal toxicity, but minute amounts aspirated into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possibly death.

CHRONIC: None recognized.

MEDICAL CONDITIONS PRONE TO AGGRAVATION BY EXPOSURE: Consult physician

PRIMARY ROUTE(S) OF ENTRY: Skin and Inhalation

EMERGENCY AND FIRST AID PROCEDURES:

INHALATION: Remove to fresh air. Restore breathing. Treat symptomatically. Consult a physician.

EYES: Flush immediately with large amounts of water for at least 15 minutes. Talk to a physician for medical treatment.

SKIN: Wipe off with towel. Wash with soap and water. Remove contaminated clothing.

INGESTION: If swallowed, call a physician immediately. Remove stomach contents by gastric suction or induce vomiting only as directed by a medical personnel. Never give anything by mouth to an unconscious person.

VI. REACTIVITY DATA

STABILITY: *stable*

HAZARDOUS POLYMERIZATION: *will not occur*

INCOMPATIBILITY: * unknown *

HAZARDOUS DECOMPOSITION PRODUCTS: Fire, burning and welding may generate carbon monoxide.

CONDITIONS TO AVOID: Fire, burning, and welding.

VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Remove all sources of ignition (flames, hot surfaces and electrical, static or frictional sparks). Avoid breathing vapors. Ventilate area. Use non-sparking tools. Remove with inert absorbant.

WASTE DISPOSAL METHOD: Dispose of in accordance with local, state, and federal regulations.

VIII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: In confined areas of poor ventilation, use chemical cartridge respirator or self-contained breathing apparatus.

VENTILATION: Provide general dilution or local exhaust ventilation in volume and pattern to keep TLV and LEL of most hazardous ingredient in Section II, below acceptable limit.

PROTECTIVE GLOVES: None required except for prolonged contact.

EYE PROTECTION:

Splash proof eye goggles. In emergency situations, use eye goggles with a full face shield.

OTHER PROTECTIVE EQUIPMENT: *none*

HYGIENIC PRACTICES: See Section V

IX. SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

Do not store near heat, sparks, or flame.

OTHER PRECAUTIONS: * none *

This product contains no known reportable Hazardous Air Pollutants.

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NEW RAPID TAP® MATERIAL SAFETY DATA SHEET

02/05/00
MSDS PROVIDED BY:
STOODY INDUSTRIAL AND WELDING SUPPLY, INC.
3316 National Ave., San Diego, CA 92113
Phone: (619) 234-6750
MILITARY EMERGENCY RESPONSE NUMBER 1 (800) 851-8061

RELTON corporation ®
CHEMICAL DIVISION

MATERIAL SAFETY DATA SHEET

Meets requirements of 29 CFR 1910.1200
Federal Hazard Communication Standard

HMIS	
Health	1
Fire	1
Reactivity	1

SECTION I

MANUFACTURER'S NAME: Relton Corporation 317 Rolyn Place Arcadia, CA 91007-2838 EMERGENCY RESPONSE for spill, leak, exposure, etc: Chemtrec – (800) 424-9300 For non-emergency product information: Relton Corp – (213) 681-2551 (800) 423-1505	PRODUCT NAME OR NUMBER NEW Rapid Tap® CHEMICAL NAME & SYNONYMS: Predominantly Chlorinated Paraffin CHEMICAL FAMILY: Chlorinated Paraffin FORMULA: Mixture (see Section II)
---	--

SECTION II - INGREDIENTS

	TLV	PEL	STEL	C.A.S. NO.	% wt.
Paraffin, chlorinated	NE	NE	NE	61788-76-9	< 40
Mineral Oil	5 mg/m ³	5 mg/m ³	NE	64742-58-1	< 50
Metal-Cutting-Fluid Additive	5 mg/m ³	10 mg/m ³	NE	Trade secret	< 8
Soybean Oil, epoxidized	NE	NE	NE	8013-07-8	> 1
Olefin Sulfide	5 mg/m ³	5 mg/m ³	NE	Trade secret	< 1
Cinnamon Oil Perfume	NE	NE	NE	--	trace

SECTION III – PHYSICAL DATA

BOILING POINT (F°) (C°) :	450°F	SPECIFIC GRAVITY (H ₂ O=1) @ 25°C :	1.02	Freezing Point:	-20°F
VAPOR PRESSURE (mm Hg) :	NF	PERCENT VOLATILE BY VOLUME (%) :	NA	VOC: Negligible	
VAPOR DENSITY (AIR=1) :	NF	EVAPORATION RATE (WATER=1) :	Slower than water		
SOLUBILITY IN WATER :	< .2%	pH: NA			
APPEARANCE AND ODOR: light amber color; slight, sweet odor			MATERIAL IS LIQUID		

SECTION IV – FIRE AND EXPLOSION HAZARD DATA

Data is based upon testing mixture as a whole.

FLASH POINT (method used)	350°F COC	FLAMMABLE LIMITS	LFL	UFL
		Non-flammable	ND	ND
EXTINGUISHING MEDIA Carbon dioxide, Foam, Dry Chemical, Water, Fog				
SPECIAL FIRE FIGHTING PROCEDURES				
Self-contained breathing apparatus with full facepiece in a pressure-demand mode; full-body protective clothing. Treat as oil fire.				
UNUSUAL FIRE AND EXPLOSION HAZARDS combustion can produce acid gases (hydrogen chloride, hydrogen sulfide) Exposing containers to intense heat could cause drums to rupture. Cool fire-exposed containers with water spray to prevent rupture.				

SECTION V – HEALTH HAZARD DATA

ROUTES OF ENTRY AND SYMPTOMS OF OVEREXPOSURE

Eyes and skin: may cause mild irritation. Inhalation: may cause mild upper respiratory irritation. Ingestion: possible nausea.

EMERGENCY AND FIRST AID PROCEDURES:

Eyes: Flush for 15 minutes with water. Skin: Wash with soap and water. Inhalation: remove to fresh air. Ingestion: do not induce vomiting; give lots of water to a conscious person. Call Doctor

NE = not established NF = not found NA = not applicable ND = not determined

NEW RAPID TAP® MATERIAL SAFETY DATA SHEET

SECTION VI – REACTIVITY DATA

STABILITY	UNSTABLE		CONDITIONS TO AVOID:
	STABLE	X	Elevated temperatures produce decomposition
INCOMPATIBILITY (materials to avoid): Strong oxidizing and reducing agents, strong alkalies,. Iron and zinc catalyze deterioration			
HAZARDOUS DECOMPOSITION PRODUCT: Combustion can produce carbon-dioxide and monoxide, hydrogen chloride, incompletely burned hydrocarbon products, oxides of sulfur & nitrogen, aldehydes, & traces of hydrogen sulfide.			
HAZARDOUS	MAY OCCUR		CONDITIONS TO AVOID:
POLYMERIZATION	WILL NOT OCCUR	X	NA

SECTION VII– SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:	Clean up promptly by vacuum or absorbent material. Prevent discharge to streams or sewage systems; report if required.
WASTE DISPOSAL METHOD	Transport in DOT-approved container to EPA-approved treatment, storage, and disposal facility. Follow local, State & Federal disposal regulations.

SECTION VIII– SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type)	Normally not needed. For oil-type mist, use NIOSH listed respirator.		
VENTILATION	LOCAL EXHAUST (Specify Rate)	SPECIAL Not required normally	
	Adequate to avoid fumes and oil mists		
Local-mechanical	MECHANICAL (General) (Specify Rate):	OTHER	
PROTECTIVE GLOVES	Freshly washed cotton or rubber, nitrile	EYE PROTECTION	Chemical goggles or full faceshield
OTHER PROTECTIVE EQUIPMENT	clean clothes Apron or chemical suit where splashing may occur		

SECTION IX– SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:	Store in a dry place. Vent vapors to open area if stored above 100°F. Don't store near food or in zinc or iron containers.
OTHER PRECAUTIONS:	Chlorinated Paraffin will darken at elevated temperatures. Avoid mist and vapor; use with adequate ventilation & exhaust of work area.

ADDITIONAL INFORMATION

DOT:	No hazardous substance No hazard class It# 155250 class 65	UN or NA#: Not applicable Freight classification: chlorinated paraffin
SARA:	Not considered to be subject to Title III	
TSCA:	All components required to be listed on the inventory are listed	
IARC-NTP-OSHA:	Neither the mixture nor any component is listed as a carcinogen or suspected carcinogen.	
Ozone-Depleting Substance:	No 1,1,1-Trichloroethane (methane chloroform) or other ozone-depleting substance No 5/15/93 labeling required	
California Prop. 65 Material:	None	
Note:	Although no exposure limits are established, observe ACGIH-OSHA TWA for oil mists: 5Mg/meter ³ . Use with adequate local ventilation and exhaust devices.	

RELTON corporation ®

317 ROLYN PLACE ARCADIA CALIFORNIA 91007-2838
Phone: (213) 681-2551 (800) 423-1505
Emerg: Chemtrec –(800) 424-9300

Prepared: 2/24/93 Updated 11/07/94
Updated: 3/04/93 Updated 11/04/96
Updated: 7/15/93 Updated 07/25/97

By Dr. Robert E. Pratt,
consulting chemist

NORTON -- RESINOID BONDED GRINDING WHEELS - ANY GRADE
MATERIAL SAFETY DATA SHEET
NSN: 513000F009416
Manufacturer's CAGE: 44197
Part No. Indicator: A
Part Number/Trade Name: RESINOID BONDED GRINDING WHEELS

=====

General Information

=====

Item Name: ANY GRADE
Company's Name: NORTON CO
Company's Street: 1 NEW BOND ST
Company's City: WORCESTER
Company's State: MA
Company's Country: US
Company's Zip Code: 01615-0008
Company's Emerg Ph #: 508-795-2690/393-5847
Company's Info Ph #: 508-795-2690/795-5738
Record No. For Safety Entry: 001
Tot Safety Entries This Stk#: 002
Status: SE
Date MSDS Prepared: 17APR90
Safety Data Review Date: 28JAN94
MSDS Preparer's Name: THOMAS Z. RICHARDS
Preparer's Company: NORTON CO
Preparer's St Or P. O. Box: 1 NEW BOND ST
Preparer's City: WORCESTER
Preparer's State: MA
Preparer's Zip Code: 01615-0008
MSDS Serial Number: BHGHY

=====

Ingredients/Identity Information

=====

Proprietary: NO
Ingredient: ALUMINUM OXIDE, BAUXITE, ALUMINA, DIALUMINUM TRIOXIDE
Ingredient Sequence Number: 01
Percent: 80
NIOSH (RTECS) Number: BD1200000
CAS Number: 1344-28-1
OSHA PEL: 10 MG/CUM TOTAL DUST
ACGIH TLV: 10 MG/CUM TOTAL DUST

Proprietary: NO
Ingredient: SILICON CARBIDE
Ingredient Sequence Number: 02
Percent: 80
NIOSH (RTECS) Number: VW0450000
CAS Number: 409-21-2
OSHA PEL: 10 MG/CUM TOTAL DUST
ACGIH TLV: 10 MG/CUM TOTAL DUST

Proprietary: NO
Ingredient: FERROVANADIUM DUST
Ingredient Sequence Number: 03
Percent: 20
NIOSH (RTECS) Number: LK2900000
CAS Number: 12604-58-9
OSHA PEL: 1 MG/CUM
ACGIH TLV: 1 MG/CUM

Proprietary: NO
Ingredient: ACRYLONITRILE (SUSPECTED HUMAN CARCINOGEN BY IARC, ACGIH, NTP, OSHA)
Ingredient Sequence Number: 04
Percent: 20

NIOSH (RTECS) Number: AT5250000
CAS Number: 107-13-1
OSHA PEL: 2 PPM
ACGIH TLV: 4.3 MG/CUM (A2)

Proprietary: NO
Ingredient: COPPER (DUST & MIST), BRONZE POWDER
Ingredient Sequence Number: 05
Percent: 20
NIOSH (RTECS) Number: GL5325000
CAS Number: 7440-50-8
OSHA PEL: 0.1 MG(CU)/M3 (FUME)
ACGIH TLV: 0.2 MG/M3 (FUME)
Other Recommended Limit: 1 MG(CU)/M3 (DUST)
=====

Physical/Chemical Characteristics

=====

Appearance And Odor: SOLID PRODUCT: MAY GIVE OFF ODOR IN USE
Specific Gravity: 2-4
Solubility In Water: SLIGHT
=====

Fire and Explosion Hazard Data

=====

Extinguishing Media: WATER
=====

Reactivity Data

=====

Stability: YES
Hazardous Decomp Products: DUST & DECOMPOSING ODORS. COOLANTS MAY PRODUCE
OTHER DECOMPOSITION PRODUCTS.
Hazardous Poly Occur: NO
=====

Health Hazard Data

=====

Route Of Entry - Inhalation: YES
Route Of Entry - Skin: NO
Route Of Entry - Ingestion: NO
Health Haz Acute And Chronic: CHRONIC INHALATION: MAY AFFECT BREATHING
CAPACITY. SKIN/EYES: IRRITATION. GRINDING MAY CREATE ELEVATED SOUND LEVELS
WHICH MAY AFFECT HEARING.
Carcinogenicity - NTP: YES
Carcinogenicity - IARC: YES
Carcinogenicity - OSHA: YES
Explanation Carcinogenicity: SEE INGREDIENTS
Signs/Symptoms Of Overexp: INHALATION: COUGH.
Med Cond Aggravated By Exp: RESPIRATORY CONDITIONS
Emergency/First Aid Proc: INHALATION: REMOVE TO FRESH AIR. ARTIFICIAL
RESPIRATION AS NEEDED. SKIN: WASH W/SOAP & WATER. EYES: FLUSH W/PLENTY OF
WATER. INGESTION: OBTAIN MEDICAL ATTENTION IN ALL CASES.
=====

Precautions for Safe Handling and Use

=====

Steps If Matl Released/Spill: NORMAL CLEANUP PROCEDURES.
Waste Disposal Method: STANDARD LANDFILL METHODS CONSISTENT W/APPLICABLE
FEDERAL, STATE & LOCAL LAWS.
=====

Control Measures

=====

Respiratory Protection: APPROVED DUST RESPIRATORS AS NEEDED
Ventilation: LOCAL EXHAUST OR MECHANICAL (GENERAL): RECOMMENDED.
Protective Gloves: RECOMMENDED
Eye Protection: RECOMMENDED
Other Protective Equipment: HEARING PROTECTION AS NEEDED
=====

Transportation Data

=====

Disposal Data

=====

Label Data

=====

Label Required: NO
Technical Review Date: 31JAN94
Label Date: 31JAN94
Label Status: N
Common Name: RESINOID BONDED GRINDING WHEELS
Label Name: NORTON CO
Label Street: 1 NEW BOND ST
Label City: WORCESTER
Label State: MA
Label Zip Code: 01615-0008
Label Country: US
Label Emergency Number: 508-795-2690/393-5847

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*****MATERIAL SAFETY DATA SHEET*****
For Coatings, Resins and Related Materials

SECTION I-PRODUCT AND PREPARATION INFORMATION

MANUFACTURER: RUST-OLEUM CORPORATION EMERGENCY AND INFORMATION
ADDRESS: 11 Hawthorn Parkway TELEPHONE: (708)367-7700
Vernon Hills, IL
60061

PRODUCT CLASS: Aerosol Spray Paint
MANUFACTURERS CODE: 2412
TRADE NAME: OVERALL Fast Drying Industrial Enamel Spray
DATE OF PREPARATION: March 23, 1993 (rwb)

SECTION II-HAZARDOUS INGREDIENTS

INGREDIENT/CAS No	WT %	EXPOSURE LIMITS		LEL	mm Hg@20C
		ACGIH-TLV	OSHA-PEL		
Xylene/1330-20-7	1%	100ppm	100ppm	1.2%	9.5
Toluene/108-88-3	55%*	100ppm	100ppm	1.2%	22.0
Mineral Spirits/8052-41-3	1%	100ppm	100ppm	1.0%	2.0
Propellant/68476-86-8 (propane, butane, isobutane)	35%*	1000ppm	1000ppm	1.8%	85psi

** TLV established for Butane only

* Nearest 5%

NE-not established NA-not applicable

SECTION III-PHYSICAL DATA

Boiling range: Below 0 F Vapor density: Heavier than air
Evaporation Rate: Slower % Volatile: NA Wt/gal: NA
(Ether=1) (by volume) pH: NA

SECTION IV-FIRE AND EXPLOSION HAZARDS

Flammability Classification: Extremely Flashpoint: <0 F (TCC)
Flammable

DOT Classification: Consumer Commodity ORM-D

Extinguishing Media: NFPA Class B extinguishers (Carbon dioxide, dry chemical
or foam)

Special Fire Fighting Procedures:

Full protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. Water may be used to cool closed containers to prevent pressure build-up and possible autoignition or explosion. If water is used, fog nozzles are preferred.

Unusual Fire and Explosion Hazards:

Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Closed containers may explode when exposed to extreme heat. DO NOT apply to hot surfaces.

SECTION V-HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE:

Acute(Inhalation): Harmful if inhaled. May affect the brain and nervous system causing dizziness, headache or nausea. Repeated overexposures may progressively lead to staggering gait, confusion, unconsciousness or coma. Causes nose and throat irritation.

Acute(Skin or Eye Contact): Causes eye and skin irritation which can lead to dermatitis with repeated overexposures.

Ingestion: May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chronic: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Overexposure to Xylene and Toluene in lab animals has been associated with liver abnormalities, kidney, lung, spleen and eye damage as well as anemia. Effects in humans have included liver and cardiac abnormalities.

EMERGENCY AND FIRST AID PROCEDURES:

Inhalation: Remove from exposure, restore breathing and notify a physician.

Eye Contact: Flush immediately with large amounts of water for at least 15 minutes. Notify a physician.

Skin Contact: Wash affected area with soap and water, remove contaminated clothing and wash before reuse.

Ingestion: DO NOT induce vomiting. Keep person warm, quiet and get medical attention. Aspiration of this material into the lungs can cause chemical pneumonitis which can be fatal.

SECTION VI-REACTIVITY DATA

Stability: Stable Incompatible: with strong oxidizing agents

Hazardous Decomposition Products: By open flame- Carbon monoxide & Carbon dioxide

Hazardous Polymerization: Will Not Occur

SECTION VII-SPILL OR LEAK PROCEDURES

Release or Spill Procedures: Remove all sources of ignition, ventilate area and remove with inert absorbent and non-sparking tools

Waste Disposal Method: Dispose of according to local, state and federal regulations. DO NOT incinerate closed containers.

SECTION VIII-SPECIAL PROTECTION INFORMATION

Respiratory Protection: Use NIOSH approved chemical cartridge respirator (TC23C) to remove solid airborne particles of overspray and organic vapors during spray application. In Confined Areas: Use NIOSH approved supplied-air respirators or hoods (TC19C).

Eye Protection: Use safety eyewear designed to protect against splash of liquids.

Other Protective Equipment: Use impervious gloves/clothing to prevent skin contact

Ventilation: Provide general dilution or local exhaust ventilation in volume and pattern to keep TLV of hazardous ingredients below acceptable limits.

SECTION IX-SPECIAL PRECAUTIONS AND REGULATORY ISSUES

Handling and Storage Precautions: Do not store above 120 F. DO NOT puncture or incinerate containers. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal.

CALIFORNIA PROPOSITION 65 STATEMENT: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

MATERIAL SAFETY DATA SHEET

NOTE: BLANK SPACES ARE NOT PERMITTED. IF ANY ITEM IS NOT APPLICABLE, THE SPACE MUST BE MARKED TO INDICATE THAT.					
IDENTITY (As shown on Label or package) PLASTI DIP and PLASTI DIP UV (F-698, 819, 820)			PART NO. IF APPLICABLE		
SECTION I					
MANUFACTURER'S NAME Plasti Dip International Inc.			EMERGENCY PHONE No. USA only: 1-800-424-9300 INT'L: 703-527-3887		
ADDRESS (NUMBER, STREET, CITY, STATE AND ZIP CODE) 3920 Pheasant Ridge Drive			REVISION #		
Blaine, MN 55449			MANUFACTURER'S PHONE No. FOR INFORMATION 1-763-785-2156		
			DATE MSDS WAS PREPARED October 17, 2008		
SECTION II - HAZARDOUS INGREDIENTS INFORMATION. All Health Hazards which comprise 1% or greater of the composition and all carcinogens if 0.1% of the composition or greater.					
HAZARDOUS COMPONENTS CHEMICAL and IDENTITY AND COMMON NAME (S)	% Wt. (OPTIONAL)	CAS NO.	OSHA PEL	ACGIH TLV	OTHER LIMITS RECOMMEND
VM&P Naphtha	32 – 38	64742-89-8	300 ppm	300 ppm	None
Hexane	16-19	110-54-3	500 ppm	50 ppm	None
Toluene	13-16	108-88-3	200 ppm	50 ppm	None
Methyl Ethyl Ketone	3-7	78-93-3	200 ppm	200 ppm	None
Resins	25-27	N/A	N/A	N/A	None
SECTION III - PHYSICAL / CHEMICAL CHARACTERISTICS					
BOILING POINT 149-285°F	SPECIFIC GRAVITY (H₂O =1) 0.79 – 0.83		APPROXIMATE WEIGHT PER GALLON (LBS) 6.60 – 6.90		
VAPOR PRESSURE 125 mmHg @ 20°C	VAPOR DENSITY (AIR = 1) Heavier than air		EVAPORATION RATE (BUTYL ACETATE =1) >1.0		
SOLUBILITY IN WATER Insoluble	% VOLATILE 72 – 75 VOC LBS./GAL 4.8-5.2		OTHER (IF ANY) None		
APPEARANCE AND ODOR Various colors, Honey Like Substance – Characteristic Odor					
SECTION IV-FIRE AND EXPLOSION HAZARD DATA					
FLASH POINT -10.0°F (METHOD USED) TCC		FLAMMABLE LIMITS	LEL 0.9	UEL 11.5	
EXTINGUISHING MEDIA Carbon Dioxide, Dry Chemical, or Foam					
SPECIAL FIRE FIGHTING PROCEDURES Self contained breathing apparatus with a full face piece, operated in pressure demand or other positive pressure mode.					
UNUSUAL FIRE AND EXPLOSION HAZARDS This material is flammable and may be ignited by heat, sparks, flame or static electricity.					
HAZARDOUS PRODUCTS FORMED BY FIRE OR THERMAL DECOMPOSITION Carbon Dioxide and/or Carbon Monoxide					
EXPLOSIVE LIMITS (% BY VOLUME IN AIR) 0.9 – 11.5					
SECTION V - OPTIONAL HAZARD RATINGS IDENTIFICATION					
HAZARD RATING 4-EXTREME 3-HIGH 2-MODERATE 1-SLIGHT 0-INSIGNIFICANT **SEE SECTION IV		National Fire Protection Association (NFPA) FIRE <u>3</u> REACTIVITY <u>0</u> HEALTH <u>2</u> SPECIAL HAZARDS <u>None</u>			

This is the "front" when printed in duplex. Page 1 of 2 pages if not duplex.

SECTION VI - REACTIVITY AND STABILITY DATA			
STABILITY		UNSTABLE	STABLE X
INCOMPATIBILITY (Materials to Avoid) Strong acids, bases, oxidizing agents, selected amines with alkali metals and halogens.			
HAZARDOUS DECOMPOSITION OR BY PRODUCTS Carbon Monoxide, Carbon Dioxide			
HAZARDOUS POLYMERIZATION		MAY OCCUR WILL NOT OCCUR X	CONDITIONS TO AVOID May be ignited by heat, sparks, flame or static electricity.
SECTION VII - HEALTH HAZARD DATA			
ROUTES OF ENTRY		INHALATION? YES	SKIN? YES INGESTION? YES EYES? YES
HEALTH HAZARDS	ACUTE X CHRONIC X		
CARCINOGENICITY: No			
SIGNS AND SYMPTOMS OF EXPOSURE			
Headache, Dizziness, Drowsiness, Fatigue, Irregular Heartbeat, Skin and Eye Irritation.			
MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE			
EMERGENCY AND FIRST AID PROCEDURES			
Ingestion: Contact Physician or Poison Control Immediately.			
Inhalation: Remove to fresh air. Administer Oxygen or Artificial Respiration if Necessary.			
Eye Contact: Flush with large amounts of water. If irritation persists, contact Physician.			
Skin: Wash with soap and water.			
SECTION VIII - PRECAUTIONS FOR SAFE HANDLING AND USE			
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED			
Wipe up with floor absorbent. Transfer to hood. Prevent run-off to sewers.			
Eliminate all sources of ignition. Ventilate to maintain exposure below PEL's. Use sand or other material to dam or contain spills. If large spill, notify appropriate state and local agencies.			
WASTE DISPOSAL METHODS Dispose of product in accordance with local, county, state and federal regulations.			
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE			
Avoid eye contact with eyes. Keep container closed. Use with adequate ventilation. Keep away from sparks, flame and heat sources and store in a cool area. Avoid inhalation of vapors and personal contact with liquid product.			
Use good personal hygiene practices.			
OTHER PRECAUTIONS			
Keep Container Closed When Not In Use. Containers should be disposed of in an environmentally safe manner in accordance with Governmental Regulations.			
SECTION IX - CONTROL MEASURES			
RESPIRATORY PROTECTION (SPECIFY TYPE) Depending on the Airborne concentration, use a Respirator with appropriate NIOSH approved cartridge or supplied air equipment.			PROTECTIVE GLOVES Impervious Gloves
VENTILATION	LOCAL EXHAUST	Supplemental (if needed)	SPECIAL None
	MECHANICAL (GENERAL) To maintain exposure below PEL's		OTHER None
EYE PROTECTION Chemical splash goggles, or approved eye protection.			OTHER PROTECTIVE CLOTHING OR EQUIPMENT Chemical Apron/Eye bath/Safety Shower
WORK HYGIENIC PRACTICES Wash thoroughly after handling.			
SECTION X - TRANSPORTATION INFORMATION			
DOT PROPER SHIPPING NAME Coating Solution		DOT HAZARD CLASS 3	
DOT UN NUMBER UN 1139		DOT PACKING GROUP II	
IATA PROPER SHIPPING NAME Coating Solution		IATA HAZARD CLASS 3	
IATA UN NUMBER UN 1139		IATA PACKING GROUP II	
SECTION XI - 313 SUPPLIER NOTIFICATION			
THIS PRODUCT CONTAINS THE FOLLOWING CHEMICALS SUBJECT TO REPORTING REQUIREMENTS OF SECTION 313 OF THE EMERGENCY PLANNING AND COMMUNITY RIGHT -TO-KNOW ACT OF 1986, 40 CFR 372, (see table on page 1 for CAS # and percent by weight). Hexane, Toluene, and Methyl Ethyl Ketone			
WARNING: THIS PRODUCT CONTAINS A CHEMICAL KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND BIRTH DEFECTS, OR OTHER REPRODUCTIVE HARM.			

This is the "back" when printed in duplex. Page 2 of 2 pages if not duplex.

Prepared By: Michael N Hindin

THE INFORMATION PROVIDED HEREIN IS BASED ON DATA CONSIDERED ACCURATE. NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THE DATA OR THE RESULTS OBTAINED FROM ITS USE. SINCE THE INFORMATION CONTAINED HEREIN MAY BE APPLIED UNDER CONDITIONS BEYOND THE VENDORS CONTROL AND SINCE SUBSEQUENT DATA MAY SUGGEST MODIFICATION OF THE INFORMATION, VENDOR ASSUMES NO RESPONSIBILITY FOR THE RESULTS OF ITS USE.



MATERIAL SAFETY DATA SHEET

Supersedes: N/A

Issue Date: 2/1/00

Issue Date: N/A

SECTION I - CHEMICAL PRODUCT

Identity: **Fabric Refresher**Brands: **FEBREZE (Professional Line)**

Hazard Rating: 2

Health: 1

Flammability: 2

Reactivity: 0

4=EXTREME

3=HIGH

2= MODERATE

1=SLIGHT

Emergency Telephone Number: - 1-800-332-7787 or call Local Poison Control Center

SECTION II - COMPOSITION AND INGREDIENTS

Ingredients/Chemical Name: Water, alcohol, odor eliminator derived from corn, fragrance

Hazardous Ingredients as defined by OSHA, 29 CFR 1910.1200.

<u>Chemical Name</u>	<u>Common Name</u>	<u>CAS No.</u>	<u>Recommended Limits</u>	<u>Composition Range</u>	<u>LD50/LC50</u>
Ethyl alcohol	Ethanol	64-17-5	ACGIH TLV: 1000 mg/m ³	3-7%	

SECTION III - HAZARDS IDENTIFICATION

Health Hazards (Acute and Chronic):

Inhalation: Inhalation of high concentrations of ethanol vapor may cause irritation of the eyes and respiratory tract, drowsiness and fatigue.

Ingestion: Possible mild gastrointestinal irritation with nausea, vomiting and/or diarrhea.

Eye Contact: Mild eye irritant. Do not spray directly toward face. If eye contact occurs, rinse well with water.

Skin: Prolonged skin contact may result in transient, superficial effects similar to those produced by mild toilet soaps.

SECTION IV - FIRST AID INFORMATION**Emergency and First Aid Procedures:**

Inhalation: Get fresh air.
 Ingestion: Dilute with fluids and treat symptomatically.
 Eye contact: Rinse well with water for at least 15 minutes.
 Skin: Rinse with water.

Other: Product package has a caution statement: CAUTION: KEEP OUT OF REACH OF CHILDREN. Do not spray directly toward face. If eye contact occurs, rinse well with water.

SECTION V - FIRE FIGHTING INFORMATION

Flash Point (Method Used): >>150°F (cc) **Explosive Limits: LEL:** N/A **UEL:** N/A

Extinguishing Media: CO₂, water, or dry chemical

Special Fire Fighting Procedures: N/A

Unusual Fire Hazards: N/A.

Stability *Unstable:*

Conditions to Avoid: None known

Stable: X

Incompatibility (Materials to Avoid): None known

Hazardous Decomposition/By Products: None known

Hazardous Polymerization: *May Occur:* *Conditions to Avoid:* None known

Will Not Occur: X

SECTION VI - ACCIDENTAL RELEASE MEASURES

Personal Precautions: N/A

Environmental Precautions: DISPOSAL IS TO BE PERFORMED IN COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS. Small quantities may be slowly flushed down sewer with excess water or dispose as liquid scrap. Discard empty container in trash.

Steps To Be Taken in Case Material is Released or Spilled: Use water spray or dilute and/or wash away spills to avoid exposure and to protect persons working to stop/repair leak. Any spills are to be prevented from entering waterways. Sorbents may be used.

SECTION VII - HANDLING AND STORAGE

Precautions To Be Taken in Handling and Storing: Store at room temperature

Other Precautions: None.

SECTION VIII - EXPOSURE CONTROLS, PERSONAL PROTECTION

Respiratory Protection (Specify Type): No special requirements with casual exposure

Ventilation *Local Exhaust:* Not necessary.

Special: None

Mechanical (General): Acceptable.

Other: None

Eye Protection: None required with normal use.

Manufacturing: If splash of solution is likely, chemical goggles may be needed.

Protective Gloves: None required with normal use.

Manufacturing: Minimize skin contact with protective gloves (rubber, neoprene).

Other Protective Equipment: None required with normal use.

Manufacturing: Use ventilation to minimize exposure to vapor or mist (ethanol).

SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point °F: ~212°F

Specific Gravity (H₂O=1): ca. 1

Vapor Pressure (mm Hg): N/A

Percent Volatile by Volume (%): ca. 95

Vapor Density (Air=1): N/A

Evaporation Rate (nBuOAc=1): N/K

Odor Threshold: N/A

Freezing Point: N/A

Coefficient of Water/Oil Distribution: N/A

pH (1% solution): ~7.0

Scooped Density: N/A

Solubility in Water: Completely

Appearance and Odor: Clear liquid

Reserve Alkalinity: N/A

Product is perfumed.

SECTION X - STABILITY AND REACTIVITY

Possible Hazardous Reactions/Conditions: None known

Conditions to Avoid: None

Materials to Avoid: None

Hazardous Decomposition Products: None known

Other Recommendations: None

SECTION XI - TOXICOLOGICAL INFORMATION

LD50 (rats oral): >5000 mg/kg

SECTION XII - ECOLOGICAL INFORMATION

No concerns at relevant environmental concentrations.

SECTION XIII - DISPOSAL CONSIDERATIONS

Waste Disposal Method: Slowly flush down sewer with excess water or dispose as liquid scrap. . DISPOSAL IS TO BE PERFORMED IN COMPLIANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS. Discard empty container in trash.

SECTION XIV - TRANSPORT INFORMATION

DOT Classification: Febreze is not DOT hazardous.

SECTION XV - ADDITIONAL REGULATORY INFORMATION

All components are listed on the US TSCA Inventory. No components are affected by Significant New Use Rules (SNURs) under TSCA §5.

No components of Febreze are subject to California Proposition 65.

TSCA §4 Nonyl acetate (CAS# 628-63-7) of Febreze (Professional Line) is subject to TSCA §12(b) export notification.

SECTION XVI - OTHER INFORMATION

*N/A. - Not Applicable

*N/K. - Not Known

The submission of this MSDS may be required by law, but this is not an assertion that the substance is hazardous when used in accordance with proper safety practices and normal handling procedures. Data supplied is for use only in connection with occupational safety and health.

The information contained herein has been compiled from sources considered by Procter & Gamble to be dependable and is accurate to the best of the Company's knowledge. The information relates to the specific material designated herein, and does not relate to the use in combination with any other material or any other process. Procter & Gamble assumed no responsibility for injury to the recipient or third persons, for any damage to any property resulting from misuse of the controlled product.

MATERIAL SAFETY DATA SHEET

PENNZOIL® ROADSIDE™ FIX-A-FLAT®

1. PRODUCT AND COMPANY IDENTIFICATION

MSDS Number: 13380

Version Date: 10/15/00

Product Name: PENNZOIL® ROADSIDE™ FIX-A-FLAT®

Product Use: Seal & inflate automotive tires

Synonyms: PENNZOIL® ROADSIDE™ SUPER FIX-A-FLAT®, S410, S420, S430

Manufacturer

Pennzoil-Quaker State Company
P.O. Box 2967
Houston, TX 772522967
USA

Phone Numbers

Medical Emergency: 1-800-546-6040
CHEMTREC(USA): 1-800-424-9300
CHEMTREC(International): 1-703-527-3887
MSDS Assistance: 1-800-546-6227
Fax On Demand: 1-800-546-6227
Technical Assistance: 1-800-416-1600
Customer Service: 1-800-468-8397
Fax Number: 713-217-3181
Internet Address: www.MSDS.PZLQS.com

2. COMPONENT INFORMATION

Component	CAS No.	Weight Percent Range	Hazardous in Blend
WATER	7732-18-5	30 - 60	No
TETRAFLUOROETHANE	811-97-2	10 - 55	Yes
HEAVY AROMATIC SOLVENT NAPHTHA	64742-94-5	10 - 50	Yes
AMORPHOUS POLYOLEFIN	MIXTURE	< 15	No
AROMATIC RESIN	MIXTURE	< 10	No
INERT FILLER	MIXTURE	< 7	No
EMULSIFIER	TRADESECRET	1 - 8	No

This product is **HAZARDOUS** according to OSHA 29 CFR 1910.1200.

Hazards:

Flammable/Combustible ____ **Acute Toxin** X **Chronic Toxin** ____ **Carcinogen** ____
Pressure X **Reactive** ____ **Exposure Limit** X **Target Organ** ____ **Other** ____

Other: No information available

3. HAZARDS IDENTIFICATION

Emergency and Hazards Overview

DANGER: HARMFUL OR FATAL IF SWALLOWED. CONTENTS UNDER PRESSURE. MAY CAUSE EYE IRRITATION.

NFPA Ratings: **Health** 1 **Flammability** 1 **Reactivity** 0

Primary Route of Exposure: **Skin** X **Inhalation** ____ **Eye** ____

Health Effect Information

Eye Contact: Avoid eye contact. Exposure to mists and vapors may be irritating to the eyes. May be irritating to the eyes upon direct contact.

Skin Contact: Avoid skin contact. This product may cause skin irritation upon direct contact. Prolonged or repeated skin contact may result in dryness, chapping, and reddening. Pre-existing skin conditions may make the skin more susceptible and facilitate uptake by this route. May be absorbed through skin.

MATERIAL SAFETY DATA SHEET

MSDS Number: 13380

PENNZOIL® ROADSIDE™ FIX-A-FLAT®

Page 2 of 8

Inhalation: This product is not expected to pose an inhalation hazard under conditions of foreseeable use. Avoid prolonged inhalation of vapors. Acute and chronic overexposures may be irritating to the respiratory tract. Inhalation of high concentrations of this product can cause central nervous system depression and narcosis. Severe intoxication may lead to drowsiness, dullness, numbness, and headache followed by dizziness, weakness, and nausea. Exposure to extremely high concentrations may have anesthetic effects but are completely reversible upon cessation of exposure. Inhalation of high vapor concentrations may cause heart irregularities, including irregular pulse, palpitation and inadequate circulation. Vapors are heavier than air and can settle in low lying areas such as pits. Intentional misuse by deliberately concentrating and/or inhaling can be harmful or fatal.

Ingestion: Ingestion is unlikely for aerosol products. This product is regarded as having a low order of toxicity.

Medical Conditions Aggravated by Exposure: Drying and chapping may make the skin more susceptible to other irritants, sensitizers and disease. Individuals with preexisting diseases of the central nervous system or cardiovascular system may have increased susceptibility to this product.

Other: No information available

4. FIRST AID INFORMATION

Eye Contact: Immediately flush eyes with large amounts of water and continue flushing until irritation subsides. If irritation persists, seek medical attention.

Skin Contact: Wash contaminated area thoroughly with soap and water. If redness or irritation persists, seek medical attention.

Inhalation: If victim exhibits signs of vapor intoxication remove to fresh air. If discomfort persists seek medical attention.

Ingestion: Ingestion is unlikely for aerosol products. Accidental spraying into the mouth will not result in any harmful effects. Do not induce vomiting due to aspiration hazard.

Notes to Physician: Because of possible disturbances of cardiac rhythm, catecholamine drugs such as epinephrine, should be used with caution, and only in emergency situations.

Other: No information available

5. FIRE AND EXPLOSION INFORMATION

Flammable Properties

Flash Point (aerosol concentrate): None

Test Method: Setaflash

Flame Extension: 0", no flashback

Test Method: CPSC 1500.45

Flammable Limits in Air

Upper Percent: No data available

Lower Percent: No data available

Autoignition Temperature: No data available

Test Method: No information available

NFPA Classification: No information available

Extinguishing Media: Use water spray (fog), dry chemical, foam, or carbon dioxide.

Fire Fighting Measures

Special Fire Fighting Procedures and Equipment: This material is nonflammable.

MATERIAL SAFETY DATA SHEET

MSDS Number: 13380

PENNZOIL® ROADSIDE™ FIX-A-FLAT®

Page 3 of 8

Unusual Fire and Explosion Conditions: Caution! Contents are under pressure and can explode when exposed to heat or flames. Pressurized container: Protect from sunlight and do not expose to temperatures exceeding 50 C. Do not pierce or burn even after container is empty.

Hazardous Combustion By-Products: Carbon monoxide, carbon dioxide, and other oxides may be generated as products of combustion.

Other: No information available

6. ACCIDENTAL RELEASE MEASURES

Personnel Safeguards: Consult Health Effect Information in Section 3, Personal Protection Information in Section 8, Fire and Explosion Information in Section 5, and Stability and Reactivity Information in Section 10. Provide adequate ventilation during clean-up.

Regulatory Notifications: No notification required

Containment and Clean up: No special cleanup procedures are necessary.

Other: No information available

7. HANDLING AND STORAGE INFORMATION

Handling: Contents under pressure and can explode when exposed to heat or open flame. Caution!--Do not puncture or incinerate. Do not weld on a rim without first removing the tire from the rim. Failure to do so could cause the tire to explode regardless of whether tire inflator is used. Welded and repaired rims are unsafe.

Storage: Do not store at temperatures greater than 120 F.

Empty Container Warnings

Drums: Not applicable

Plastic: Not applicable

Other: No information available

8. EXPOSURE CONTROLS / PERSONAL PROTECTION INFORMATION

Exposure Limits and Guidelines

Component	CAS No.	Exposure Limit
HEAVY AROMATIC SOLVENT NAPHTHA	64742-94-5	OSHA - PEL: TWA 500 ppm ACGIH - TLV: TWA 100 ppm

Personal Protective Equipment

Eye/Face Protection: Wear safety glasses with unperforated sideshields.

Skin Protection: Skin protection is not required under conditions of normal use. For prolonged or repeated exposures, use impervious clothing (boots, gloves, aprons, etc.) over parts of the body subject to exposure. Launder soiled clothes.

Respiratory Protection: Respiratory protection is not required under conditions of normal use. If excessive levels of mists or vapors are generated while using this product, use an organic vapor respirator. All respirators must be NIOSH certified.

Personal Hygiene: Always wash hands and face with soap and water before eating, drinking, or smoking. Consumption of food and beverage should be avoided in work areas where this product is present.

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Engineering Controls / Work Practices

Ventilation: All use, including deflating of tires, must be done in a well-ventilated area. If product is used in enclosed or confined spaces, adequate ventilation must be provided to prevent buildup of vapors or mists.

Other: No information available

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Foamy , milky liquid	
Odor: Ammonia - mild	Vapor Pressure: 77 - 79 psig @ 68 F
Physical state: Liquid	Vapor Density (air=1): < 1
pH: 8.5 - 9.5	Percent Volatile by Volume: Apx 92 %
Boiling Point: 30 F, -1.1 C	Volatile Organic Content: No data available
Melting Point: No data available	Molecular Weight: No data available
Specific Gravity: Apx 0.98	Average Carbon Number: No data available
Pour Point: -15 F, -26.1 C	Viscosity @ 100 F: 20 SUS
	Viscosity @ 40 C: No data available
Solubility in Water: Soluble in water	
Octanol / Water Coefficient: Log K_{ow} = No data available	

10. STABILITY AND REACTIVITY INFORMATION

Chemical Stability: Stable

Conditions to Avoid: High heat and open flames.

Incompatible Materials to Avoid: Avoid contact with magnesium.

Other: No information available

11. TOXICOLOGICAL INFORMATION

Primary Eye Irritation: No information available

Primary Skin Irritation: No information available

Acute Dermal Toxicity: No information available

Subacute Dermal Toxicity: No information available

Dermal Sensitization: No information available

Inhalation Toxicity: No information available

Inhalation Sensitization: No information available

Oral Toxicity: No information available

Mutagenicity: No information available

Carcinogenicity: The IARC has concluded that petroleum solvents are Group 3 substances, "not classifiable as to their carcinogenicity to humans". This product is not considered to be carcinogenic.

Reproductive and Developmental Toxicity: No information available

Teratogenicity: No information available

Immunotoxicity: No information available

Neurotoxicity: No information available

Other: No information available

12. ECOLOGICAL INFORMATION

Aquatic Toxicity: No information available

Terrestrial Toxicity: No information available

Chemical Fate and Transport: No information available

Other: No information available

13. DISPOSAL INFORMATION

Regulatory Information: Dispose of residual products and empty containers responsibly.

Waste Disposal Methods: No special waste disposal methods are required. Waste material may be landfilled or incinerated at an approved facility.

Other: No information available

14. TRANSPORTATION INFORMATION

U.S. Department of Transportation (DOT)

Highway / Rail (Bulk): Not Regulated

Highway / Rail (Non-Bulk): CONSUMER COMMODITY - ORM-D

The DOT description is provided to assist in the proper shipping classification of this product and may not be suitable for all shipping descriptions.

International Information

Vessel: IMDG Regulated: X **IMDG Not Regulated:**

Air: ICAO Regulated: X **ICAO Not Regulated:**

Other: No information available

15. Regulatory Information

Regulatory Lists Searched The components listed in Section 2 of this MSDS were compared to substances which appear on the following regulatory lists. Each list is numerically identified. See Regulatory Search Results below.

Health & Safety: 10 - IARC carcinogen, 11 - NTP carcinogen, 12 - OSHA carcinogen, 15 - ACGIH TLV, 16 - OSHA PEL, 17 - NIOSH exposure limit, 20 - US DOT Appendix A, Hazardous substances, 21 - USDOT Appendix B, Marine pollutants, 22 - FDA 21 CFR Total food additives, 23 - NFPA 49 or 325

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Environmental: 30 - CAA 1990 Hazardous air pollutants, 31 - CAA Ozone depleters, 33 - CAA HON rule, 34 - CAA Toxic substance for accidental release prevention, 35 - CAA Volatile organic compounds (VOC's) in SOCM, 41 - CERCLA / SARA Section 302 extremely hazardous substances, 42 - CERCLA / SARA Section 313 emissions reporting, 43 - CWA Hazardous substances, 44 - CWA Priority pollutants, 45 - CWA Toxic pollutants, 46 - EPA Proposed test rule for hazardous air pollutants, 47 - RCRA Basis for listing - Appendix VII, 48 - RCRA waste, 49 - SDWA - (S)MCLs

International: 50 - Canada - WHMIS Classification of substance, 54 - Mexico - Drinking water - ecological criteria, 55 - Mexico - Wastewater discharges, 56 - US -TSCA Section (12)(b) - export notification

State Lists: 60 - CA - Proposition 65, 61 - FL - Substances, 62 - MI - Critical materials, 63 - MA - RTK, 64 - MA - Extraordinarily hazardous substances, 65 - MN - Hazardous substances, 66 - PA - RTK, 67 - NJ - RTK, 68 - NJ - Environmental hazardous substances, 69 - NJ - Special hazardous substances

Inventories: 80 - Canada - Domestic substances , 81 - European - EINECS, 82 - Japan - ENCS, 83 - Korea - Existing and evaluated chemical substances, 84 - US - TSCA

Regulatory Search Results:

HEAVY AROMATIC SOLVENT NAPHTHA: 80, 81, 83, 84

TETRAFLUOROETHANE: 65, 80, 81, 82, 83, 84

WATER: 80, 81, 83, 84

U.S. TSCA Inventory: All components of this material are on the US TSCA Inventory.

SARA Section 313: Consumer products are not regulated under SARA, Title III, Section 313.

IARC: No information available

SARA 311 / 312 Categories

Acute: X **Chronic:** **Fire:** **Pressure:** X **Reactive:**

Not Regulated:

Canadian WHMIS Classification

Class A Compressed gas

Class D Poisonous and infectious material, Division 2, Subdivision B Toxic material

European Union Classification

Hazard Symbols:

"3" / Aerosol

Harmful / Xn / X in square.

Risk Phrases:

R66: Repeated exposure may cause skin dryness or cracking.

R67: Vapours may cause drowsiness and dizziness.

Safety Phrases:

S2: Keep out of the reach of Children.

S23: Do not breathe gas/fumes/vapour/spray.

S24: Avoid contact with skin.

S62: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Other: No information available

16. OTHER INFORMATION

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Health and Environmental Label Language

Front Label:

DANGER: HARMFUL OR FATAL IF SWALLOWED. CONTENTS UNDER PRESSURE. MAY CAUSE EYE IRRITATION.

Read all cautions and directions on back panel before using.

Back Label:

DANGER: PRECAUTIONARY MEASURES:

DO NOT ingest or inhale. Use in a well ventilated area. Avoid contact with eyes.

DO NOT puncture or incinerate container. DO NOT expose to heat, open flame, direct sunlight or store at temperatures above 120° F. Exposure to heat may cause can to rupture. DO NOT STORE IN INTERIOR OF CAR (INCLUDING GLOVE COMPARTMENT AND INSIDE HATCHBACKS). TEMPERATURES INSIDE CAR CAN EXCEED 120° F. STORE OUTSIDE PASSENGER AREA OF VEHICLE PREFERABLY SECURED IN SPARE TIRE WELL OR TRUNK.

DO NOT use with any other tire inflator products.

DO NOT use on motorcycle tires. Failure of one tire could cause loss of control. Also DO NOT use on high performance or "Z-rated" tires.

DO NOT use Fix-A-Flat with tires which utilize tire sensor technology. Fix-A-Flat may block tire sensors and cause them to be inoperable. Fix-A-Flat will not be liable for damage to tire sensors. NEVER WELD ON A RIM. WELDING ON A RIM WITH THE TIRE MOUNTED COULD CAUSE THE TIRE TO EXPLODE REGARDLESS OF WHETHER TIRE INFLATOR IS USED. WELDED AND REPAIRED RIMS ARE UNSAFE.

FIRST AID: Contains fluorocarbons and aromatic solvents.

INHALATION: If inhaled, breathe fresh air. If breathing is affected, give artificial respiration and call a physician.

EYE CONTACT: Immediately flush with water for 15 minutes. If irritation persists, call physician.

INGESTION: If ingested, do not induce vomiting. Call physician immediately.

KEEP OUT OF REACH OF CHILDREN.

For health emergency call: 1-800-546-6040.

MSDS Revisions

Previous Version Date: 03/02/99

Previous Version Information: Product formulation changed.

Other: No information available

Prepared By:

Pennzoil-Quaker State Company
Environmental, Safety, Health, & DOT Compliance
P.O. Box 2967
Houston, TX 77252-2967 USA

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Disclaimer of Warranty: The information contained herein is based upon data and information available to us, and reflects our best professional judgement. This product may be formulated in part with components purchased from other companies. In many instances, especially when proprietary or trade secret materials are used, Pennzoil-Quaker State Company must rely upon the hazard evaluation of such components submitted by that product's manufacturer or importer. No warranty of merchantability, fitness for any use, or any other warranty is expressed or implied regarding the accuracy of such data or information. The results to be obtained from the use thereof, or that any such use does not infringe any patent. Since the information contained herein may be applied under conditions of use beyond our control and with which we may be unfamiliar, we do not assume responsibility for the results of such application. This information is furnished upon the condition that the person receiving it shall make his own determination of the suitability of the material for his particular use.



Material Safety Data Sheet

1 - Chemical Product and Company Identification

Manufacturer: WD-40 Company Address: 1061 Cudahy Place (92110) P.O. Box 80607 San Diego, California, USA 92138 -0607 Telephone: Emergency only: 1-888-324-7596 (PROSAR) Information: 1-888-324-7596 Chemical Spills: 1-800-424-9300 (Chemtrec) 1-703-527-3887 (International Calls)	Chemical Name: Organic Mixture Trade Name: WD-40 Aerosol Product Use: Lubricant, Penetrant, Drives Out Moisture, Removes and Protects Surfaces From Corrosion MSDS Date Of Preparation: 3/11/10
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2 – Hazards Identification

Emergency Overview:

DANGER! Flammable aerosol. Contents under pressure. Harmful or fatal if swallowed. If swallowed, may be aspirated and cause lung damage. May cause eye irritation. Avoid eye contact. Use with adequate ventilation. Keep away from heat, sparks and all other sources of ignition.

Symptoms of Overexposure:

Inhalation: High concentrations may cause nasal and respiratory irritation and central nervous system effects such as headache, dizziness and nausea. Intentional abuse may be harmful or fatal.

Skin Contact: Prolonged and/or repeated contact may produce mild irritation and defatting with possible dermatitis.

Eye Contact: Contact may be irritating to eyes. May cause redness and tearing.

Ingestion: This product has low oral toxicity. Swallowing may cause gastrointestinal irritation, nausea, vomiting and diarrhea. This product is an aspiration hazard. If swallowed, can enter the lungs and may cause chemical pneumonitis, severe lung damage and death.

Chronic Effects: None expected.

Medical Conditions Aggravated by Exposure: Preexisting eye, skin and respiratory conditions may be aggravated by exposure.

Suspected Cancer Agent:

Yes No ☒

3 - Composition/Information on Ingredients

Ingredient	CAS #	Weight Percent
Aliphatic Hydrocarbon	64742-47-8	45-50
Petroleum Base Oil	64742-58-1 64742-53-6 64742-56-9 64742-65-0	<25
LVP Aliphatic Hydrocarbon	64742-47-8	12-18
Carbon Dioxide	124-38-9	2-3
Surfactant	Proprietary	<2
Non-Hazardous Ingredients	Mixture	<10

4 – First Aid Measures

Ingestion (Swallowed): Aspiration Hazard. DO NOT induce vomiting. Call physician, poison control center or the WD-40 Safety Hotline at 1-888-324-7596 immediately.

Eye Contact: Flush thoroughly with water. Remove contact lenses if present after the first 5 minutes and continue flushing for several more minutes. Get medical attention if irritation persists.

Skin Contact: Wash with soap and water. If irritation develops and persists, get medical attention.
Inhalation (Breathing): If irritation is experienced, move to fresh air. Get medical attention if irritation or other symptoms develop and persist.

5 – Fire Fighting Measures

Extinguishing Media: Use water fog, dry chemical, carbon dioxide or foam. Do not use water jet or flooding amounts of water. Burning product will float on the surface and spread fire.

Special Fire Fighting Procedures: Firefighters should always wear positive pressure self-contained breathing apparatus and full protective clothing. Cool fire-exposed containers with water. Use shielding to protect against bursting containers.

Unusual Fire and Explosion Hazards: Contents under pressure. Keep away from ignition sources and open flames. Exposure of containers to extreme heat and flames can cause them to rupture often with violent force. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back.

6 – Accidental Release Measures

Wear appropriate protective clothing (see Section 8). Eliminate all sources of ignition and ventilate area. Leaking cans should be placed in a plastic bag or open pail until the pressure has dissipated. Contain and collect liquid with an inert absorbent and place in a container for disposal. Clean spill area thoroughly. Report spills to authorities as required.

7 – Handling and Storage

Handling: Avoid contact with eyes. Avoid prolonged contact with skin. Avoid breathing vapors or aerosols. Use only with adequate ventilation. Keep away from heat, sparks, pilot lights, hot surfaces and open flames. Unplug electrical tools, motors and appliances before spraying or bringing the can near any source of electricity. Electricity can burn a hole in the can and cause contents to burst into flames. To avoid serious burn injury, do not let the can touch battery terminals, electrical connections on motors or appliances or any other source of electricity. Wash thoroughly with soap and water after handling. Keep containers closed when not in use. Keep out of the reach of children. Do not puncture, crush or incinerate containers, even when empty.

Storage: Store in a cool, well-ventilated area, away from incompatible materials. Do not store above 120°F or in direct sunlight. U.F.C (NFPA 30B) Level 3 Aerosol.

8 – Exposure Controls/Personal Protection

Chemical	Occupational Exposure Limits
Aliphatic Hydrocarbon	1200 mg/m ³ TWA (manufacturer recommended)
Petroleum Base Oil	5 mg/m ³ TWA, 10 mg/m ³ STEL ACGIH TLV 5 mg/m ³ TWA OSHA PEL
LVP Aliphatic Hydrocarbon	1200 mg/m ³ TWA (manufacturer recommended)
Carbon Dioxide	5000 ppm TWA (OSHA/ACGIH), 30,000 ppm STEL (ACGIH)
Surfactant	None Established
Non-Hazardous Ingredients	None Established

The Following Controls are Recommended for Normal Consumer Use of this Product

Engineering Controls: Use in a well-ventilated area.

Personal Protection:

Eye Protection: Avoid eye contact. Always spray away from your face.

Skin Protection: Avoid prolonged skin contact. Chemical resistant gloves recommended for operations where skin contact is likely.

Respiratory Protection: None needed for normal use with adequate ventilation.

For Bulk Processing or Workplace Use the Following Controls are Recommended

Engineering Controls: Use adequate general and local exhaust ventilation to maintain exposure levels below that occupational exposure limits.

Personal Protection:

Eye Protection: Safety goggles recommended where eye contact is possible.

Skin Protection: Wear chemical resistant gloves.

Respiratory Protection: None required if ventilation is adequate. If the occupational exposure limits are exceeded, wear a NIOSH approved respirator. Respirator selection and use should be based on contaminant type, form and concentration. Follow OSHA 1910.134, ANSI Z88.2 and good Industrial Hygiene practice.

Work/Hygiene Practices: Wash with soap and water after handling.

9 – Physical and Chemical Properties

Boiling Point:	361 - 369°F (183 - 187°C)	Specific Gravity:	0.8 – 0.82 @ 60°F
Solubility in Water:	Insoluble	pH:	Not Applicable
Vapor Pressure:	95-115 PSI @ 70°F	Vapor Density:	Greater than 1
Percent Volatile:	70-75%	VOC:	412 grams/liter (49.5%)
Coefficient of Water/Oil Distribution:	Not Determined	Appearance/Odor	Light amber liquid/mild odor
Flash Point:	122°F (49°C) Tag Open Cup (concentrate)	Flammable Limits: (Solvent Portion)	LEL: 0.6% UEL: 8.0%
Pour Point:	-63°C (-81.4°F) ASTM D-97	Kinematic Viscosity:	2.79-2.96cSt @ 100°F

10 – Stability and Reactivity

Stability: Stable

Hazardous Polymerization: Will not occur.

Conditions to Avoid: Avoid heat, sparks, flames and other sources of ignition. Do not puncture or incinerate containers.

Incompatibilities: Strong oxidizing agents.

Hazardous Decomposition Products: Carbon monoxide and carbon dioxide.

11 – Toxicological Information

The oral toxicity of this product is estimated to be greater than 5,000 mg/kg based on an assessment of the ingredients. This product is not classified as toxic by established criteria. It is an aspiration hazard. None of the components of this product is listed as a carcinogen or suspected carcinogen or is considered a reproductive hazard.

12 – Ecological Information

No data is currently available.

13 - Disposal Considerations

If this product becomes a waste, it would be expected to meet the criteria of a RCRA ignitable hazardous waste (D001). However, it is the responsibility of the generator to determine at the time of disposal the proper classification and method of disposal. Dispose in accordance with federal, state, and local regulations.

14 – Transportation Information

DOT Surface Shipping Description: Consumer Commodity, ORM-D

IMDG Shipping Description: Un1950, Aerosols, 2.1, LTD QTY

15 – Regulatory Information

U.S. Federal Regulations:

CERCLA 103 Reportable Quantity: This product is not subject to CERCLA reporting requirements, however, oil spills are reportable to the National Response Center under the Clean Water Act and many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

SARA TITLE III:

Hazard Category For Section 311/312: Acute Health, Fire Hazard, Sudden Release of Pressure

Section 313 Toxic Chemicals: This product contains the following chemicals subject to SARA Title III

Section 313 Reporting requirements: None

Section 302 Extremely Hazardous Substances (TPQ): None

EPA Toxic Substances Control Act (TSCA) Status: All of the components of this product are listed on the TSCA inventory.

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65): This product does not contain chemicals regulated under California Proposition 65.

VOC Regulations: This product complies with the consumer product VOC limits of CARB, the US EPA and states adopting the OTC VOC rules.

Canadian Environmental Protection Act: One of the components is listed on the NDSL. All of the other ingredients are listed on the Canadian Domestic Substances List or exempt from notification.

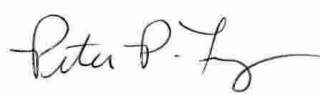
Canadian WHMIS Classification: Class B-5 (Flammable Aerosol)

This MSDS has been prepared according to the criteria of the Controlled Products Regulation (CPR) and the MSDS contains all of the information required by the CPR.

16 – Other Information:

HMIS Hazard Rating:

Health – 1 (slight hazard), Fire Hazard – 4 (severe hazard), Reactivity – 0 (minimal hazard)

SIGNATURE:  _____

TITLE: Director of Global Quality Assurance

REVISION DATE: March 2010

SUPERSEDES: August 2009