

MATERIAL SAFETY DATA SHEET

1. Product and company identification

Product Name : Propylene Glycol, Inhibited & Dyed, Pure and Premix 60:40, 50:50, 35:65, 30:70
Product Code : 0684, 0682, 0686, 0687, 0685
 : NEMCO RESOURCES LTD.
 25 Midland Street
 Winnipeg, Manitoba
Supplier R3E 3J6 Canada
Date Issued : October, 2013 **Date revised** : June 2016
Supplier : PH 204-788-1030 / TF 855-755-6737 Mon-Fri 8am-4:30pm
Emergency Phone Number : CANUTEC 613-996-6666 or *666 (cellular) (24/7)

2. Hazards identification

EMERGENCY OVERVIEW:

OSHA/HCS Status This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Signal Word WARNING
Hazard Statement Causes eye irritation. Wash hands thoroughly after handling. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

POTENTIAL ACUTE HEALTH EFFECTS

Inhalation No known significant effects or critical hazards.
Ingestion No known significant effects or critical hazards.
Eye Causes eye irritation
Skin No known significant effects or critical hazards.

3. Composition/information on ingredients

Substance/mixture	:Mixture
Other means of identification	Methylethylene glycol, monopropylene glycol, 1,2-Propanedial, 1,2-Propylene glycol, 1, 2-Propylenglycol
CAS number/other identifiers	
CAS number	Not applicable.
Product code	0684, 0682, 0686, 0687, 0685

Ingredient name	%	CAS number
Propane-1,2-diol	30 – 95%	57-55-6
Dipotassium Hydrogen Phosphate	<0.5	7758-11-4

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.

4. First aid measures

Description of necessary first aid measures

Eye contact	: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. If irritation persists, get medical attention.
Skin contact	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Maintain an open airway. Get medical attention if symptoms occur.
Inhalation	: Flush contaminated skin with plenty of water. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Ingestion	: Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	: Causes eye irritation.
Inhalation	: No known significant effects or critical hazards.
Ingestion	: No known significant effects or critical hazards.
Skin contact	: No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	: Adverse symptoms may include the following: pain or irritation watering redness
Inhalation	: No known significant effects or critical hazards.
Skin contact	: No known significant effects or critical hazards.
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 special protection is required.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	: Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: None known.
Specific hazards arising from the chemical	: No specific fire or explosion hazard.
Hazardous thermal decomposition products	: Decomposition products may include the following materials: carbon dioxide carbon monoxide
Special protective actions for fire-fighters	: No special measures required.
Special protective equipment for fire-fighters	: Fire-fighters should wear appropriate protective equipment and self contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For nonemergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

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. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

Control parameters

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	List name	ppm	mg/m₃	Other	ppm	mg/m₃	Other	ppm	mg/m₃	Other	Notations
Propane-1,2-diol	ON 7/2015	-	10	-	-	-	-	-	-	-	(a)
	US AIHA 10/2011	50	155	-	-	-	-	-	-	-	(b)
		-	10	-	-	-	-	-	-	-	

Form: [a]Aerosol only. [b]Vapor and aerosol

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

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. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/face protection	: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
<u>Skin protection</u>	
Hand protection	: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Body protection	: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Other skin protection	: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

9. Physical and chemical properties

<u>Appearance</u>		
Physical state	:	Liquid
Color	:	Pink
Odour	:	Mild
Odour threshold	:	Not available.
pH	:	9.5 – 10.5
Freezing point	:	>-50°C(pure), -48°C (60/40), -40°C (50/50), -20°C (35/65), -15°C (30/70)
Boiling point	:	202°C (395.6°F)
Flash point	:	Closed cup: 98°C (210°C)
Evaporation Rate	:	0.01 (Butyl acetate = 1)
Flammability (solid, gas)	:	Not available
Lower and upper explosive (flammable) limits	:	Lower: 2.6% Upper: 12.5%
Vapour pressure	:	0.067 kPa (0.5 mm Hg) (room temperature)
Vapour density	:	2.52 (Air = 1)
Relative density	:	1.04
Solubility in water	:	Miscible in water.

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.

11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Propane-1,2-diol	LD50 Dermal LD50 Oral	Rabbit Rat	20800 mg/kg 20 g/kg	- -

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Propane-1,2-diol	Eyes – mild irritant Eyes – mild irritant	Rabbit Rabbit	- -	24 hours 500 mg 100 mg	

Sensitization

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 organ toxicity (single exposure)

There is no data available.

Specific 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.

Potential acute health effects

Eye contact

: Causes eye irritation.

Inhalation

: No known significant effects or critical hazards.

Skin contact

: No known significant effects or critical hazards.

Ingestion

: No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact

Adverse symptoms may include the following:
 Pain or irritation
 Watering
 Redness

Inhalation

: No known significant effects or critical hazards.

Skin contact

: No known significant effects or critical hazards.

Ingestion

: No known significant effects or critical hazards.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects

: No known significant effects or critical hazards.

Potential delayed effects

: No known significant effects or critical hazards.

Long term exposure

Potential immediate effects	: No known significant effects or critical hazards.
Potential delayed effects	: No known significant effects or critical hazards.
<u>Potential chronic health effects</u>	
General	: No known significant effects or critical hazards.
Carcinogenicity	: No known significant effects or critical hazards.
Mutagenicity	: No known significant effects or critical hazards.
Teratogenicity	: No known significant effects or critical hazards.
Developmental effects	: No known significant effects or critical hazards.
Fertility effects	: No known significant effects or critical hazards.
<u>Numerical measures of toxicity</u>	
<u>Acute toxicity estimates</u>	There is no data available.

12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Propane-1,2-diol	Acute EC50 >110 ppm Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1020000 µg/L Fresh water	Crustaceans - Ceriodaphnia dubia	48 hours
	Acute LC50 710000 µg/L Fresh water	Fish - Pimephales promelas	96 hours

Persistence and degradability There is no data available.

Bioaccumulative potential

Product/ingredient name	LogP ow	BCF	Potential
Propane-1,2-diol	-1.07	-	low

Mobility in soil

Soil/water partition coefficient (KOC) : There is no data available.

Other adverse effects : No known significant effects or critical hazards.

13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. 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. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

14. Transport information

UN number	TDG	IMDG	IATA
UN proper shipping name	Not regulated.	Not regulated.	Not regulated.
Transport hazard class(es)			

Packing group			
Environmental hazards	No	No	No
Additional information			

AERG : Not applicable

Special precautions for user: **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

15. Regulatory information

Canadian lists

- Canadian NPRI** : None of the components are listed.
CEPA Toxic substances : None of the components are listed.
Canada inventory : All components are listed or exempted.

International lists

National inventory

- Australia** : All components are listed or exempted.
China : All components are listed or exempted.
Europe : All components are listed or exempted.
Japan **Japan inventory (ENCS)** All components are listed or exempted.
Japan inventory (ISHL) Not determined.
Malaysia : All components are listed or exempted.
New Zealand : All components are listed or exempted.
Phillipines : All components are listed or exempted.
Republic of Korea : All components are listed or exempted.
Taiwan : All components are listed or exempted.

16. Other information

Notice to reader

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History

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