

MATERIAL SAFETY DATA SHEET

THERMGUARD (ALL GRADES)

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

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WHMIS#: 00063602
Index: HCl3602/07C
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Website: <http://www.brenntag.ca>

EMERGENCY TELEPHONE NUMBERS (FOR EMERGENCIES INVOLVING CHEMICAL SPILLS OR RELEASE)

Toronto, ON (416) 226-6117
Edmonton, AB (780) 424-1754

Montreal, QC (514) 861-1211
Calgary, AB (403) 263-8660

Winnipeg, MB (204) 943-8827
Vancouver, BC (604) 685-5036

PRODUCT IDENTIFICATION

Product Name: Thermguard (All Grades).
Chemical Name: Not applicable.
Synonyms: Not available.
Chemical Family: Aqueous mixture of oxygenated aliphatic hydrocarbons and Inorganic metal salt.
Molecular Formula: Not applicable.
Product Use: Industrial solvent, cleaner, degreaser. Automotive coolant/antifreeze. Heat transfer fluid.

WHMIS Classification / Symbol:

D-2A: Very Toxic (carcinogen, teratogen)
E: Corrosive



READ THE ENTIRE MSDS FOR THE COMPLETE HAZARD EVALUATION OF THIS PRODUCT.

2. COMPOSITION, INFORMATION ON INGREDIENTS (Not Intended As Specifications)

<i>Ingredient</i>	<i>CAS#</i>	<i>ACGIH TLV</i>	<i>% Concentration</i>
Ethylene Glycol	107-21-1	— *A4	1 - 100
Propylene Glycol	57-55-6	---	0 - 70
Sodium Nitrate	7631-99-4	—	0.1 - 1
Sodium Nitrite	7632-00-0	—	0.1 - 1

The identity of one or more of the ingredient(s) of this product have not been disclosed by our supplier(s) and we are not aware of any additional health hazards due to these ingredients, which are not already identified on this MSDS.

A4 = Not classifiable as a human carcinogen. (ACGIH-A4).

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Corrosive! Harmful if inhaled, absorbed through skin, or swallowed. Causes skin and eye burns. Mists or sprays are extremely irritating to eyes and respiratory tract. High vapour concentrations may cause drowsiness. Cancer hazard. May cause teratogenic effects. See "Other Health Effects" Section. Can decompose at high temperatures forming toxic gases. Contents may develop pressure on prolonged exposure to heat.

POTENTIAL HEALTH EFFECTS

Inhalation: Corrosive! Product may cause severe irritation of the nose, throat and respiratory tract. Repeated and/or prolonged exposures may cause productive cough, running nose, bronchopneumonia, pulmonary oedema (fluid build-up in lungs), and reduction of pulmonary function. This product has a low vapour pressure and is not expected to present an inhalation hazard at ambient conditions. Caution should be taken to prevent aerosolization or misting of this product. (3) Toxic effects may be delayed. See "Other Health Effects" Section.

Skin Contact: Corrosive! Prolonged, confined (especially under the finger nails, under rings or watch bands) or repeated exposure may cause skin irritation and possibly lead to (chemical) burns. Prolonged and repeated contact may lead to dermatitis. May cause skin sensitization or other allergic responses. See Section 11, "Toxicological Information".

Skin Absorption: Prolonged or wide spread skin contact may result in the absorption of potentially harmful amounts of material.

Eye Contact: Corrosive! This product causes immediate pain, severe burns and permanent corneal damage which may result in blindness.

Ingestion: Corrosive! This product causes irritation, a burning sensation of the mouth and throat and abdominal pain.

Other Health Effects: Corrosive effects on the skin and eyes may be delayed, and damage may occur without the sensation or onset of pain. Strict adherence to first aid measures following any exposure is essential.

Ethylene Glycol may cause metabolic acidosis, systemic poisoning and death. Ethylene Glycol poisoning occurs in three stages: central nervous system (CNS) depression, cardiopulmonary failure and kidney failure. The severity of those stages, and advancement from one stage to another depends upon the dose ingested. CNS depression is characterized by headache, dizziness, drowsiness, nausea, vomiting and incoordination. Severe overexposures may lead to coma and possible death due to respiratory failure. Survival of CNS depression may be followed by cardiopulmonary failure, which is initiated by the onset of coma and is characterized by quick, shallow breathing, excessively fast heart beat, mild hypertension and cyanosis. Survival of cardiopulmonary failure may be followed by kidney damage, which may range from a mild increase in blood urea nitrogen to complete kidney failure and possible death. In severe cases of overexposure, pulmonary oedema, bronchopneumonia, cardiac enlargement and possible death may occur. Pulmonary oedema is the exposure to high concentrations of a substance causing the build-up of fluid in the lungs that might be fatal. Symptoms of pulmonary oedema, such as shortness of breath, may not appear until several hours after exposure and are aggravated by physical exertion. There may be cranial nerve involvement in the late stages of toxicity from swallowed Ethylene Glycol. In particular, effects have been reported from the seventh, eighth and ninth cranial nerves, presenting with bilateral facial paralysis, diminished hearing and difficulty in swallowing (dysphagia). (3)

Liver damage is characterized by the loss of appetite, jaundice (yellowish skin colour), and occasional pain in the upper left-hand side of the abdomen. Signs and symptoms of kidney damage generally progress from oliguria, to blood in the urine, to total renal failure. Metabolic acidosis is a condition that describes a decreased pH and bicarbonate concentration in the body fluids.

Propylene Glycol may cause hypoglycemia. Hypoglycemia is defined as an abnormally low concentration of glucose in the circulating blood.

4. FIRST AID MEASURES

FIRST AID PROCEDURES

Inhalation: Move victim to fresh air. Give artificial respiration ONLY if breathing has stopped. Give cardiopulmonary resuscitation (CPR) if there is no breathing AND no pulse. Oxygen administration may be beneficial in this situation but should only be administered by personnel trained in its use. Obtain medical attention IMMEDIATELY.

Skin Contact: Prompt removal of the material from the skin is essential. Remove all contaminated clothing and immediately wash the exposed areas with copious amounts of soap and water for a minimum of 30 minutes or up to 60 minutes for critical body areas. Immerse the exposed part immediately in ice water to relieve pain and to prevent swelling and blistering. Place cold packs, ice or wet cloths on the burned area if immersion is not possible. Cover the exposed part with a clean, preferably sterile, lint-free dressing. Obtain medical attention IMMEDIATELY and monitor breathing and treat for shock for severe exposure. See "Note to Physicians" below.

Eye Contact:	Immediately flush eyes with running water for a minimum of 20 minutes. Hold eyelids open during flushing. If irritation persists, repeat flushing. Obtain medical attention IMMEDIATELY. Do not transport victim until the recommended flushing period is completed unless flushing can be continued during transport.
Ingestion:	Do not attempt to give anything by mouth to an unconscious person. If victim is alert and not convulsing, rinse mouth out and give 1/2 to 1 glass of water to dilute material. IMMEDIATELY contact local Poison Control Centre. Vomiting should only be induced under the direction of a physician or a poison control centre. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomitus, rinse mouth and administer more water. IMMEDIATELY transport victim to an emergency facility. DO NOT give acidic agents (e.g., citrus juices or vinegar) to "neutralize" the alkali. This action may cause an exothermic reaction and burn the esophagus.
Note to Physicians:	<p>Due to the severely irritating or corrosive nature of the material, swallowing may lead to ulceration and inflammation of the upper alimentary tract with hemorrhage and fluid loss. Also, perforation of the esophagus or stomach may occur, leading to mediastinitis or peritonitis and the resultant complications. (3)</p> <p>Mucosal injury following ingestion of this corrosive material may contraindicate the induction of vomiting in the treatment of possible intoxication. Similarly, if gastric lavage is performed, intubation should be done with great care. If oral burns are present or a corrosive ingestion is suspected by the patient's history, perform esophagoscopy as soon as possible. Scope should not be passed beyond the first burn because of the risk of perforation.</p> <p>This product contains materials that may cause severe pneumonitis if aspirated. If ingestion has occurred less than 2 hours earlier, carry out careful gastric lavage; use endotracheal cuff if available, to prevent aspiration. Observe patient for respiratory difficulty from aspiration pneumonitis. Give artificial resuscitation and appropriate chemotherapy if respiration is depressed.</p> <p>Ethylene Glycol is metabolized by alcohol dehydrogenase to various metabolites including glycoaldehyde, glycolic acid, and oxalic acid which cause an elevated anion-gap metabolic acidosis and renal tubular injury. Urinalysis may show albuminuria, hematuria and oxaluria. Clinical chemistry may reveal anion-gap metabolic acidosis and uremia. (3)</p> <p>The currently recommended medical management of Ethylene Glycol poisoning includes elimination of Ethylene Glycol and metabolites, correction of metabolic acidosis and prevention of kidney injury. It is essential to have immediate and follow-up urinalysis and clinical chemistry. There should be particular emphasis on acid-base balance and renal function tests. A continuous infusion of 5% Sodium Bicarbonate with frequent monitoring of electrolytes and fluid balance is used to achieve correction of metabolic acidosis and forced diuresis. (3)</p> <p>Pulmonary oedema with low arterial oxygen levels (hypoxemia) has been described in a number of patients following poisoning with Ethylene Glycol. The mechanism of production has not been elucidated, but it appears to be not carcinogenic in origin in several cases. Respiratory support with mechanical ventilation and positive end-expiratory pressure may be required. (3)</p> <p>As a competitive substrate for alcohol dehydrogenase, Ethyl Alcohol is antidotal. Given in the early stages of intoxication, it blocks the formation of nephrotoxic metabolites. A therapeutically effective blood concentration of ethanol is in the range of 100-150 mg/dL, and should be achieved by a rapid loading dose and maintained by intravenous infusion. (3)</p> <p>For severe and/or deteriorating cases, hemodialysis may be required. Dialysis should be considered for patients who are symptomatic, have severe metabolic acidosis, a blood Ethylene Glycol concentration greater than 25 mg/dL, or compromise of renal function. (3)</p> <p>4-Methylpyrazole, a potent inhibitor of alcohol dehydrogenase, has been effectively used to decrease the metabolic consequences of Ethylene Glycol poisoning before metabolic acidosis, coma, seizures and renal failure have occurred. (3)</p> <p>Additional therapeutic measures may include the administration of cofactors involved in the metabolism of Ethylene Glycol. Thiamine (100 mg) and pyridoxine (50 mg) should be given every six hours. (3)</p> <p>Medical conditions that may be aggravated by exposure to this product include neurological and cardiovascular disorders, diseases of the skin, eyes or respiratory tract, preexisting liver and kidney disorders.</p>

5. FIRE-FIGHTING MEASURES

Flashpoint (°C)	Autolgnition Temperature (°C)	Flammability Limits in Air (%):	
		LEL	UEL

100. (Estimated)	371. (Estimated)	3.2. (Estimated)	15.3. (Estimated)
Flammability Class (WHMIS):	Not regulated.		
Hazardous Combustion Products:	Thermal decomposition products are toxic and may include: oxides of sodium, potassium, carbon and Phosphorus. Heating in air may produce irritating aldehydes, acids and ketones.		
Unusual Fire or Explosion Hazards:	Not normally a fire hazard. Water content of product prevents ignition. Do not direct a solid stream of foam into hot, burning pools. This may cause spattering and increase fire intensity. Closed containers exposed to heat may burst. Spilled material may cause floors and contact surfaces to become slippery. Aqueous solutions containing less than 95 % Propylene Glycol by weight have no flash points as obtained by standard test methods. However, aqueous solutions of Propylene Glycol greater than 22 % by weight, if heated sufficiently, will produce flammable vapours. Only aqueous solutions of Propylene Glycol less than 22 % by weight should be used in sprinkler systems or other fire-fighting equipment. (3)		
Sensitivity to Mechanical Impact:	Not expected to be sensitive to mechanical impact.		
Rate of Burning:	Not available.		
Explosive Power:	Not available.		
Sensitivity to Static Discharge:	Not expected to be sensitive to static discharge.		
EXTINGUISHING MEDIA			
Fire Extinguishing Media:	Use carbon dioxide or dry chemical media for small fires. If only water is available, use it in the form of a fog. This material may produce a floating fire hazard in extreme fire conditions.		
FIRE FIGHTING INSTRUCTIONS			
Instructions to the Fire Fighters:	Fire-exposed containers should be kept cool by spraying with water to reduce pressure. This should be done from a safe distance since containers may rupture. Isolate materials that are not involved in the fire and protect personnel. The heat from a fire can cause a build-up of pressure inside the containers which may explode. No part of a container should be exposed to temperatures above 50° Celsius. Cool containers with flooding quantities of water until well after the fire is out. (4)		
Fire Fighting Protective Equipment:	Use self-contained breathing apparatus and protective clothing. Protective clothing for skin and eye protection should be worn to protect against alkaline materials.		

6. ACCIDENTAL RELEASE MEASURES

Information in this section is for responding to spills, leaks or releases in order to prevent or minimize the adverse effects on persons, property and the environment. There may be specific reporting requirements associated with spills, leaks or releases, which change from region to region.

Containment and Clean-Up Procedures: In all cases of leak or spill contact vendor at Emergency Number shown on the front page of this MSDS. Wear protective clothing. Recover spilled material on non-combustible absorbents, such as sand or vermiculite, and place in covered containers for disposal. Collect product for recovery or disposal. For release to land, or storm water runoff, contain discharge by constructing dykes or applying inert absorbent; for release to water, utilize damming and/or water diversion to minimize the spread of contamination. Ventilate enclosed spaces. Notify applicable government authority if release is reportable or could adversely affect the environment.

7. HANDLING AND STORAGE

HANDLING

Handling Practices: Use normal "good" industrial hygiene and housekeeping practices. Drums which have been exposed to heat may be under internal pressure. These should be cooled and carefully vented before opening. A face shield and apron should be worn. Vent container frequently, and more often in warm weather, to relieve pressure.

Ventilation Requirements: See Section 8, "Engineering Controls".

Other Precautions: Use only with adequate ventilation and avoid breathing vapours, mists or aerosols. Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling. Wash contaminated clothing thoroughly before re-use. Do not use cutting or welding torches on empty drums that contained this material/product.

Sudden release of hot organic chemical vapours or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into vacuum equipment, may result in ignitions without the presence of obvious ignition sources. Published "autoignition" or "ignition" temperature values cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions.

Corrosive residue is most likely to be deposited at process vents or storage tanks, especially during filling operations. The use of compressed air to force corrosive materials from delivery trucks is of special concern. Scrubbing the exhaust of these vents is highly recommended. Jurisdictional regulations should be consulted to determine required practices.

STORAGE

Storage Temperature (°C): See below.

Ventilation Requirements: Ventilation should be corrosion proof.

Storage Requirements: Store in a cool, well-ventilated area. Keep away from heat, sparks and flames. Keep containers closed. Storage tanks should be in a contained area to control any spills or leaks. Storage area should be equipped with corrosion-resistant floors, sumps and should have controlled drainage to a recovery tank.

Special Materials to be Used for Packaging or Containers: Materials of construction for storing the product include: plastics. Equipment for storage, handling or transport should NOT be made from the following material, or, where applicable, its alloys: aluminum or Epoxy. Confirm suitability of any material before using.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Recommendations listed in this section indicate the type of equipment, which will provide protection against overexposure to this product. Conditions of use, adequacy of engineering or other control measures, and actual exposures will dictate the need for specific protective devices at your workplace.

ENGINEERING CONTROLS

Engineering Controls: Local exhaust ventilation required. Ventilation should be corrosion proof. Make up air should be supplied to balance air that is removed by local or general exhaust ventilation. Ventilate low lying areas such as sumps or pits where dense vapours may collect.

For personnel entry into confined spaces (i.e. bulk storage tanks) a proper procedure must be followed. It must include consideration of, among other things, ventilation, testing of tank atmosphere, provision and maintenance of SCBA, and emergency rescue. Use the "buddy" system. The second person should be in view and trained and equipped to execute a rescue. (4)

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Eye Protection: Safety glasses with side shields are recommended to prevent eye contact. Use full face-shield or chemical safety goggles when there is potential for contact. Contact lenses should not be worn when working with this material.

Skin Protection: Gloves and protective clothing made from butyl rubber, natural rubber, viton, neoprene, nitrile rubber or PVC should be impervious under conditions of use. Prior to use, user should confirm impermeability. Discard contaminated gloves.

Respiratory Protection: No specific guidelines available. A NIOSH/MSHA-approved air-purifying respirator equipped with organic vapour cartridges for concentrations up to 1,000 ppm. An air-supplied respirator if concentrations are higher or unknown.

If while wearing a respiratory protection, you can smell, taste or otherwise detect anything unusual, or in the case of a full facepiece respirator you experience eye irritation, leave the area immediately. Check to make sure the respirator to face seal is still good. If it is, replace the filter, cartridge or canister. If the seal is no longer good, you may need a new respirator. (4)

Other Personal Protective Equipment: Wear an impermeable apron and boots. Locate safety shower and eyewash station close to chemical handling area. Take all precautions to avoid personal contact.

EXPOSURE GUIDELINES

SUBSTANCE	ACGIH TLV	OSHA PEL		NIOSH REL	
	(STEL)	(TWA)	(STEL)	(TWA)	(STEL)
Ethylene Glycol	100 mg/m ³ (Ceiling)	---	---	---	---

9. PHYSICAL AND CHEMICAL PROPERTIES (Not intended as Specifications)

Physical State:	Liquid.
Appearance:	Green liquid.
Odour:	Glycol odour.
Odour Threshold (ppm):	Not available.
Boiling Range (°C):	> 100.
Melting/Freezing Point (°C):	-35.
Vapour Pressure (mm Hg at 20° C):	Not available.
Vapour Density (Air = 1.0):	Not available.
Relative Density (g/cc):	1.0 - 1.2.
Bulk Density:	1 000 - 1 200 kg/m3.
Viscosity:	Not available.
Evaporation Rate (Butyl Acetate = 1.0):	Not available.
Solubility:	Soluble in water.
% Volatile by Volume:	> 80 %.
pH:	11 - 12 (neat).
Coefficient of Water/Oil Distribution:	Not available.
Volatile Organic Compounds (VOC):	40 - 100.

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY

Under Normal Conditions:	Stable.
Under Fire Conditions:	Not normally a fire hazard. Water content of product prevents ignition.
Hazardous Polymerization:	Will not occur.
Conditions to Avoid:	High temperatures, sparks, open flames and all other sources of ignition.
Materials to Avoid:	Strong oxidizers. Strong acids. At elevated temperatures : Product can react explosively with Strong bases and Acids. Epoxy. Materials reactive with hydroxyl bearing compounds. Aluminum and its alloys. Perchloric Acid. Phosphorus (V) Sulfide. Isocyanates.
Decomposition or Combustion Products:	Thermal decomposition products are toxic and may include: oxides of sodium, potassium, carbon and Phosphorus. Heating in air may produce irritating aldehydes, acids and ketones.

11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL DATA:

SUBSTANCE	LD50 (Oral, Rat)	LD50 (Dermal, Rabbit)	LC50 (Inhalation, Rat, 4h)
Ethylene Glycol	4 700 mg/kg (1)	9 530 mg/kg (1)	10 876 mg/m ³ (1)
Carcinogenicity Data:	Sodium Nitrate : A constant oral intake of nitrate containing foods or water could lead to formation of n-nitroso compounds. Some nitrosamines have been shown to be carcinogenic in laboratory animals. (3) Nitrates / Nitrites: IARC has classed nitrates / nitrites as 2A when ingested in such a way as to cause nitrosamine conversion in the body. (3)		
Reproductive Data:	Ingestion of large amounts of Ethylene Glycol has been shown to interfere with reproduction in animals. Specifically, growth retardation, decreased litter size in rats and mice, and decrease in mating frequency in mice were observed. (3) See "Other Studies Relevant to Material".		
Mutagenicity Data:	No adverse mutagenic effects are anticipated.		
Teratogenicity Data:	Based on animal studies, ingestion of very large amounts of Ethylene Glycol appears to be the major and possibly the only route of exposure to produce birth defects. (3) See "Other Studies Relevant to Material".		

Respiratory / Skin Sensitization Data:	Repeated skin contact with Ethylene Glycol may, in a very small proportion of cases, cause skin sensitization with the development of allergic contact dermatitis. The incidence is significantly less than 1% with the undiluted material. (3) Sensitization is the process whereby a biological change occurs in the individual because of previous exposure to a substance and, as a result, the individual reacts more strongly when subsequently exposed to the substance. Once sensitized, an individual can react to extremely low airborne levels, even below the TLV, or to skin contact.
Synergistic Materials:	Alcohols/Glycols : Alcohols may interact synergistically with chlorinated solvents (example - carbon tetrachloride, chloroform, bromotrichloromethane), dithiocarbamates (example - disulfiram), dimethylnitrosamine and thioacetamide. (4)
Other Studies Relevant to Material:	<p>Ethylene Glycol has been shown to produce dose-related teratogenic effects in rats and mice when given by gavage or in drinking water at high concentrations or doses. The absence of a carcinogenic potential for Ethylene Glycol has been supported by numerous in vitro genotoxicity studies showing that it does not produce mutagenic or clastogenic effects. (3)</p> <p>Ethylene Glycol caused mild skin and eye irritation when tested in rabbits. (3)</p> <p>Propylene Glycol, when tested by open and occluded patch tests, was found to be non-irritating to the skin of humans and animals. Slight irritation was noted when Propylene Glycol was administered to the eye. The irritation was non injurious and lasted until tears washed the Propylene Glycol away. (4)</p> <p>Propylene Glycol has altered the intraocular osmotic blood pressure in both humans and rabbits when administered orally. Central nervous system depression, liver changes, kidney changes and some cardiovascular depression were observed following intravenous or oral administration of Propylene Glycol to rats, mice and calves. (4)</p> <p>Animal studies for reproductive effects have shown damage to spermatocytes in mice. Reduced litter size, weights and appetite were also observed in rats administered Propylene Glycol (greater than 7.5 %) in their diets. (4)</p> <p>Propylene Glycol was not mutagenic in bacteria. Chromosomal damage in mammalian cell lines and rat spermatocytes were also observed following administration of Propylene Glycol. (4)</p>

12. ECOLOGICAL INFORMATION

Ecotoxicity:	May be harmful to aquatic life.
	<p>Ethylene Glycol:</p> <p>LC50 (Fathead Minnow) = 51,000 mg/L. (3) LC50 (Bluegill) = 27,549 mg/L. (3) LC50 (Rainbow Trout) = 18,000-46,000 mg/L. (3) LC50 (Guppy) = 49,000 mg/L. (3) LC50 (brine Shrimp) = 20,000 mg/L. (3) LC50 (Goldfish) = Above 5,000 mg/L. (3)</p>
Environmental Fate:	<p>Can be dangerous if allowed to enter drinking water intakes. Do not contaminate domestic or irrigation water supplies, lakes, streams, ponds, or rivers.</p> <p>Ethylene Glycol: Bioconcentration potential is low. Biodegradation under aerobic static laboratory conditions is high. Biodegradation may occur under both aerobic and anaerobic conditions (in either the presence or absence of oxygen). Degradation is expected in the atmospheric environment within days to weeks. (3)</p>

13. DISPOSAL CONSIDERATIONS

Deactivating Chemicals:	None required.
Waste Disposal Methods:	This information applies to the material as manufactured. Reevaluation of the product may be required by the user at the time of disposal since the product uses, transformations, mixtures and processes may influence waste classification. Dispose of waste material at an approved (hazardous) waste treatment/disposal facility in accordance with applicable local, provincial and federal regulations. Do not dispose of waste with normal garbage, or to sewer systems.
Safe Handling of Residues:	See "Waste Disposal Methods".
Disposal of Packaging:	Empty containers retain product residue and can be hazardous. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. Treat package in the same manner as the product.

14. TRANSPORTATION INFORMATION

CANADIAN TDG ACT SHIPPING DESCRIPTION:

This product is not regulated by TDG.
Label(s): Not applicable. Placard: Not applicable.
ERAP Index: ----- Exemptions: None known.

US DOT CLASSIFICATION (49CFR 172.101, 172.102):

This product is not regulated by DOT.
Label(s): Not applicable. Placard: Not applicable.
CERCLA-RQ: Ethylene Glycol: Exemptions: Not available.
5 000 lb / 2 270 Kg.

15. REGULATORY INFORMATION

CANADA

CEPA - NSNR: All constituents of this product are included on the DSL.
CEPA - NPRI: Ethylene Glycol.
Controlled Products Regulations Classification (WHMIS):
D-2A: Very Toxic (carcinogen, teratogen)
E: Corrosive

USA

Environmental Protection Act: All constituents of this product are included on the TSCA inventory.
OSHA HCS (29CFR 1910.1200): Teratogenic and Embryotoxic, Carcinogenic, Corrosive.
NFPA: 3 Health, 1 Fire, 0 Reactivity (6)
HMIS: 3 Health, 1 Fire, 0 Reactivity (6)

INTERNATIONAL

The following component or components of this product appear on the European Inventory of Existing Commercial Chemical Substances: Ethylene Glycol.

16. OTHER INFORMATION

REFERENCES

1. RTECS-Registry of Toxic Effects of Chemical Substances, Canadian Centre for Occupational Health and Safety RTECS database.
2. Clayton, G.D. and Clayton, F.E., Eds., Patty's Industrial Hygiene and Toxicology, 3rd ed., Vol. IIA,B,C, John Wiley and Sons, New York, 1981.
3. Supplier's Material Safety Data Sheet(s).
4. CHEMINFO, through "CCINFOdisc", Canadian Centre for Occupational Health and Safety, Hamilton, Ontario, Canada.
5. Guide to Occupational Exposure Values, 2005, American Conference of Governmental Industrial Hygienists, Cincinnati, 2005.
6. Regulatory Affairs Group, Brenntag Canada Inc.
7. The British Columbia Drug and Poison Information Centre, Poison Managements Manual, Canadian Pharmaceutical Association, Ottawa, 1981.
8. NFPA 325M Fire Hazard Properties of Flammable Liquids, Gases, and Volatile Solids, 1994 Edition, Quincy, MA, 1994.

The information contained herein is offered only as a guide to the handling of this specific material and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other and additional considerations. No warranty of any kind is given or implied and Brenntag Canada Inc. will not be liable for any damages, losses, injuries or consequential damages which may result from the use of or reliance on any information contained herein. This Material Safety Data Sheet is valid for three years.

To obtain revised copies of this or other Material Safety Data Sheets, contact your nearest Brenntag Canada Regional office.

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