www.drgair.com
don@drgair.com
Toll Free 800.856.4046
Call 603.598.0891

Revision Date: March 01 2011

# SULLUBE MATERIAL SAFETY DATA SHEET

Sullair and Dow Chemical encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

## 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME**
LUBRICANT SULLUBE

**COMPANY IDENTIFICATION**
The Dow Chemical Company
2030 Willard H. Dow Center
Midland, MI 48674
USA

**24 Hour Emergency Telephone: (989) 636-4400**
Customer Service: (800) 258-2436

Revision Date: March 01 2011

## 2. HAZARDS IDENTIFICATION

**Color:** Green
**Physical State:** Liquid
**Odor:** Mild
**Hazards of product:**

No significant immediate hazards for emergency response are known.

**POTENTIAL HEALTH EFFECTS**

Acute Effects

**Eye:** Essentially nonirritating to eyes.

**Skin:** Brief contact may cause slight skin irritation with local redness. Prolonged contact may cause slight skin irritation with local redness.

**Skin Absorption:** Prolonged skin contact is unlikely to result in absorption of harmful amounts.

**Inhalation:** At room temperature, exposure to vapor is minimal due to low volatility; single exposure is not likely to be hazardous. If material is heated or aerosol/mist is produced, concentrations may be attained that are sufficient to cause respiratory irritation and other effects.

**Ingestion:** Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Component | CAS # | Amount |
|---|---|---|
| Polypropylene Glycol | Trade Secret | > 60.0 - < 70.0 % |
| Pentaerythritol ester | Trade Secret | > 25.0 - < 30.0 % |
| Aromatic amine | Trade Secret | > 4.0 - < 6.0 % |
| Additives | Trade Secret | < 1.0 % |

## 4. FIRST AID MEASURES

| | |
|---|---|
| **Eye:** | Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist. |
| **Skin:** | Wash skin with plenty of water. |
| **Inhalation:** | Move person to fresh air; if effects occur, consult a physician. |
| **Ingestion:** | If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel. |
| **Notes to Physician:** | No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. |

## 5. FIRE FIGHTING MEASURES

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|---|---|
| **Extinguishing Media:** | Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Do not use direct water stream. May spread fire. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective. |
| **Fire Fighting Measures:** | Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Do not use direct water stream. May spread fire. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. |
| **Special Protective Equipment for Firefighters:** | Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance. |
| **Unusual Fire and Explosion Hazards:** | Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. |
| **Hazardous Combustion Products:** | During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Carbon monoxide. Carbon dioxide. |

## 6. ACCIDENTAL RELEASE MEASURES

| | |
|---|---|
| **Steps to be Taken if Material is Released or Spilled:** | Contain spilled material if possible. Collect in suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information. |
| **Personal Precautions:** | Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. Refer to Section 7, Handling, for additional precautionary measures. |
| **Environmental Precautions:** | Material will float on water. Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. |

## 7. HANDLING AND STORAGE

**Handling**
**General Handling**: No special precautions required. Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancer-causing nitrosamines could be formed. Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

**Storage**
Store in the following material(s): 316 stainless steel. Carbon steel. Glass-lined container. Polypropylene. Polyethylene-lined container. Stainless steel. Teflon. This material may soften and lift certain paint and surface coatings. Use product promptly after opening. Store in original unopened container. Unopened containers of material stored beyond the recommended shelf life should be retested against the sales specifications before use. Additional storage and handling information on this product may be obtained by calling your Dow sales or customer service contact.

**Shelf Life:** Use within 24 months

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Exposure Limits:** None Established

**Personal Protective Equipment for Routine Handling**

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|---|---|
| **Eyes/Face:** | Use safety glasses. |
| **Skin Protection:** | Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task. |
| **Hand Protection:** | Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Viton.<br>NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier. |
| **Respiratory Protection:** | Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions, no respiratory protection should be needed; however, if material is heated or sprayed, use an approved air-purifying respirator. The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter. |
| **Ingestion:** | Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating. |

**Engineering Controls**

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| **Ventilation:** | Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations. |

## 9. PHYSICAL AND CHEMICAL PROPERTIES

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|---|---|
| **Physical Form:** | Liquid |
| **Color:** | Green |
| **Odor:** | Mild |
| **Flash Point - Closed Cup:** | 210 °C (410 °F) *ASTM D93* |
| **Flash Point - Open Cup:** | 271 °C (520 °F) *ASTM D92* |
| **Flammable Limits In Air:** | **Lower**: No test data available<br>**Upper**: No test data available |
| **Autoignition Temperature:** | 385 °C (725 °F) *ASTM E659* |
| **Vapor Pressure:** | < 0.01 mmHg @ 20 °C *ASTM E1719* |
| **Boiling Point (760 mmHg):** | > 200 °C (> 392 °F) *Calculated* |
| **Vapor Density (air = 1):** | No test data available |
| **Specific Gravity (H2O = 1):** | 0.9827 25 °C/25 °C *ASTM D941* |
| **Liquid Density:** | 0.9826 g/cm3 @ 25 °C *ASTM D941* |
| **Freezing Point:** | See Pour Point |
| **Melting Point:** | Not applicable to liquids |
| **Solubility in Water (by weight):** | < 0.1 % @ 20 °C *Measured* |
| **pH:** | 8 - 10 *DOWM 101495* (16% in water/methanol, 1:10) |
| **Kinematic Viscosity:** | 37 - 46 cSt @ 37.8 °C *ASTM D445* |
| **Pour point:** | -50 °C (-58 °F) *ASTM D97* |

## 10. STABILITY AND REACTIVITY

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|---|---|
| **Chemical Stability:** | Thermally stable at typical use temperatures. |
| **Hazardous Polymerization:** | Hazardous polymerization will not occur. |
| **Conditions to Avoid:** | Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems. |
| **Thermal Decomposition** | Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Aldehydes. Alcohols. Ethers. Hydrocarbons. Ketones. Organic acids. Polymer fragments. |

## 11. TOXICOLOGICAL INFORMATION

**Acute Toxicity**

**Ingestion:** LD50, Rat > 2,000 mg/kg

**Skin Absorption:** LD50, Rabbit > 2,000 mg/kg

**Sensitization**

**Skin:** Did not cause allergic skin reactions when tested in guinea pigs.

**Repeated Dose Toxicity:** Based on available data, repeated exposures to small amounts are not anticipated to cause significant adverse effects.

## 12. ECOLOGICAL INFORMATION

**Chemical Fate**

**Moving & Partitioning**
No relevant information found.

**Persistence and Degradability**
Based on information for a similar material: Biodegradation under aerobic static laboratory conditions is moderate (BOD20 or BOD28/ThOD between 10 and 40%). Material is inherently biodegradable (reaches > 20% biodegradation in OECD test(s) for inherent biodegradability). Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

**OECD Biodegradation Tests:** Based on information for a similar material:

| Biodegradation | Exposure Time | Method |
|---|---|---|
| <41% | 28 d | OECD 301F Test |
| 86% | 28 d | OECD 302B Test |

**Biological oxygen demand (BOD):** For similar material(s):

| BOD 5 | BOD 10 | BOD 20 | BOD 28 |
|---|---|---|---|
| 5% | 8% | 20% | 33% |

**Theoretical Oxygen Demand:** 2.37 mg/mg

**ECOTOXICITY**

No relevant information found.

## 13. DISPOSAL CONSIDERATIONS

DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. DOW HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Recycler. Reclaimer. Incinerator or other thermal destruction device. As a service to its customers, Dow can provide names of information resources to help identify waste management companies and other facilities which recycle, reprocess or manage chemicals or plastics, and that manage used drums. Telephone Dow's Customer Information Group at 1-800-258-2436 or 1-989-832-1556 (U.S.), or 1-800-331-6451 (Canada) for further details.

## 14. TRANSPORT INFORMATION

**DOT Non-Bulk**
NOT REGULATED

**DOT Bulk**
NOT REGULATED

**Ocean Shipment (IMDG)**
NOT REGULATED

**ICAO/IATA**
NOT REGULATED
*This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.*

## 15. REGULATORY INFORMATION

### Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

| | |
|---|---|
| **Immediate (Acute) Health Hazard:** | No |
| **Delayed (Chronic) Health Hazard:** | No |
| **Fire Hazard:** | No |
| **Reactive Hazard:** | No |
| **Sudden Release of Pressure Hazard:** | No |

**Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313**
To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

**Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Hazardous Substances List and/or Pennsylvania Environmental Hazardous Substance List:**
To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

**Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Special Hazardous Substances List:**
To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

**US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A)**
To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

**California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)**
This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

**US. Toxic Substances Control Act**
All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30

**European Inventory of Existing Commercial Chemical Substances (EINECS)**
This product is a polymer according to the definition in Directive 92/32/EEC (7th Amendment to Directive 67/548/EEC) and all of its starting materials and intentional additives are listed in the European Inventory of Existing Commercial Chemical Substances (EINECS) or in compliance with European (EU) chemical inventory requirements.

**CEPA - Domestic Substances List (DSL)**
All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

## 16. OTHER INFORMATION

### Recommended Uses and Restrictions
Selection of the appropriate polyglycol product for a specific application requires knowledge of the fluid requirements of the application, awareness of the most important of these requirements, and a matchup with the properties of the various polyglycol materials. Polyglycol products can be formulated for use in numerous industry applications such as hydraulic fluids, quenchants, compressor and refrigeration lubricants, heat transfer fluids, machinery lubricants, solder assist fluids, metalworking lubricants, textile finishing, etc. Dow recommends that you use this product in a manner consistent with the listed use. If your intended use is not consistent with Dow's stated use, please contact Dow's Customer Information Group.

### Revision
Identification Number: 50757 / 1001 / Issue Date 11/14/2007 / Version: 4.0
Most recent revision(s) are noted by the bold, double bars ( ▌▌ ) in left-hand margin throughout this document.

### Legend

| | |
|---|---|
| N/A | Not available |

# SULLUBE
# MATERIAL SAFETY DATA SHEET

| | |
|---|---|
| W/W | Weight/Weight |
| OEL | Occupational Exposure Limit |
| STEL | Short Term Exposure Limit |
| TWA | Time Weighted Average |
| ACGIH | American Conference of Governmental Industrial Hygienists, Inc. |
| DOW IHG | Dow Industrial Hygiene Guideline |
| WEEL | Workplace Environmental Exposure Level |
| HAZ_DES | Hazard Designation |
| Action Level | A value set by OSHA that is lower than the PEL which will trigger the need for activities such as exposure monitoring and medical surveillance if exceeded. |

*The Dow Chemical Company urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.*