

FLO-PERM "5 YEARS" LONG LIFE RED CONCENTRATE ANTI-FREEZE

REVISION DATE: March 05, 2017

I PRODUCT INFORMATION

TRADE NAME: Flo-perm 5 years long life universal antifreeze "RED"
SUPPLIER'S NAME: Vulsay Industries Ltd.
ADDRESS: 35 Regan road, Brampton, Ontario L7A 1 B2
PHONE: (905) 846 2200 FAX #: (905) 846 2249
CHEMICAL NAME: Ethylene Glycol
PRODUCT USE: Anti-freeze/coolant

PART NUMBERS
93003,92063,2063
2063DLVRD, 90499R

24 hours EMERGENCY Phone # - Call CANUTEC at (613) 996 6666

NFPA RATING: Health: 2 Flammability:1 Reactivity:0

II PREPARATION INFORMATION

SOURCES USED: MSDS of ingredients and similar relevant data
REVISION NOTE: Reprint

PREPARED BY: Quality control department

III HAZARDOUS INGREDIENTS

| INGREDIENT | VOLUME (%) | CAS # | LD50 | LC50 |
|---------------------------|------------|-----------|--------------------------|-----------------------------------------|
| Monoethylene glycol | 80-90 | 107-21-1 | 8.5 g/kg (rats-Oral) | Not determined |
| Diethylene Glycol | 3 - 7 | 111-46-6 | 12.5 g/kg (rats - Oral) | Not determined |
| Sodium Nitrite | <0.44 | 7632-00-0 | 180 mg/kg (rat - Oral) | 5500 µg/m ³ Inhalation - rat |
| Potassium Hydroxide (45%) | <0.22 | 1310-58-3 | 273 mg/kg (rat - Oral) | Not available |
| Sodium Nitrate | <0.1 | 7631-99-4 | 1267 mg/Kg (rats - Oral) | Not available |
| Inhibitors | <0.1 | Mixture | Not applicable | Not applicable |
| Dye (generally RED) | <0.02 | Mixture | Not applicable | Not applicable |

EMERGENCY OVERVIEW: HARMFUL OR FATAL IF SWALLOWED. Solution is poisonous to both humans and animals. Excessive exposure has been shown to cause birth defects in laboratory testing.

IV PHYSICAL DATA

PHYSICAL STATE Liquid
ODOUR THRESHOLD Not Available
SOLUBILITY IN WATER. Completely soluble
EVAPORATION RATE (n-butyl acetate = 1) <1
SPECIFIC GRAVITY (20 DEG C): 1.1 - 1.14
pH: 7.0 - 9.0

ODOUR AND APPEARANCE. Red coloured liquid with a sweet smell
VAPOUR PRESSURE (mm): Not determined
VAPOUR DENSITY (AIR =1). >1
VOLATILE. Not volatile
FREEZING POINT (DEG C). -22

BOILING POINT (DEG C) 166

V FIRE AND EXPLOSION HAZARDS

FLASH POINT AND METHOD: 116° C (241° F) TCC
LOWER FLAMMABILITY LIMIT: 3.2%
UPPER FLAMMABILITY LIMIT: 15.3%
AUTO IGNITION TEMPERATURE: 398° C (748° F)
UNUSUAL FIRE AND EXPLOSION HAZARDS: Extreme heat as in fire or high engine temperature
MEAN OF EXTINCTION: Water fog or fine spray, alcohol resistant foams, CO₂, dry chemical, Do not use direct water stream, may spread fire.
SPECIAL PROCEDURES: Wear positive-pressure, self-contained breathing apparatus and full protective equipment

VI REACTIVITY DATA

CHEMICAL STABILITY: Stable, Hazardous polymerization will not occur
INCOMPATIBILITY: Strong oxidizing materials, HAZARDOUS DECOMPOSITION PRODUCTS: CO, CO₂,

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VII TOXICOLOGICAL PROPERTIES

EFFECTS OF ACUTE EXPOSURE: Vie- Slightly irritation but injury unlikely. If vaporized or sprayed- upper respiratory irritation and systemic effects. Ingestion - moderately toxic, may cause central nervous system effects, cardio-pulmonary effects (metabolic acidosis) and kidney failure. Large amounts ingested may cause serious injury and death.

EFFECTS OF CHRONIC EXPOSURE TO PRODUCT: Skin absorption or ingestion: Long term exposure may cause bladder stones, kidney and liver damage, deposition of calcium salts in various tissues. Ethylene Glycol has been shown to cause developmental and reproductive effects at high dose levels in laboratory animals. The relationship of these results to humans has not been fully established.

ACUTE TOXICITY DATA: Based on animal and human testing data from similar materials and products, the acute toxicity of this product is expected to be ORAL: LD50 > 1300 mg/kg (human) LD50 > 8500 mg/kg (rat)

VIII PREVENTATIVE MEASURES, HANDLING AND STORAGE



PERSONAL PROTECTIVE EQUIPMENT: Normal body covering clothing for most conditions

GLOVES (SPECIFY): Impervious for prolonged or repeated exposure

RESPIRATORY (SPECIFY): Air purifying respirator if atmospheric level is high

EYES (SPECIFY): Glasses for splash, full-face respirator if vapours cause discomfort.

FOOTWEAR: Normal

ENGINEERING CONTROLS: General ventilation, local for mists

LEAK AND SPILL PROCEDURE: Small spills, soak up with suitable absorbent. Large spills - dike material, pump into suitable containers for disposal.

WASTE DISPOSAL: Do not dump into any sewers, on the ground, or into any body of water. All disposal methods must comply with all Federal, State/Provincial and local laws and regulations.

HANDLING, STORAGE AND SHIPPING: Keep container closed when not in use. Store away from heat or open flame. Do not store near foodstuffs, or potable water supplies. Product on surfaces can cause slippery conditions. Practice reasonable care and cleanliness. Avoid breathing spray mists if generated. Keep out of reach of children. Poison. Do not drink this material. In keeping with good personal hygiene practices, wash hands thoroughly after handling the material. Empty containers may contain product residue. Do not reuse empty containers. Product may freeze below - 18° C (0° F).

IX ENVIRONMENTAL EFFECTS AND HAZARDS:

Do not allow product or runoff from fire control to enter storm or sanitary sewers, lakes rivers, streams, or public waterways. Block off drains and ditches. Provincial and/or federal regulations may require that environmental and/or other agencies be notified of a spill incident. Spill area must be cleaned and restored to original condition, or to the satisfaction of authorities.

X FIRST AID MEASURES

INHALATION: Remove patient to fresh air if effects occur. Consult a physician. SKIN: Wash contaminated skin with water and mild soap. Remove contaminated clothing.

EYES: Flush eyes with water for at least 15 minutes. Obtain medical attention if necessary.

INGESTION: Contains ethylene glycol. **If swallowed, call a poison control center or doctor immediately.**

XI ADDITIONAL INFORMATION

WHIMS CLASSIFICATION: D2A, Very toxic material



TDG (CANADA): Shipping Name: Compounds, Anti-freeze Not regulated.

DOT (USA): Non-bulk is not regulated in quantities under 5,000 lbs in any one inner package.

IATA (International Air Transportation Association): Not regulated under IATA.

OSHA Classification: Product is hazardous according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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Comprehensive Environmental Release, Compensation & Liability Act (CERCLA): Ethylene Glycol RQ 5000 lbs Reportable Spill => 10455 lbs or 1254 gal

Ozone Depleting Substances (40 CFR 82 Clean Air Act): This material does not contain nor was it directly manufactured with any Class I or Class II ozone depleting substances.

Superfund Amendment & Reauthorization Act (SARA) Title III: There are no components in this product on the SARA 302 list.

SARA Hazard Categories (311/312): Immediate Health:YES Delayed Health:YES Fire:NO Pressure:NO Reactivity:NO

SARA Toxic Release Inventory (TRI) (313): Ethylene Glycol

Toxic Substances Control Act (TSCA) Status: All component(s) of this material is(are) listed on the EPA/TSCA Inventory of Chemical Substances.

This product may be subject to export notification under TSCA Section 12(b); Contains: ETHANOL,2-(2-Butoxy)

Other Chemical Inventories: Component(s) of this material is (are) listed on the Canadian DSL, European EINECS

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