



SAFETY DATA SHEET

Section 1. Identification

| | | | |
|-------------------------|-------------------------------------|---|----------------|
| CHS Inc. | Transportation Emergency (CHEMTREC) | : | 1-800-424-9300 |
| P.O. Box 64089 | Technical Information | : | 1-651-355-8443 |
| Mail station 525 | SDS Information | : | 1-651-355-8445 |
| St. Paul, MN 55164-0089 | | | |

| | | | |
|------------------------|---|-------------------------|-------------------|
| Product name | : (FO) HEAVY DUTY ENGINE COOLANT/ANTIFREEZE | SDS no. | : FO-1331- 899861 |
| Common name | : Antifreeze, Ethylene Glycol | Revision date | : 04/22/2015 |
| Chemical name | : Ethylene glycol | Chemical formula | : Mixture |
| Chemical family | : Glycol. | | |

Relevant identified uses of the substance or mixture and uses advised against

Not available.

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : ACUTE TOXICITY (oral) - Category 4
AQUATIC HAZARD (ACUTE) - Category 3

GHS label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : Harmful if swallowed.
Harmful to aquatic life.

Precautionary statements

General : Not applicable.

Prevention : Avoid release to the environment. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

Response : IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth.

Storage : Not applicable.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified (HNOC) : None known.

Hazardous Material Information System (U.S.A.) **Health** : 1 * **Flammability** : 1 **Physical hazards** : 0

National Fire Protection Association (U.S.A.) **Health** : 1 **Flammability** : 1 **Instability** : 0

Section 3. Composition/information on ingredients

| | |
|--------------------------------------|-------------------------------|
| Substance/mixture | : Substance |
| Chemical name | : Ethylene glycol |
| Other means of identification | : Antifreeze, Ethylene Glycol |

| Ingredient name | % | CAS number |
|-----------------|----------|------------|
| Ethanediol | 60 - 100 | 107-21-1 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : If material comes in contact with the eyes, immediately wash the eyes with large amounts of water for 15 minutes, occasionally lifting the lower and upper lids. Get medical attention.
- Inhalation** : If person breathes in large amounts of material, move the exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. Keep the person warm and at rest. Get medical attention as soon as possible.
- Skin contact** : If the material comes in contact with the skin, wash the contaminated skin with soap and water promptly. If the material penetrates through clothing, remove the clothing and wash the skin with soap and water promptly. If irritation persists after washing, get medical attention immediately.
- Ingestion** : If material has been swallowed, do not induce vomiting. Get medical attention immediately.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : Harmful if swallowed.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following: pain or irritation, watering, redness.
- Inhalation** : Adverse symptoms may include the following: respiratory tract irritation, coughing.
- Skin contact** : Adverse symptoms may include the following: irritation, redness.
- Ingestion** : No known significant effects or critical hazards.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use water spray to cool fire exposed surfaces and to protect personnel. Foam, dry chemical or water spray (fog) to extinguish fire.
- Unsuitable extinguishing media** : None known.
- Specific hazards arising from the chemical** : Toxic fumes gases or vapors may evolve on burning.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
- Special protective actions for fire-fighters** : When fighting fires wear full turnout gear and self contained breathing apparatus. Water may cause splattering. Material floats on water.
- Special protective equipment for fire-fighters** : Not applicable.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : Keep unnecessary and unprotected personnel from entering. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Methods and materials for containment and cleaning up

- Spill** : Contain with dikes or absorbent to prevent migration to sewers/streams. Take up small spill with dry chemical absorbent; large spills may require pump or vacuum prior to absorbent. May require excavation of severely contaminated soil.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking.
- Conditions for safe storage, including any incompatibilities** : Store in closed container away from all ignition sources. Handling temperatures should not exceed 175°F (80°C). Do not store above the following temperature: 113°F (45°C). Odorous and toxic fumes may form from the decomposition of this product if stored at excessive temperatures for extended periods of time. Store in accordance with local regulations. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|-----------------|--|
| Ethanediol | ACGIH TLV (United States, 4/2014). C: 100 mg/m ³ Form: Aerosol. OSHA PEL 1989 (United States, 3/1989). CEIL: 125 mg/m ³ CEIL: 50 ppm |

- Appropriate engineering controls** : Use only with adequate ventilation.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.
- Individual protection measures**
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Recommended: Splash goggles and a face shield, where splash hazard exists.
- Skin protection**
- Hand protection** : 4 - 8 hours (breakthrough time): Nitrile gloves.
- Body protection** : Recommended: Long sleeved coveralls.
- Other skin protection** : Recommended: Impervious boots.
- Respiratory protection** : If ventilation is inadequate, use a NIOSH-certified respirator with an organic vapor cartridge and P95 particulate filter.

Section 9. Physical and chemical properties

| | | | |
|---|---|---|--|
| Appearance | | Relative density | : 1.115 to 1.145 |
| Physical state | : Liquid. | Evaporation rate | : <1 (Ether. = 1) |
| Color | : Purple. | Solubility | : Easily soluble in the following materials: cold water and hot water. |
| Odor | : Mild. | Solubility in water | : Insoluble |
| Odor threshold | : Not available. | Partition coefficient: n-octanol/water | : Not available. |
| pH | : Not available. | Auto-ignition temperature | : 400°C (752°F) |
| Melting point | : Not available. | Decomposition temperature | : Not available. |
| Boiling point | : 197.22°C (387°F) | SADT | : Not available. |
| Flash point | : Closed cup: 116°C (240.8°F) [Pensky-Martens.] | Viscosity | : Not available. |
| Flammability | : Not available. | Vapor pressure | : <0.13 kPa (<1 mm Hg) (68°F) |
| Lower and upper explosive (flammable) limits | : Lower: 3.2% Upper: 15.3% | Vapor density | : 2.1 [Air = 1] |

Section 10. Stability and reactivity

| | |
|---|--|
| Reactivity | : No specific test data related to reactivity available for this product or its ingredients. |
| Chemical stability | : The product is stable. |
| Possibility of hazardous reactions | : Under normal conditions of storage and use, hazardous reactions will not occur. |
| Conditions to avoid | : No specific data. |
| Incompatible materials | : Reactive or incompatible with the following materials: oxidizing materials. |
| Hazardous decomposition products | : Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|-------------------------|-----------|---------|------------|----------|
| Ethanediol | LD50 Oral | Rat | 4700 mg/kg | - |

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|-------------------------|--------------------------|---------|-------|-----------------|-------------|
| Ethanediol | Eyes - Mild irritant | Rabbit | - | 24 hours 500 mg | - |
| | Eyes - Mild irritant | Rabbit | - | 1 hours 100 mg | - |
| | Eyes - Moderate irritant | Rabbit | - | 6 hours 1440 mg | - |
| | Skin - Mild irritant | Rabbit | - | 555 mg | - |

Sensitization

Skin : There is no data available.

Respiratory : There is no data available.

Mutagenicity

There is no data available.

Carcinogenicity

There is no data available.

Reproductive toxicity

There is no data available.

Teratogenicity

There is no data available.

Specific target organ toxicity (single exposure)

There is no data available.

Specific target organ toxicity (repeated exposure)

There is no data available.

Aspiration hazard

There is no data available.

Information on the likely routes of exposure : Dermal contact. Eye contact. Inhalation. Ingestion.

Section 12. Ecological information

Toxicity

| Product/ingredient name | Result | Species | Exposure |
|-------------------------|--------------------------------------|---------------------------------------|----------|
| Ethanediol | Acute LC50 100000 µg/L Marine water | Crustaceans - Crangon crangon - Adult | 48 hours |
| | Acute LC50 10000000 µg/L Fresh water | Daphnia - Daphnia magna | 48 hours |
| | Acute LC50 8050000 µg/L Fresh water | Fish - Pimephales promelas | 96 hours |

Persistence and degradability

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|-------------------------|-------------------|------------|------------------|
| Ethanediol | - | - | Readily |

Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|-------------------------|--------------------|-----|-----------|
| Ethanediol | -1.36 | - | low |

Mobility in soil

Soil/water partition coefficient (K_{oc}) : There is no data available.
 Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

Section 14. Transport information

DOT IDENTIFICATION NUMBER UN3082 **DOT proper shipping name** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.. Marine pollutant RQ (Ethanediol)
DOT Hazard Class(es) 9 **PG** III **DOT EMER. RESPONSE GUIDE NO.** 171

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption:** Not determined
United States inventory (TSCA 8b): All components are listed or exempted.

Clean Air Act Section 602 Class I Substances : Not listed **DEA List I Chemicals (Precursor Chemicals)** : Not listed
Clean Air Act Section 602 Class II Substances : Not listed **DEA List II Chemicals (Essential Chemicals)** : Not listed
Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) : Listed

SARA 302/304**Composition/information on ingredients**

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Hazard classifications : Immediate (acute) health hazard

Composition/information on ingredients

| Name | % | Fire hazard | Sudden release of pressure | Reactive | Immediate (acute) health hazard | Delayed (chronic) health hazard |
|------------|----------|-------------|----------------------------|----------|---------------------------------|---------------------------------|
| Ethanediol | 60 - 100 | No. | No. | No. | Yes. | No. |

SARA 313 : This product (does/not) contain toxic chemicals subject to the reporting requirements of SARA Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and of 40 CFR 372.

| Product name | CAS number | % |
|--------------|------------|----------|
| Ethanediol | 107-21-1 | 60 - 100 |

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: Ethanediol
New York : The following components are listed: Ethanediol
New Jersey : The following components are listed: Ethanediol
Pennsylvania : The following components are listed: Ethanediol
California Prop. 65 : No products were found.

Section 16. Other information

Revision date : 04/22/2015 **Supersedes** : 08/31/2009
Revised Section(s) : 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16. **Prepared by** : KMK Regulatory Services Inc.

Notice to reader

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