



## Safety Data Sheet

**Material Name: Flo-Perm Marine and RV Antifreeze**  
**“Ethanol Free” -46°C Burst Protection**

**SDS ID: 87015**

### Section 1 - PRODUCT AND COMPANY IDENTIFICATION

**Material Name**

Flo-Perm Marine and RV Antifreeze - “Ethanol Free” -46°C Burst Protection

**Product Code**

FP91X46XX

**Synonyms**

None available.

**Product Use**

Marine antifreeze. If this product is used in combination with other products, refer to the Material Safety Data Sheet for those products.

**Restrictions on Use**

None known.

**MANUFACTURER**

Vulsay Industries Ltd  
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August 23, 2017

### Section 2 - HAZARDS IDENTIFICATION

**This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200 and Canada’s Hazardous Product Regulations (HPR)**

None needed according to classification criteria.

**GHS Label Elements**

**Symbol(s)**

None needed according to classification criteria.

**Signal Word**

None needed according to classification criteria

**Hazard Statement(s)**

None needed according to classification criteria.

**Precautionary Statement(s)**

**Prevention**

None needed according to classification criteria.

**Response**

None needed according to classification criteria.

**Storage**

None needed according to classification criteria.

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## Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

## Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

| CAS     | Component Name  | Percent |
|---------|-----------------|---------|
| 57-55-6 | 1,2-Propanediol | 20-30   |

## Section 4 - FIRST AID MEASURES

### Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

### Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER or doctor/physician. Wash contaminated clothing before reuse.

### Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

### Ingestion

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting. Rinse mouth.

### Most Important Symptoms/Effects

#### Acute

No information on significant adverse effects.

#### Delayed

No information on significant adverse effects.

### Indication of any immediate medical attention and special treatment needed

Treat symptomatically and supportively.

## Section 5 - FIRE FIGHTING MEASURES

### Extinguishing Media

#### Suitable Extinguishing Media

Carbon dioxide, alcohol-resistant foam, dry chemical, water spray, or water fog.

#### Unsuitable Extinguishing Media

Do not use high-pressure water streams.

### Special Hazards Arising from the Chemical

Mists or sprays may be flammable at temperatures below the flash point.

### Hazardous Combustion Products

Decomposition and combustion materials may be toxic. Burning may produce carbon monoxide, carbon dioxide.

### Fire Fighting Measures

Keep storage containers cool with water spray. Move container from fire area if it can be done without risk. Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. Do not scatter spilled material with high-pressure water streams. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Dike for later disposal.

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## Special Protective Equipment and Precautions for Firefighters

A positive-pressure, self-contained breathing apparatus (SCBA) and full-body protective equipment are required for fire emergencies.

## Section 6 - ACCIDENTAL RELEASE MEASURES

### Personal Precautions, Protective Equipment and Emergency Procedures

Wear personal protective clothing and equipment, see Section 8. Avoid release to the environment.

### Methods and Materials for Containment and Cleaning Up

Remove all ignition sources. Do not touch or walk through spilled product. Stop leak if you can do it without risk. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Ventilate area and avoid breathing vapor or mist. Contain spill away from surface water and sewers. Dike far ahead of liquid spill for collection and later disposal.

### Environmental Precautions

Avoid release to the environment.

## Section 7 - HANDLING AND STORAGE

### Precautions for Safe Handling

Keep away from heat, sparks, open flame, and hot surfaces - No smoking. Keep container tightly closed. Do not breathe vapor or mist. Use in a well ventilated area. Do not eat, drink, or smoke when using this product. Avoid contact with eyes, skin and clothing, shoes. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling.

### Conditions for Safe Storage, Including any Incompatibilities

None needed according to classification criteria.

Do not pressurize, cut, weld, braze, solder, drill, or grind containers.

### Incompatible Materials

Strong oxidizing agents, strong acids, strong alkalis, materials reactive with hydroxyl compounds.

## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

### Component Exposure Limits

|                 |  |
|-----------------|--|
| 1,2-Propanediol | 57-55-6  |
| Ontario         | 10 mg/m <sup>3</sup> TWA (for assessing the visibility in a work environment where 1,2-Propylene glycol aerosol is present ) aerosol only ; 50 ppm TWA aerosol and vapor ; 155 mg/m <sup>3</sup> TWA aerosol and vapor |

### ACGIH - Threshold Limit Values - Biological Exposure Indices (BEI)

There are no biological limit values for any of this product's components.

### Engineering Controls

Provide general ventilation needed to maintain concentration of vapor or mist below applicable exposure limits. Where adequate general ventilation is unavailable, use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below applicable exposure limits. Where explosive mixtures may be present, equipment safe for such locations should be used.

### Individual Protection Measures, such as Personal Protective Equipment

Eye/face protection

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Wear safety glasses. Additional protection like goggles, face shields, or respirators may be needed dependent upon anticipated use and concentrations of mists or vapors. Eye wash fountain and emergency showers are recommended. Contact lens use is not recommended.

## Respiratory Protection

A respiratory protection program which meets USA's OSHA General Industry Standard 29 CFR 1910.134 or Canada's CSA Standard Z94.4-M1982 requirements must be followed whenever workplace conditions warrant a respirator's use. Consult a qualified Industrial Hygienist or Safety Professional for respirator selection guidance.

## Glove Recommendations

Where skin contact is likely, wear gloves impervious to product; use of natural rubber (latex) or equivalent gloves is not recommended. To avoid prolonged or repeated contact where spills and splashes are likely, wear appropriate chemical-resistant faceshield, boots, apron, coveralls, long sleeve shirts, or other protective clothing.

## Protective Materials

Personal protective equipment should be selected based upon the conditions under which this material is used. A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to regulatory requirements. The following PPE should be considered the minimum required: Safety glasses, Gloves, and Lab coat or apron.

## Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

|                                 |                               |   |               |
|---------------------------------|-------------------------------|---|---------------|
| <b>Appearance</b>               | Pink slightly viscous liquid  | <b>Physical State</b>                         | Liquid        |
| <b>Odor</b>                     | Not available                 | <b>Color</b>                                  | Pink          |
| <b>Odor Threshold</b>           | Not available                 | <b>pH</b>                                     | 9 - 10        |
| <b>Melting Point</b>            | Not available                 | <b>Boiling Point</b>                          | >100 °C       |
| <b>Boiling Point Range</b>      | Not available                 | <b>Freezing point</b>                         | -10 °C        |
| <b>Evaporation Rate</b>         | Not available                 | <b>Flammability (solid, gas)</b>              | Not available |
| <b>Autoignition Temperature</b> | Not available                 | <b>Flash Point</b>                            | Not available |
| <b>Lower Explosive Limit</b>    | 2.6 % (as Propylene glycol )  | <b>Decomposition temperature</b>              | Not available |
| <b>Upper Explosive Limit</b>    | 12.5 % (as Propylene glycol ) | <b>Vapor Pressure</b>                         | Not available |
| <b>Vapor Density (air=1)</b>    | Not available                 | <b>Specific Gravity (water=1)</b>             | Not available |
| <b>Water Solubility</b>         | complete                      | <b>Partition coefficient: n-octanol/water</b> | Not available |
| <b>Viscosity</b>                | Not available                 | <b>Kinematic viscosity</b>                    | Not available |
| <b>Solubility (Other)</b>       | Not available                 | <b>Density</b>                                | 1.01 - 1.04   |
| <b>Physical Form</b>            | Liquid                        | <b>Molecular Weight</b>                       | Not available |

## Section 10 - STABILITY AND REACTIVITY

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## **Reactivity**

No reactivity hazard is expected.

## **Chemical Stability**

Stable under normal temperatures and pressures.

## **Possibility of Hazardous Reactions**

Will not polymerize under normal temperature and pressure conditions.

## **Conditions to Avoid**

Avoid heat, sparks or flame and incompatible materials.

## **Incompatible Materials**

Strong oxidizing agents, strong acids, strong alkalis, materials reactive with hydroxyl compounds.

## **Hazardous decomposition products**

Burning may produce carbon monoxide, carbon dioxide.

## **Section 11 - TOXICOLOGICAL INFORMATION**

### **Information on Likely Routes of Exposure**

#### **Inhalation**

No information on significant adverse effects.

#### **Skin Contact**

No information on significant adverse effects.

#### **Eye Contact**

No information on significant adverse effects.

#### **Ingestion**

No information on significant adverse effects.

### **Acute and Chronic Toxicity**

#### **Component Analysis - LD50/LC50**

The components of this material have been reviewed in various sources and the following selected endpoints are published:

#### **1,2-Propanediol (57-55-6)**

Oral LD50 Rat 20 g/kg; Dermal LD50 Rabbit 20800 mg/kg

### **Product Toxicity Data**

#### **Acute Toxicity Estimate**

|        |              |
|--------|--------------|
| Dermal | > 2000 mg/kg |
| Oral   | > 2000 mg/kg |

#### **Immediate Effects**

No information on significant adverse effects.

#### **Delayed Effects**

No information on significant adverse effects.

#### **Irritation/Corrosivity Data**

No information available for the product.

#### **Respiratory Sensitization**

No information available for the product.

#### **Dermal Sensitization**

No information available for the product.

#### **Component Carcinogenicity**

None of this product's components are listed by ACGIH, IARC, NTP, DFG or OSHA.

#### **Germ Cell Mutagenicity**

No information available for the product.

#### **Tumorigenic Data**

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No information available for the product.

## **Reproductive Toxicity**

No information available for the product.

## **Specific Target Organ Toxicity - Single Exposure**

No target organs identified.

## **Specific Target Organ Toxicity - Repeated Exposure**

No target organs identified.

## **Aspiration hazard**

No information available for the product.

## **Medical Conditions Aggravated by Exposure**

No data available.

## **Section 12 - ECOLOGICAL INFORMATION**

### **Component Analysis - Aquatic Toxicity**

|                        |  |
|------------------------|--|
| <b>1,2-Propanediol</b> | <b>57-55-6</b>   |
| Fish:                  | LC50 96 h Oncorhynchus mykiss 51600 mg/L [static ]; LC50 96 h Oncorhynchus mykiss 41 - 47 mL/L [static ]; LC50 96 h Pimephales promelas 51400 mg/L [static ]; LC50 96 h Pimephales promelas 710 mg/L |
| Algae:                 | EC50 96 h Pseudokirchneriella subcapitata 19000 mg/L IUCLID  |
| Invertebrate:          | EC50 48 h Daphnia magna >1000 mg/L [Static ] EPA   |

### **Invertebrate Toxicity**

No additional information is available.

### **Persistence and Degradability**

No information available for the product.

### **Bioaccumulative Potential**

No information available for the product.

### **Mobility**

No information available for the product.

## **Section 13 - DISPOSAL CONSIDERATIONS**

### **Disposal Methods**

Dispose in accordance with federal, state, provincial, and local regulations. Regulations may also apply to empty containers. Contact Vulsay regarding proper recycling or disposal.

## **Section 14 - TRANSPORT INFORMATION**

**US DOT Information:** Not regulated for transport.

**IATA Information:** Not regulated for transport.

**IMDG Information:** Not regulated for transport.

**TDG Information:** Not regulated for transport.

### **International Bulk Chemical Code**

This material does not contain any chemicals required by the IBC Code to be identified as dangerous chemicals in bulk.

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## Section 15 - REGULATORY INFORMATION

**Canada Regulations**

**CEPA - Priority Substances List**

None of this product's components are on the list.

**Ozone Depleting Substances**

None of this product's components are on the list.

**Council of Ministers of the Environment - Soil Quality Guidelines**

None of this product's components are on the list.

**Council of Ministers of the Environment - Water Quality Guidelines**

None of this product's components are on the list.

**U.S. Federal Regulations**

None of this product's components are listed under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), or require an OSHA process safety plan.

**SARA Section 311/312 (40 CFR 370 Subparts B and C) 2016 reporting categories**

**Acute Health: Yes Chronic Health: Yes Fire: Yes Pressure: No Reactivity: No**

**Component Analysis - Inventory**

**1,2-Propanediol (57-55-6)**

|     |     |     |     |     |           |           |                   |                   |                |     |     |     |     |            |
|-----|-----|-----|-----|-----|-----------|-----------|-------------------|-------------------|----------------|-----|-----|-----|-----|------------|
| US  | CA  | EU  | AU  | PH  | JP - ENCS | JP - ISHL | KR KECI - Annex 1 | KR KECI - Annex 2 | KR - REACH CCA | CN  | NZ  | MX  | TW  | VN (Draft) |
| Yes | DSL | EIN | Yes | Yes | Yes       | Yes       | Yes               | No                | No             | Yes | Yes | Yes | Yes | Yes        |

## Section 16 - OTHER INFORMATION

**NFPA Ratings**

Health: 1 Fire: 1 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

**Key / Legend**

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CA/MA/MN/NJ/PA - California/Massachusetts/Minnesota/New Jersey/Pennsylvania\*; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CFR - Code of Federal Regulations (US); CLP - Classification, Labelling, and Packaging; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSD - Dangerous Substance Directive; DSL - Domestic Substances List; EC - European Commission; EEC - European Economic Community; EIN - European Inventory of (Existing Commercial Chemical Substances); EINECS - European Inventory of Existing Commercial Chemical Substances; ENCS - Japan Existing and New Chemical Substance Inventory; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; F - Background (for Venezuela Biological Exposure Indices); IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; ISHL - Japan Industrial Safety and Health Law; IUCLID -

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International Uniform Chemical Information Database; JP - Japan; Kow - Octanol/water partition coefficient; KR KECI Annex 1 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL); KR KECI Annex 2 - Korea Existing Chemicals Inventory (KECI) / Korea Existing Chemicals List (KECL) , KR - Korea; LD50/LC50 - Lethal Dose/ Lethal Concentration; LEL - Lower Explosive Limit; LLV - Level Limit Value; LOLI - List Of LIsts™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; MX – Mexico; Ne- Non-specific; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; Nq - Non-quantitative; NSL – Non-Domestic Substance List (Canada); NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PEL- Permissible Exposure Limit; PH - Philippines; RCRA - Resource Conservation and Recovery Act; REACH- Registration, Evaluation, Authorisation, and restriction of Chemicals; RID - European Rail Transport; SARA - Superfund Amendments and Reauthorization Act; Sc - Semi-quantitative; STEL - Short-term Exposure Limit; TCCA – Korea Toxic Chemicals Control Act; TDG - Transportation of Dangerous Goods; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act; TW – Taiwan; TWA - Time Weighted Average; UEL - Upper Explosive Limit; UN/NA - United Nations /North American; US - United States; VLE - Exposure Limit Value (Mexico); VN (Draft) - Vietnam (Draft); WHMIS - Workplace Hazardous Materials Information System (Canada).

### **Other Information**

#### **Disclaimer:**

User assumes all risks incident to the use of this product. To the best of our knowledge, the information contained herein is accurate. However, Vulsay assumes no liability whatsoever for the accuracy or completeness of the information contained herein. No representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to the information or the product to which the information refers. The data contained on this sheet apply to the product as supplied to the user.