

Field Safety Plan for 2023 Water Level Program

Kansas Geological Survey
1930 Constant Avenue
Lawrence, KS 66047

December 2022

Open-file Report 2022-25

Field Safety Plan for 2023 Water Level Program

Prior to leaving the KGS parking lot, each crew member will be assigned a vehicle that they will drive and be the only occupant. Each person's assigned vehicle is their responsibility, and no passengers are allowed for any trip, unless it is a medical emergency.

Each morning all crew members will meet to get the day's assigned route and starting position. This will allow for a general starting point to the day as well as a starting point for recovery if someone becomes lost.

Weather: Even during the first of January, Kansas weather can be unpredictable. This unpredictability affects multiple facets of the Water Level program. Weather appropriate clothing, as mentioned before, is made available for crew members. Each equipment box has a set of winter gloves, stocking cap/head covering, and hand warmers. Winter boots and winter coveralls are made available to crew members. All winter clothing and coverings are required when the temperature is below 32°F. In this document, "Inclement Weather" will be defined as temperatures below 32°F, wind speeds higher than 15mph, snow accumulation amounts over ½", any amount of ice/sleet precipitation, and/or any combination of the conditions listed above.

Teams and Routes: Crew members are split into four (4) teams and one (1) individual serves as a rover. Each team consists of two individuals and two vehicles. Each team's daily routes are color coded with two clear starting points to the daily route. Each team member begins on opposing starting points and works the routes until they meet each other somewhere on the route. Daily routes are viewable on both the tablet and the phone by all members of the crew. Life 360 allows for each crew member to be tracked at any point by other crew members. All crew members also have access to a website which shows in real time which wells have been measured and which have not.

We have two versions of the routes based upon the weather conditions. One is our "normal conditions" route. In the case of inclement weather, we implement our "weather routes." They are like the normal routes; except they use well maintained/paved roads as the main travel paths. This minor tweak allows for crew members to do most of their traveling on well maintained and/or cleared roads.

All this equipment and information is important if one of the crew members becomes unresponsive during the day or becomes lost.

PPE each person always has on/with them

- Level D clothing (steel toes, long sleeve shirts, long pants, gloves).
- Weather appropriate clothing for Kansas winters (winter gloves, insulated coveralls, winter boots, head/ear attire). Weather appropriate clothing is required when the temperature is below 32°F.

Other items available for safety of each crew member

- First aid kit
- Bug spray and sunscreen
- Pepper spray for aggressive animal control
- Fire extinguisher

Vehicles

- Vehicles go through a pre-trip service and a multipoint inspection by a dealership.
- Vehicles are equipped with tire changing equipment. Spare tire is removed from the usual storage area and put into the back cargo area of the vehicle. An additional rimless tire is also in vehicle cargo area.
- Each vehicle is equipped with a mobile phone (with tracking app “Life 360”), a GPS enabled tablet, and a vehicle signal booster.
- Each vehicle also has a shovel, ice scraper, ice melt, tow rope (in case of someone getting stuck), Fix-A-Flat tire inflator aerosol, a spare key, and paper copies of each night’s hotels and vehicle/person/cell number list.
- It is recommended that crew members look for fuel when the tank is below ½ tank. If fuel level reaches ¼ tank, crew members are required to fuel their vehicle immediately. Vehicles are required to leave for the day’s activities on a full tank. It is strongly recommended that before returning to the hotel for the night, crew members fill their tanks.
- Vehicles also have a tow rope and a snow shovel for assisting if crew member(s) get stuck in the snow/mud.
- Crew members are required to do an inspection of their vehicle every morning before setting out on their route. This inspection includes tires, tire pressure, engine belts, fluid levels, lights and signals, and checking windows for any chips or cracks.

Driving Safety

- Crew members are required to follow all posted speed limits. If the speed limit isn’t posted, crew members will use 30mph on maintained dirt roads and 10mph on farm roads.
- Crew members are required to follow all posted traffic signals and signs.
- When inclement weather is involved, crew will use 45 mph as the maximum speed limit.

- Crew members should not travel down any road that has been drifted shut by blowing snow. Snow covered roads can contain debris or other obstructions that may not be visible.
- It is each crew member's responsibility to not be distracted while driving and using the computer for navigation.
- If measurements require crew members to go into grassy areas in their vehicles, crew members need to be aware of hot spots on their vehicle's engine and exhaust systems. DO NOT park with your vehicle over tall grass, as heat on dry prairie grass can start fires.

Communication: Since all crew members work individually all day long, communication is key to all crew members safety.

- All crew members are required to call their team member every hour.
- When inclement weather is involved: crew members will continue to contact each other every hour. They are also required to contact each other when they must walk to a well and then again when they get back to their vehicle to continue their route. No crew member is allowed to walk into a well over ¼ mile away from their vehicle.
- In normal weather conditions, if a crew member must walk into a well, the crew member is required to call their team member as stated above. In normal conditions crew members are allowed to walk into a well up to ½ mile away from their vehicle.
- If a crew member cannot get in contact with their team member for the above scenarios, they are required to contact the Rover and/or Program Manager.
- Once the team members have met up and completed their day's route, they are required to call the Program Manager to get their new route assignment (if time allows).
- No team member is allowed to measure wells before sunup and after sundown. At sunset crew members are required to "wrap up" the day's activities, finishing up the well they are on, and contact their team member to let them know they are headed to the hotel.
- Once crew members check into the hotel, they are required to contact the Program Manager to inform them they have arrived at the hotel.
- As stated above, each vehicle is equipped with a cell phone, cell phone signal booster, GPS enabled tablet, a printout of each crew member's information (phone number, vehicle tag number, etc.), a printout of the hotel reservations for each day, and extras of each are available upon request.

Stuck Vehicle Retrieval

- Vehicles stuck in snow, mud, etc. will be removed by three (3) trained crew members only.
- All vehicles have a tow rope included, if needed, for the retrieval process.
- If the tow rope is necessary for retrieval, the rope should be attached to both vehicles by their hitch or to another tow point identified in the vehicle's owner's manual.

- The retrieval process requires three (3) trained individuals: 1) driver for the stuck vehicle, 2) driver for the retrieval vehicle, and 3) a spotter. The spotter's role is to coordinate with both vehicles so both drivers know when to begin, if stopping is needed, and/or when the stuck vehicle is freed.
- When the retrieval vehicle and tow rope are in place, the spotter should assist the retrieval vehicle with pulling the tow rope taut.
- Once the rope is taut, the retrieval vehicle will begin to pull at a consistent pace. The stuck vehicle will now begin to accelerate no more than 5 mph to match the retrieval vehicle's pace.
- The rope should never be wrenched. If the rope becomes slack at any point, the spotter should stop the retrieval and reset the process.

Open Wells/Holes

- Crew members will sometimes come to a well that has been removed since the year before and an open hole is in its place. If this update needs to be made, crew members need to make note of the open hole in the computer/phone notes section.
- If an open hole is mentioned in the well's notes, crew members should approach the well with extreme caution. Read the notes well to get location of the open hole and approach slowly, looking for the open hole.
- Most open hole wells have some sort of a cap on them, ranging from a metal plate, board, tire, a bucket, rock, etc.

Wildlife/Livestock

- Crew members will encounter wildlife and livestock. This includes but is not limited to deer, cattle, dogs, upland gamebirds, buffalo, ostriches, and turkeys.
- Cattle: Cattle will typically just follow you and/or your vehicle out of curiosity or they believe it is feeding time. If crew members encounter cattle in their vehicle, drive slowly and they will move out of your way. If crew members encounter cattle while they are on foot, just continue as normal, while keeping an eye on the cattle near you. Any loud noise should scare them away if need be.
- Bulls: Bulls can be more aggressive. Same rules apply for a bull as for cattle when crew members are in their vehicle. Bulls can turn aggressively towards your vehicle, so crew members need to keep that in mind. If a bull shows signs of being aggressive, crew members need to stay in their vehicle and not take off on foot to the well.
- Dog: Dogs typically can be curious, protective, playful, etc. A playful, curious dog will be running up to (possibly jumping on) crew members, so be ready for that. As a crew member approaches a dog in this state move slowly, with the back of your hand available for the dog to sniff. Allow the dog time to become comfortable with you before proceeding with your work. A barking dog with hair raised is showing signs of aggression. Crew members should stay in their vehicle until the dog either leaves or stops barking. Crew members can then try to get out of their vehicle at this time with

their pepper spray ready. If the dog begins barking and showing signs of aggression again, return to your vehicle.

- Buffalo: Buffalo are an extremely strong and aggressive animal. If buffalo are spotted in a field, crew members are not permitted to enter either on foot or in their vehicle. The only time crew members are permitted to enter a field with buffalo, is if there is a barrier to always keep buffalo from the crew member.
- Ostriches: Ostriches can be aggressive. If a crew member encounters an ostrich, they should return to their vehicle immediately. Distance from an ostrich is key to avoiding an aggressive ostrich. Under 100 meters is considered too close to an aggressive ostrich. If a crew member finds themselves less than 100 meters from the ostrich, they should slowly back away.
- Deer: Most of the interactions with deer will be watching the deer run away. If a deer does approach a crew member, they need to get back in their vehicle as soon as possible.
- Upland Gamebirds/Turkeys: All these animals will be fleeing the area as crew members approach them.

List of Hospitals/Urgent Care Centers: Attachment A. Water Level counties are highlighted.

NonEmergency contact information: Attachment B. Water Level counties are highlighted.

Safety Data Sheets (SDS): Attachment C.

Attachment A
List of Hospitals/Urgent Care Centers

Attachment B
NonEmergency Contact Information

COUNTY	CITY	NON EMERGENCY NUMBERS OR SHERIFF DEPARTMENT	PHONE	ALT PHONE
Allen		Allen County Sheriff	620-365-1400	
Anderson		Anderson County Sheriff	785-448-5428	
Atchison		Atchison County Sheriff	913-367-0216	
Barber		Barber County Sheriff	620-886-5678	
Barton		Barton County Sheriff	620-793-1876	
Bourbon		Bourbon County Sheriff	620-223-1440	
Brown		Brown County Sheriff	785-742-7125	
Butler		Butler County Sheriff	316-322-4254	
	Andover	Andover Police	316-733-5177	
	Augusta	Augusta Police	316-775-4500	
	Benton	Benton Police Department	316-778-1625	
	El Dorado	El Dorado Police Department	316-321-9120	
	Leon	Leon Police	316-742-3438	
	Rose Hill	Rose Hill Police	316-776-0191	
Chase		Chase County Sheriff	620-273-6442	
Chautauqua		Chautauqua County Sheriff	620-725-3108	
Cherokee		Cherokee County Sheriff	620-429-3992	620-848-3000
Cheyenne		Cheyenne County Sheriff	785-332-8880	
Clark		Clark County Sheriff	620-635-2802	
Clay		Clay County Sheriff	725-632-5601	725-632-3278
Cloud		Cloud County Sheriff	785-243-3636	
Coffey		Coffee County Sheriff	620-364-2123	
Comanche		Comanche County Sheriff	620-582-2511	
Cowley		Cowley County Sheriff	620-221-5444	
Crawford		Crawford County Sheriff	620-724-8274	
Decatur		Decatur County Sheriff	785-475-8100	
Dickinson		Dickinson County Sheriff	785-263-4081	
Doniphan		Doniphan County Sheriff	785-985-3711	
Douglas		Douglas Co Non-Emergency Dispatch	785-843-0250	
		Douglas County Sheriff	785-832-5202	
Edwards		Edwards County Sheriff	620-659-3636	
Elk		Elk County Sheriff	620-374-2108	
Ellis		Ellis County Sheriff	785-625-1040	
Ellsworth		Ellsworth County Sheriff	785-472-4416	
Finney		Finney County Sheriff	620-272-3700	
Ford		Ford County Sheriff	620-227-4501	
Franklin		Franklin County Sheriff Dispatch	785-242-1700	785-242-3800
Geary		Geary County Sheriff	785-238-2261	
Gove		Gove County Sheriff	785-938-2250	
Graham		Graham County Sheriff	785-421-2107	
Grant		Grant County Sheriff	620-356-3500	
Gray		Gray County Sheriff	620-855-3916	
Greeley		Greeley County Sheriff	620-376-4233	
Greenwood		Greenwood County Sheriff	620-583-5568	
Hamilton		Hamilton County Sheriff	620-384-5616	
Harper		Harper County Sheriff	620-842-5135	
Harper		Harper County Non-Emergency Dispatch	620-842-3086	
	Anthony	Anthony Police Department	620-842-5123	
	Attica	Attica Police Department	620-254-7291	
	Harper	Harper Police Department	620-896-2853	
Harvey		Harvey County Sheriff	316-284-6960	
Haskell		Haskell County Sheriff	620-675-2289	
Hodgeman		Hodgeman County Sheriff	620-357-8391	
Jackson		Jackson County Sheriff	785-364-2251	
Jefferson		Jefferson County Dispatch	785-863-2247	
	McLouth	McLouth Police Department	913-796-6783	
	Meriden	Meriden Police Department	785-484-3450	
	Nortonville	Nortonville Police Department	913-886-2060	
	Oskaloosa	Oskaloosa Police Department	785-863-2651	
	Perry	Perry Police Department	785-597-5613	

	Valley Falls	Valley Falls Police Department	785-945-6612	
	Winchester	Winchester Police Department	913-774-2922	
Jewell		Jewell County Sheriff	785-378-3194	
Johnson		Johnson County Sheriff	913-715-5502	
Kearny		Kearney County Sheriff	620-355-6211	
Kingman		Kingman County Sheriff	620-532-5133	
Kiowa		Kiowa County Sheriff	620-723-2182	
Labette		Labette County Sheriff	620-795-2565	
Lane		Lane County Sheriff	620-397-2828	
Leavenworth		Leavenworth County Sheriff	913-682-5724	
Lincoln		Lincoln County Sheriff	785-524-4479	
Linn		Linn County Sheriff	913-795-2666	
Logan		Logan County Sheriff	785-671-3288	
Lyon		Lyon County Sheriff	620-342-5545	
Marion		Marion County Sheriff	620-382-2144	
Marshall		Marshall County Sheriff	785-562-3141	
McPherson		McPherson County Sheriff	620-245-1225	
		McPherson County Communications (Dispatch)	620-245-1266	
	Canton	Canton Police Department	620-628-4313	
	Galva	Galva Police Department	620-654-3211	
	Inman	Inman Police Department	620-585-2108	
	Lindsborg	Lindsborg Police Department	785-227-2988	
	Marquette	Marquette Police Department	785-546-2205	
	Moundridge	Moundridge Police Department	620-345-2777	
Meade		Meade County Sheriff	620-873-8765	
Miami		Miami County Sheriff	913-294-3232	
Mitchell		Mitchell County Sheriff	785-738-3523	
Montgomery		Montgomery County Sheriff	620-330-1000	
Morris		Morris County Sheriff	620-767-6310	
Morton		Morton County Sheriff	620-697-4313	
Nemaha		Nemaha County Sheriff	785-336-2311	
Neosho		Neosho County Sheriff	620-244-3888	
Ness		Ness County Sheriff	785-798-3611	
Norton		Norton County Sheriff	785-877-5780	
Osage		Osage County Sheriff	785-828-3121	
Osborne		Osborne County Sheriff	785-346-2001	
Ottawa		Ottawa County Sheriff	785-392-2157	
Pawnee		Pawnee County Sheriff	620-285-2211	
Phillips		Phillips County Sheriff	785-543-6885	
Pottawatomie		Pottawatomie County Sheriff	785-457-3353	
Pratt		Pratt County Sheriff	620-672-4133	
Rawlins		Rawlins County Sheriff	785-626-3865	
Reno		Reno County Non-Emergency Dispatch	620-694-2800	
		Reno County Sheriff	620-694-2735	
Republic		Republic County Sheriff	785-527-5658	
Rice		Rice County Sheriff	620-257-2363	
Riley		Riley County Police Department	785-537-2112	
Rooks		Rooks County Sheriff	785-425-6312	
Rush		Rush County Sheriff	785-222-2578	
Russell		Russell County Sheriff	785-483-2151	
Saline		Saline County Sheriff	785-826-6500	
Scott		Scott County Sheriff	620-872-5805	
Sedgwick		Sedgwick County Sheriff	316-660-3900	
	Bel Aire	Bel Aire Police Department Non-Emergency	316-744-6000	
	Cheney	Cheney Fire Department Non-Emergency	316-542-3622	
	Clearwater	Clearwater Police Department Non-Emergency	620-584-2349	620-545-5023
	Derby	Derby Police Department Non-Emergency	316-788-1557	
	Goddard	Goddard Police Department Non-Emergency	316-794-2051	
	Haysville	Haysville Police Department Non-Emergency	316-529-5912	
	Maize	Maize Police Department Non-Emergency	316-722-1433	
	Mulvane	Mulvane Police Department Non-Emergency	316-777-4262	
	Park City	Park City Police Department Non-Emergency	316-744-2011	

	Valley Center	Valley Center Non-Emergency Public Safety Line	316-755-7325	
	Wichita	Wichita Police Patrol North	316-350-3400	
		Wichita Police Patrol South	316-350-3440	
		Wichita Police Patrol East	316-350-3420	
		Wichita Police Patrol West	316-350-3460	
Seward		Seward County Sheriff	620-309-2000	
Shawnee		Shawnee County Sheriff non emergency	785-251-2200	
Sheridan		Sheridan County Sheriff	785-675-3481	
Sherman		Sherman County Sheriff	785-890-4835	
Smith		Smith County Sheriff	785-282-5180	
Stafford		Stafford County Sheriff	620-549-3247	
Stanton		Stanton County Sheriff	620-492-6866	
Stevens		Stevens County Sheriff	620-544-4386	
Sumner		Sumner County Sheriff	620-326-8941	
Thomas		Thomas County Sheriff	785-460-4570	
Trego		Trego County Sheriff	785-743-5721	
Wabaunsee		Wabaunsee County Sheriff	785-765-3323	
Wallace		Wallace County Sheriff	785-852-4288	
Washington		Washington County Sheriff	785-325-2293	
Wichita		Wichita County Sheriff	620-375-2723	
Wilson		Wilson County Sheriff	620-378-3622	
Woodson		Woodson County Sheriff	620-625-8640	
Wyandotte		Wyandotte County Sheriff	913-573-2865	
First I searched for non-emergency numbers, but not all counties had listings.				
So then I searched for contact phone numbers for the county sheriff (link below)				
So this listing is a combination of those two sets of information				
https://www.kansassheriffs.org/association_directory_view.php?position=members&sort_by=count				

Attachment C
Safety Data Sheets (SDS)



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 GALLOWS 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

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

Emergency Numbers

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P

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
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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	<p>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.</p> <p>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%.</p> <p>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.</p> <p>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.</p> <p>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.</p>
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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

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

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

.

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

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 formulation 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-methylpyroazole 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/m ³ CEILING ACGIH	Aerosol
Ethylene glycol	125 mg/m ³ CEILING OSHA-vacated	
	50 ppm CEILING OSHA - vacated	
	100 mg/m ³ CEILING UCC	Aerosol and Vapor
Diethylene glycol	50 ppm TWA8 AIHA WEEL	Aerosol and Vapor
Diethylene glycol	10 mg/m ³ 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 adds to 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.

	<i>CHEMICAL NAME</i>	<i>CAS NUMBER</i>
	Ethylene Glycol	107-21-1
UNITED STATES - TSCA - Inventory:	Listed	
WATER STANDARDS:	No data available	
ATMOSPHERIC STANDARDS:	Clean Air Act (1990) - List of Hazardous Air Contaminants: listed	
CERCLA:	Reportable Quantity (RQ): 5,000 pounds (532 gallons)	
SARA Title III:	<u>Section 311/312 - Categories:</u> Acute hazard; chronic hazard	
	<u>Section 312 - Inventory Reporting:</u> Ethylene glycol is subject to Tier I and/or Tier II annual inventory reporting.	
	<u>Section 313 - Emission Reporting:</u> Ethylene glycol is subject to Form R reporting requirements.	
	<u>Section 302 - Extremely Hazardous Substances:</u> 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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Contact Us

owitech@oldworldind.com

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

28201 - HEET Gas Line Antifreeze

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
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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

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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: 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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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: 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	N/E
Sodium chloride	07647-14-5	N/E	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 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 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 Ingestion
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.

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

Date Prepared: January 1, 2008

MENTOR, OHIO 44060

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.			



XIAMETER(R) Material Safety Data Sheet

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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

	High	Medium	Low
Hazard Parameters (LC50 or EC50)	<=1	>1 and <=100	>100
Acute Aquatic Toxicity (mg/L)	<=100	>100 and <= 2000	>2000
Acute Terrestrial Toxicity			



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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. Removed 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 alkalies. 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

Date Prepared July 14, 2010 3rd Edition

FOR CHEMICAL EMERGENCY

During Business Hours: (800) 966-3458

Outside Business Hours: (800) 420-7186

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.



Close this window

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):

MSDS Table of Contents

Click the desired link below to jump directly to that section in the MSDS.

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- [SECTION 3 - HAZARDS IDENTIFICATION](#)
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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



INHALATION:

REMOVE AFFECTED PERSON TO FRESH AIR; IF SYMPTOMS PERSIST SEEK MEDICAL ATTENTION.

SKIN:

REMOVE CONTAMINATED CLOTHING; WASH AFFECTED AREA WITH SOAP AND WATER; LAUNDRY 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



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



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.

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

===== MSDS
Safety Information
=====

[TOP](#)

FSC: 7930 MSDS Date: 07/02/1990 MSDS Num: BVYXQ

Submitter: N EN LIIN: 00N054914 Tech Review: 10/31/1995 Status CD: C

Product ID: 0132Z, WINDEX GLASS CLEANER POWERIZED (SUPDAT) MFN: 01

Article: N Kit Part: N

Cage: Responsible Party DRACK

Name: DRACKETT PRODUCTS CO

Address: 1020 SPRING GROVE AVE
City: CINCINNATI State: OH Zip: 45232-1988

Country: US

Info Phone Number: 513-632-1500

Emergency Phone Number: 513-632-1500

Radioactive Ind: N

Preparer's Name: N/P

Proprietary Ind: N Review Ind: N

Published: Y Special Project CD: N

===== Contractor
Summary =====

[TOP](#)

Cage: 85234 Name: DRACKETT CO

Address: 5020 SPRING GROVE AVE
City: CINCINNATI State: OH Zip: 45232-1926
Country: US Phone: 513-632-7409

Cage: DRACK Name: DRACKETT PRODUCTS CO

Address:

5020 SPRING GROVE AVE
City:
CINCINNATI
Country:
US

Box:

N/K
State:
OH
Zip:
45232-1988
Phone:
513-632-1500

=====
Ingredients
=====

[TOP](#)

Cas: 111-76-2 M KJ8575000 M

Name: ETHANOL, 2-BUTOXY-; (2-BUTOXYETHANOL) (SARA III)
Code: RTECS #: Code:

% 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 Symptoms 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.

Explosion Hazard Information

Fire and

[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

=====
Measures ===== Control 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 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.

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===== **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

=====**HAZCOM Label**=====**HMIS**===== [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).

=====
This information is formulated for use by elements of the Department of Defense. The United States of America in no manner whatsoever expressly or implied warrants, states, or intends said information to have any application, use or viability by or to any person or persons outside the Department of Defense nor any person or persons contracting with any instrumentality of the United States of America and disclaims all liability for such use. Any person utilizing this instruction who is not a military or civilian employee of the United States of America should seek competent professional advice to verify and assume responsibility for the suitability of this information to their particular situation regardless of similarity to a corresponding Department of Defense or other government situation.

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 eV (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; CrO₃; cyanuric chloride; (I + ethanol + HgO); Pb(ClO₄)₂; HClO₄; P₂O₃; (KOH + CHCl₂); 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

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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
4-Very High	1	Health	1
3-High	4	Flammability	4
2-Moderate	0	Reactivity	0
1-Slight		Special	
0-Insignificant			

DISTRIBUTED IN CANADA BY:
S.C. Johnson and Son, Limited
Phone: (800) 725-6737
1 Webster Street
Brantford, Ontario N3T 5R1

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

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 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

OFF! INSECT REPELLENT II

Date Issued: 06Oct1998

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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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----- **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	Chemico 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		III Physical and Chemical Characteristics	
Chemical	%	OSHA PEL	ACGIH TLV
DEET (N,N-diethyl-m-toluamide) CAS# 134-62-3	29.0	NA	NA
Ethanol CAS #64-17-5/ 977021-81-0	48.1	1000 ppm	1000 ppm
Hydrocarbon Propellant CAS #75-28-5/74-98-6	15.0	NA	NA
IV Fire and Explosive Hazards Data		V Reactivity 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		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) 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		VII Precautions for Safe Handling and Use	
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		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		IX Transportation Data	
Read and follow label directions. They are your best guide to using this product effectively, and give necessary safety precautions to protect your health.		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.

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®

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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

Flame Extension: 0", no flashback

Flammable Limits in Air

Upper Percent: No data available

Lower Percent: No data available

Autoignition Temperature: No data available

Test Method: Setaflash

Test Method: CPSC 1500.45

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

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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.

MATERIAL SAFETY DATA SHEET

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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

MATERIAL SAFETY DATA SHEET

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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 SOCMII, 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

MATERIAL SAFETY DATA SHEET

MSDS Number: 13380

PENNZOIL® ROADSIDE™ FIX-A-FLAT®

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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

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MATERIAL SAFETY DATA SHEET

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