


Valvoline.
SAFETY DATA SHEET

Revision Date: 07/31/2016
 Print Date: 9/22/2016
 MSDS Number: 000000154613
 Version: 1.3

Zerex™ ORIGINAL RTU ANTIFREEZE COOLANT
 ZXRU4

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

| | | |
|---------------------|--|----------------|
| Valvoline LLC | Regulatory Information Number | 1-800-TEAMVAL |
| 3499 Blazer Parkway | Telephone | 1-800-TEAMVAL |
| Lexington, KY 40509 | Emergency telephone number | 1-800-825-8654 |
| Product name | Zerex™ ORIGINAL RTU ANTIFREEZE COOLANT | |
| Product code | ZXRU4 | |

2. HAZARDS IDENTIFICATION
Emergency Overview

Appearance: liquid

WARNING! MAY AFFECT THE CENTRAL NERVOUS SYSTEM CAUSING DIZZINESS, HEADACHE OR NAUSEA. HARMFUL IF SWALLOWED. MAY CAUSE EYE IRRITATION.

Potential Health Effects
Exposure routes

Inhalation, Skin absorption, Skin contact, Eye Contact, Ingestion

Eye contact

Can cause eye irritation. Symptoms include stinging, tearing, redness, and swelling of eyes.

Skin contact

May cause slight skin irritation. Although rare, skin contact with ethylene glycol may cause allergic skin reaction (delayed skin rash which may be followed by blistering, scaling and other skin effects). Skin absorption of this material (or a component) may be increased through injured skin.

Ingestion

Swallowing this material may be harmful. Liver, kidney and brain damage in humans has resulted from swallowing lethal or near-lethal amounts of ethylene glycol.

Inhalation

Breathing of vapor or mist is possible. Breathing small amounts of this material during normal handling is not likely to cause harmful effects. Breathing large amounts may be harmful. Symptoms are not expected at air concentrations below the recommended exposure limits, if applicable (see Section 8.).

Aggravated Medical Condition

Exposure to this material may aggravate any preexisting condition sensitive to a decrease in available oxygen, such as chronic lung disease, coronary artery disease or anemias., Preexisting disorders of the following organs (or organ systems) may be aggravated by exposure to this material:, lung (for example, asthma-like conditions), Liver, Kidney, Central nervous systemPreexisting disorders of the following organs (or organ


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systems) may be aggravated by exposure to this material:; lung (for example, asthma-like conditions), Liver, Kidney, Central nervous system, Exposure to this material may aggravate any preexisting condition sensitive to a decrease in available oxygen, such as chronic lung disease, coronary artery disease or anemias.

Symptoms

Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include:; stomach or intestinal upset (nausea, vomiting, diarrhea), irritation (nose, throat, airways), Cough, central nervous system excitation (giddiness, liveliness, light-headed feeling) followed by central nervous system depression (dizziness, drowsiness, weakness, fatigue, nausea, headache, unconsciousness) and other central nervous system effects, involuntary eye movement, pain in the abdomen and lower back, cyanosis (causes blue coloring of the skin and nails from lack of oxygen), lung edema (fluid buildup in the lung tissue), acute kidney failure (sudden slowing or stopping of urine production), liver damage, Convulsions, coma

Target Organs

Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals:; reproductive effects, kidney damage, liver damage, central nervous system damage, Overexposure to this material (or its components) has been suggested as a cause of the following effects in humans:; liver damage, kidney damage

Carcinogenicity

This material is not listed as a carcinogen by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or the Occupational Safety and Health Administration (OSHA). This material is not listed as a carcinogen by the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), or the Occupational Safety and Health Administration (OSHA).

Reproductive hazard

Ethylene glycol has caused birth defects in animal studies at high oral doses. However, it did not cause harm to the pregnant animal or to the fetus when applied to the skin of the pregnant animal., This material (or a component) has been shown to cause harm to the fetus in laboratory animal studies. Harm to the fetus occurs only at exposure levels that harm the pregnant animal. The relevance of these findings to humans is uncertain. Ethylene glycol has caused birth defects in animal studies at high oral doses. However, it did not cause harm to the pregnant animal or to the fetus when applied to the skin of the pregnant animal., This material (or a component) has been shown to cause harm to the fetus in laboratory animal studies. Harm to the fetus occurs only at exposure levels that harm the pregnant animal. The relevance of these findings to humans is uncertain.

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Hazardous Components | CAS-No. / Trade Secret No. | Concentration |
|----------------------|----------------------------|---------------|
| ETHYLENE GLYCOL | 107-21-1 | >=50-<60% |
| DIETHYLENE GLYCOL | 111-46-6 | >=1.5-<5% |


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ZXRU4**4. FIRST AID MEASURES****Eyes**

If symptoms develop, immediately move individual away from exposure and into fresh air. Flush eyes gently with water for at least 15 minutes while holding eyelids apart; seek immediate medical attention.

Skin

Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention. Launder clothing before reuse.

Ingestion

Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. Contact a physician, medical facility, or poison control center for advice about whether to induce vomiting. If possible, do not leave individual unattended.

Inhalation

If symptoms develop, move individual away from exposure and into fresh air. If symptoms persist, seek medical attention. If breathing is difficult, administer oxygen. Keep person warm and quiet; seek immediate medical attention.

Notes to physician

Hazards: Effects of acute ethylene glycol poisoning appear in three fairly distinct stages. The initial stage occurs shortly after exposure, lasts 6-12 hours, and is characterized by central nervous system effects (transient exhilaration, nausea, vomiting, and in severe cases, coma, convulsions, and possible death). The second stage lasts from 12-36 hours after exposure and is initiated by the onset of coma. This phase is characterized by tachypnea, tachycardia, mild hypotension, cyanosis, and in severe cases, pulmonary edema, bronchopneumonia, cardiac enlargement, and congestive failure. The final stage occurs 24-72 post-exposure and is characterized by renal failure, ranging from a mild increase in blood urea nitrogen and creatinine followed by recovery, to complete anuria with acute tubular necrosis that can lead to death. Oxaluria is found in most cases. The most significant laboratory finding in ethylene glycol intoxication is severe metabolic acidosis. Ingestion or other significant exposure to this material (or a component) may cause metabolic acidosis.

Treatment: This product contains ethylene glycol. Ethanol decreases the metabolism of ethylene glycol to toxic metabolites. Ethanol should be administered as soon as possible in cases of severe poisoning since the elimination half-life of ethylene glycol is 3 hours. If medical care will be delayed several hours, give the patient three to four 1-ounce oral "shots" of 86-proof or higher whiskey before or during transport to the hospital. Fomepizole (4-methylpyrazole) is an effective antagonist of alcohol dehydrogenase, and as such, may be used as an antidote in the treatment of ethylene glycol poisoning. Hemodialysis effectively removes ethylene glycol and its metabolites from the body. Fomepizole (4-methylpyrazole) is an effective antagonist of alcohol dehydrogenase, and as such, may be used as an antidote in the treatment of ethylene glycol, diethylene glycol and methanol poisoning.

5. FIREFIGHTING MEASURES**Suitable extinguishing media**

Water spray, Dry chemical, Carbon dioxide (CO₂)

Hazardous combustion products


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Alcohols, Aldehydes, carbon dioxide and carbon monoxide, ethers, Hydrocarbons, toxic fumes

Precautions for fire-fighting

Wear full firefighting turn-out gear (full Bunker gear), and respiratory protection (SCBA). Use water spray to cool fire exposed containers and structures until fire is out if it can be done with minimal risk. Avoid spreading burning material with water used for cooling purposes.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions**

For personal protection see section 8. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed.

Environmental precautions

Prevent spreading over a wide area (e.g. by containment or oil barriers). Do not let product enter drains. Do not flush into surface water or sanitary sewer system.

Methods for cleaning up

Keep in suitable, closed containers for disposal. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

Other information

Comply with all applicable federal, state, and local regulations.

7. HANDLING AND STORAGE**Handling**

Containers of this material may be hazardous when emptied. Since emptied containers retain product residues (vapor, liquid, and/or solid), all hazard precautions given in the data sheet must be observed.

Storage

Store in a cool, dry, ventilated area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Exposure Guidelines**

| ETHYLENE GLYCOL | | 107-21-1 | |
|-----------------|---------------------------|-----------------------|-----------------|
| CAD BC OEL | time weighted average | 10 mg/m ³ | Particulate. |
| CAD BC OEL | Ceiling Limit Value: | 50 ppm | Vapor. |
| CAD BC OEL | Ceiling Limit Value: | 100 mg/m ³ | Aerosol. |
| CAD BC OEL | Short term exposure limit | 20 mg/m ³ | Particulate. |
| OEL (QUE) | Ceiling Limit Value: | 50 ppm | Vapor and mist. |
| OEL (QUE) | Ceiling Limit Value: | 127 mg/m ³ | Vapor and mist. |
| CAD AB OEL | Ceiling Limit Value: | 100 mg/m ³ | |


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| | | | |
|------------|----------------------|-----------|----------|
| CAD MB OEL | Ceiling Limit Value: | 100 mg/m3 | Aerosol. |
| CAD ON OEL | Ceiling Limit Value: | 100 mg/m3 | Aerosol. |

General advice

These recommendations provide general guidance for handling this product. Personal protective equipment should be selected for individual applications and should consider factors which affect exposure potential, such as handling practices, chemical concentrations and ventilation. It is ultimately the responsibility of the employer to follow regulatory guidelines established by local authorities.

Exposure controls

General room ventilation should be adequate for normal conditions of use. However, if unusual operating conditions exist, provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Eye protection

Wear chemical splash goggles when there is the potential for exposure of the eyes to liquid, vapor or mist.

Skin and body protection

Wear resistant gloves (consult your safety equipment supplier).

Respiratory protection

Respiratory protection is not required under normal conditions of use.

| |
|--|
| 9. PHYSICAL AND CHEMICAL PROPERTIES |
|--|

| | |
|--|---|
| Physical state | liquid |
| Boiling point/boiling range | 212 °F / 100 °C @ 1,013.33 hPa Calculated Phase Transition Liquid/Gas |
| Flash point | not applicable |
| Lower explosion limit/Upper explosion limit | 3.2 %(V) / 15.3 %(V) Calculated Explosive Limit |
| Vapour pressure | 23.333 hPa @ 68 °F / 20 °C Calculated Vapor Pressure |
| Density | 1.0719 g/cm3 @ 60.1 °F / 15.6 °C |

| |
|-------------------------------------|
| 10. STABILITY AND REACTIVITY |
|-------------------------------------|

Stability

Stable.

Conditions to avoid

Heat, flames and sparks., Exposure to moisture.

Incompatible products


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Acids, Aldehydes, Alkali metals, Alkaline earth metals, aluminum, Bases, strong alkalis, Strong oxidizing agents, Sulphur compounds

Hazardous decomposition products

Alcohols, Aldehydes, carbon dioxide and carbon monoxide, ethers, Hydrocarbons, Organic acids, ketones

Hazardous reactions

Product will not undergo hazardous polymerization.

| |
|--------------------------------------|
| 11. TOXICOLOGICAL INFORMATION |
|--------------------------------------|

Information on likely routes of exposure : Inhalation
 Skin absorption
 Skin contact
 Eye Contact
 Ingestion

Product

Acute oral toxicity : no data available

Acute inhalation toxicity : no data available

Acute dermal toxicity : no data available

Skin corrosion/irritation : no data available

Serious eye damage/eye irritation : no data available

Respiratory or skin sensitisation : no data available

Target Organ Systemic Toxicant - Repeated Exposure : Target Organs: Overexposure to this material (or its components) has been suggested as a cause of the following effects in laboratory animals:., reproductive effects, kidney damage, liver damage, central nervous system damage, Overexposure to this material (or its components) has been suggested as a cause of the following effects in humans:., liver damage, kidney damage

Components:


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ETHYLENE GLYCOL:

Acute oral toxicity : LD 50 Rat: 6,140 mg/kg

Acute dermal toxicity : LD 50 Rabbit: 9,530 mg/kg

STOT - repeated exposure : Exposure routes: Ingestion
 Target Organs: Kidney, Liver
 Assessment: May cause damage to organs through prolonged or repeated exposure.

DIETHYLENE GLYCOL:

Acute oral toxicity : LD 50 Rat: 12,565 mg/kg

Acute inhalation toxicity : LC Lo Mouse: 130 mg/m3
 Exposure time: 2 h

Acute dermal toxicity : LD 50 Rabbit: 11,890 mg/kg

Experience with human exposure : Liver

| |
|-----------------------------------|
| 12. ECOLOGICAL INFORMATION |
|-----------------------------------|

Ecotoxicity**Product:**

no data available

Components:**ETHYLENE GLYCOL:**

Toxicity to fish : LC 50 (Bluegill (*Lepomis macrochirus*)): 27,540 mg/l
 Exposure time: 96 h
 Method: Static
 Mortality

LC 50 (Fathead minnow (*Pimephales promelas*)): 8,050 mg/l
 Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : LC 50 (Water flea (*Daphnia magna*)): > 10,000 mg/l
 Exposure time: 48 h
 Test Method: static test


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DIETHYLENE GLYCOL:

Toxicity to fish : LC 50 (Western mosquitofish (*Gambusia affinis*)): > 32,000 mg/l
 Exposure time: 96 h
 Method: Static
 Mortality

Toxicity to daphnia and other aquatic invertebrates : LC 50 (Water flea (*Daphnia magna*)): > 10,000 mg/l
 Exposure time: 24 h
 Method: Static
 Mortality

Persistence and degradability**Product:**

no data available

Components:**DIETHYLENE GLYCOL:**

Biodegradability : Biodegradation: 92 %
 Exposure time: 28 d

Bioaccumulative potential**Product:**

no data available

Components:**ETHYLENE GLYCOL:**

Bioaccumulation : Species: Crayfish (*Procambarus*)
 Exposure time: 61 d
 Concentration: 1000 mg/l
 Bioconcentration factor (BCF): 0.27
 Method: Flow through

Partition coefficient: n-octanol/water : log Pow: -1.36

DIETHYLENE GLYCOL:

Partition coefficient: n-octanol/water : log Pow: -1.47


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Mobility in soil**Product:**

no data available

Components:**ETHYLENE GLYCOL:**

Surface tension : 48.4 mN/m

DIETHYLENE GLYCOL:

Surface tension : 48.5 mN/m

13. DISPOSAL CONSIDERATIONS**Waste disposal methods**

Dispose of in accordance with all applicable local, state and federal regulations.

14. TRANSPORT INFORMATION**REGULATION**

| ID NUMBER | PROPER SHIPPING NAME | *HAZARD CLASS | SUBSIDIARY HAZARDS | PACKING GROUP | MARINE POLLUTANT / LTD. QTY. |
|-----------|----------------------|---------------|--------------------|---------------|------------------------------|
| | | | | | |

U.S. DOT - ROAD

Not dangerous goods

CFR_RAIL_C

Not dangerous goods

U.S. DOT - INLAND WATERWAYS

Not dangerous goods

TDG_ROAD_C

Not dangerous goods

TDG_RAIL_C

Not dangerous goods

TDG_INWT_C

Not dangerous goods


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INTERNATIONAL MARITIME DANGEROUS GOODS

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

Not dangerous goods

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

Not dangerous goods

MX_DG

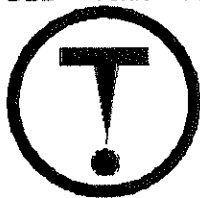
Not dangerous goods

*ORM = ORM-D, CBL = COMBUSTIBLE LIQUID

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

15. REGULATORY INFORMATION**WHMIS Classification**

D2B Toxic Material Causing Other Toxic Effects



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 by the CPR.

Canadian National Pollutant Release Inventory (NPRI)

ETHYLENE GLYCOL

0.00

Notification status

| | |
|---|----------------------|
| US. Toxic Substances Control Act | y (positive listing) |
| Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL). (Can. Gaz. Part II, Vol. 133) | y (positive listing) |
| Australia. Industrial Chemical (Notification and Assessment) Act | y (positive listing) |
| Japan. ENCS - Existing and New Chemical Substances Inventory | n (Negative listing) |
| Korea. Toxic Chemical Control Law (TCCL) List | y (positive listing) |
| Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act | y (positive listing) |
| China. Inventory of Existing Chemical Substances | y (positive listing) |


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| | HMIS | NFPA |
|------------------|------|------|
| Health | 2* | 1 |
| Flammability | 1 | 1 |
| Physical hazards | 0 | |
| Instability | | 0 |
| Specific Hazard | -- | -- |

16. OTHER INFORMATION

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This MSDS has been prepared by Valvoline's Environmental Health and Safety Department (1-800-825-8654).

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :

ACGIH : American Conference of Industrial Hygienists

BEI : Biological Exposure Index

CAS : Chemical Abstracts Service (Division of the American Chemical Society).

CMR : Carcinogenic, Mutagenic or Toxic for Reproduction

FG : Food grade

GHS : Globally Harmonized System of Classification and Labeling of Chemicals.

H-statement : Hazard Statement

IATA : International Air Transport Association.

IATA-DGR : Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

ICAO : International Civil Aviation Organization

ICAO-TI (ICAO) : Technical Instructions by the "International Civil Aviation Organization"

IMDG : International Maritime Code for Dangerous Goods

ISO : International Organization for Standardization

logPow : octanol-water partition coefficient

LCxx : Lethal Concentration, for xx percent of test population

LDxx : Lethal Dose, for xx percent of test population.

ICxx : Inhibitory Concentration for xx of a substance

Ecxx : Effective Concentration of xx

N.O.S.: Not Otherwise Specified

OECD : Organization for Economic Co-operation and Development

OEL : Occupational Exposure Limit

P-Statement : Precautionary Statement

PBT : Persistent , Bioaccumulative and Toxic

PPE : Personal Protective Equipment

STEL : Short-term exposure limit

STOT : Specific Target Organ Toxicity

TLV : Threshold Limit Value

TWA : Time-weighted average

vPvB : Very Persistent and Very Bioaccumulative



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WEL : Workplace Exposure Level

CERCLA : Comprehensive Environmental Response, Compensation, and Liability Act

DOT : Department of Transportation

FIFRA : Federal Insecticide, Fungicide, and Rodenticide Act

HMIRC : Hazardous Materials Information Review Commission

HMIS : Hazardous Materials Identification System

NFPA : National Fire Protection Association

NIOSH : National Institute for Occupational Safety and Health

OSHA : Occupational Safety and Health Administration

PMRA : Health Canada Pest Management Regulatory Agency

RTK : Right to Know

WHMIS : Workplace Hazardous Materials Information System



Safety Data Sheet

Rev. Date: 08/19/2014

1. PRODUCT AND COMPANY IDENTIFICATION

Universal ECO Ultra Synthetic Blend SAE 5W20, 5W30, 10W30, 10W40

Synthetic Blend Motor Oil
Petroleum Lubricant
Product Code: I5000.1

Universal Lubricants, LLC
2824 N Ohio Street
Wichita, Kansas 67219
Website: www.universallubes.com

1-800-444-6457 Telephone
1-316-832-3627 Product Information telephone
1-800-424-9300 US, Canada, Puerto Rico, Virgin Isl.- Emergency telephone(CHEMTREC)
+1-703-527-3887 International / Maritime Emergency telephone (CHEMTREC)

2. HAZARDS IDENTIFICATION

Physical Hazards: Not classified

Health Hazards: Skin corrosion/irritation Category 3
Eye damage/irritation Subcategory 2B

Signal Word: WARNING

Hazard Statement: H316 Causes mild skin irritation
H320 Causes eye irritation

GHS Symbol: *No Symbol*

Precautionary Statements

Prevention: P280 Wear protective gloves/protective clothing/eye protection/face protection
P264 Wash contaminated area of the body thoroughly after handling

Response: P302+P352 IF ON SKIN: Wash with soap and water
P305+P351+P338 IF IN EYES: rinse cautiously with water for several minutes.
Remove contact lenses if present and easy to do – continue rinsing
P363 Wash contaminated clothing before reuse
P337+P332+P313 If eye/skin irritation occurs: Get medical advice/attention

Storage: P402+P404 Store in a dry place. Store in a closed container
P403 Store in a well-ventilated place.

Disposal: P501 Dispose of contents/container with compliance to federal, state and local regulations. Contact Universal Lubricants for proper disposal options

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: Petroleum Lubricant

Formula: Mixture

Molecular Weight: Variable

| Component | CAS Number | Concentration % |
|---|------------|-----------------|
| Base Lubricating Oils Mixture | | 80-90 |
| Detergent/Inhibitor System – Trade Secret | | 5-10 |
| Viscosity Index Improver – Trade Secret | | 5-10 |
| Anti-Foam Agent – Trade Secret | | <1.0 |

4. FIRST AID MEASURES

Eyes

Move individual away and into fresh air. Immediately flush eyes with large amounts of fresh water and continue flushing until irritation subsides. Seek medical attention.

Inhalation

If breathing difficulty exists, remove individual away from exposure and into fresh air. Seek medical attention. If breathing remains difficult, administer oxygen, keep person warm and quiet, and seek immediate attention.

Skin

Remove contaminated clothing. Wash contaminated area repeatedly with soap and water. Do not reuse clothing until thoroughly cleaned and laundered. Seek medical attention for persistent irritation.

Ingestion

Seek medical attention. If individual is drowsy or unconscious, do not give anything by mouth, place individual on the left side with head down and call emergency contacts. Contact a physician, medical facility or poison control center for advice about whether to induce vomiting. Do not leave individual unattended.

Skin Injection

If product is injected into or under skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated 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.

5. FIREFIGHTING MEASURES

Suitable extinguishing media

Use dry chemical, foam, carbon dioxide (CO₂) or water spray or water fog.

Specific hazards from combustion

Carbon monoxide, carbon dioxide, aldehydes, hydrocarbons, oxides of sulfur, nitrogen, phosphorus and other oxides may be products of combustion.

Special protective equipment for fire-fighters

Wear full firefighting turn-out gear (full bunker gear), and respiratory protection (SCBA). DO NOT direct a solid stream of water or foam into hot, burning pools of oil liquid since this may cause frothing and increase fire intensity. Cool fire exposed containers with water spray and avoid spreading burning material with water used for cooling purposes.

NFPA Flammable and Combustible Liquids Classification

Combustible Liquid Class IIIB

6. ACCIDENTAL RELEASE MEASURES

Personal precautions and Protective equipment

Personal Protection, see section 8. Any individual not wearing protective equipment should not enter spill or contaminated area until all clean-up has been completed.

Emergency procedures

For personal emergency procedures see section 4. For fire emergency procedures see section 5. Contain spilled oil liquid if possible without posing any risk or personal injury.

Environmental precautions

Prevent spreading over a wide area. Contain spill immediately. Contact appropriate authorities of spill. Do not allow spill to enter sewer system, drains of any kind, surface water or water courses. Avoid flushing to such areas as well. Remove all sources of ignition

Methods and materials for containment and cleaning up

Soak up or absorb with appropriate inert materials such as, sand, clay, silica gel, acid binder, universal binder, sawdust, paper fiber etc. Large spills may be picked up using vacuum pumps, shovels, buckets or other means of transfer and placed into drums or any other approved and suitable containers.

7. HANDLING AND STORAGE

Precautions for safe handling

This product is not classified as a Hazardous Material under DOT regulations. See NFPA 30 and OSHA 1910.106 flammable and combustible liquids.

Conditions for safe storage

Store in only approved and marked containers. Store in a cool, dry ventilated area. Keep containers closed when not in use and during transportation. Keep containers away from flame or other ignition sources.

Incompatibilities

Strong oxidizing agents, acids, halogens.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OSHA Final: (PEL)

Contains no substances with occupational exposure limit values.

American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV)

5.00 mg/m³ suggested for oil mist.

Respiratory protection

If vapor mist is generated when the material is heated or handled, use an organic vapor respirator with a dust and mist filter. All respirators must be NIOSH certified. Fit testing may be required before use. Do not use compressed oxygen in hydrocarbon atmospheres. Adequate ventilation in accordance with good engineering practices must be provided to maintain concentrations below the specified exposure or flammable limits.

Hand protection

For prolonged or repeated exposures hand protection is required. Wear resistant gloves suitable for the product, contact your safety department or supplier to determine the proper hand protection.

Eye protection

Not required under normal conditions of use. If material is handled such that it could be splashed or misted into eyes, wear plastic face shield or splash resistant safety goggles or glasses with side shields.

Skin and body protection

For prolonged or repeated exposures, use impervious clothing (boots, gloves, aprons, bibs, etc.) over parts of the body subject to exposure. If handling hot material, use insulated protective clothing. Launder soiled clothes, do not reuse contaminated clothing. Properly dispose of contaminated clothing or articles that cannot be laundered such as leather gloves, boots, etc. If skin irritation develops, contact your facility safety department or safety supplier to determine the proper protective equipment for your use.

Hygiene measures

Do not use contaminated clothing, launder clothing before reuse. Wash contaminated areas of the body which may have been exposed with soap and water. Wash thoroughly before handling food and beverages. Food and beverage consumption should be avoided in work areas where hydrocarbons are present.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear, brown

Physical state: Liquid

Odor: Lubricating Oil

Specific gravity (H₂O=1): 0.8729

Melting point/freezing point: No data available

Initial boiling point and boiling range: >800°F

Flash point (C.O.C): 206°C, (403°F)

Upper/lower flammability or explosive limits: No data available

Vapor pressure: Not determined

Solubility in water: Soluble in hydrocarbons, emulsifies in water

Percent volatile: Negligible

Liquid density: Not determined

Evaporation rate: Not determined

10. STABILITY AND REACTIVITY

Reactivity: May react strong with oxidizing agents.

Chemical stability: Stable under normal temperatures and pressures.

Possibility of hazardous reactions: Product will not undergo hazardous polymerization.

Conditions to avoid: Heat, open flames, oxidizing materials and mist.

Incompatible materials: Strong oxidizing agents, acids, halogens.

Hazardous decomposition products: Carbon monoxide, carbon dioxide and other oxides may be generated as products of combustion.

11. TOXICOLOGICAL INFORMATION

Acute oral toxicity: No data available

Acute inhalation toxicity: No data available

12. ECOLOGICAL INFORMATION

Biodegradability: No data available

Bioaccumulation: No data available

Toxicity to fish: No data available

Toxicity to daphnia and other aquatic invertebrates: No data available

Toxicity to algae: No data available

Toxicity to bacteria: No data available

13. DISPOSAL CONSIDERATIONS

Waste Disposal methods

All disposals must comply with federal, state and local regulations. Spilled or discarded material may be a regulated waste. Refer to state and local regulations. If other material was used during cleanup efforts the resultant mixture may be regulated. Department of Transportation regulations may apply for transporting of this material. Contact Universal Lubricants regarding proper recycling and disposal methods.

14. TRANSPORT INFORMATION

| | |
|--|-------------------------------|
| UN number: | Not dangerous/hazardous goods |
| UN proper shipping name: | Not dangerous/hazardous goods |
| Transport hazard class: | Not dangerous/hazardous goods |
| Packing group: | Not dangerous/hazardous goods |
| Environmental hazards: | Not dangerous/hazardous goods |
| U.S. DOT Road/Rail/Waterways: | Not dangerous/hazardous goods |
| Transport Canada Road/Rail/Waterways: | Not dangerous/hazardous goods |
| International Maritime Dangerous Goods: | Not dangerous/hazardous goods |

15. REGULATORY INFORMATION

The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.