Franklin International

Material Safety Data Sheet

Product name : GREENchoice Heavy Duty Construction Adhesive

1 . Product and company identification

CAS #	:	mixture
Address	:	Franklin International 2020 Bruck Street Columbus OH 43207
Contact person	:	Franklin Technical Services
Telephone	:	(800) 877-4583
Emergency phone:	:	Franklin Security (614) 445-1300
Reference number	:	3631
Product code	:	7472
Date of revision	:	11/30/2010.
Print date	:	12/16/2010.
Chemtrec (24 Hour)	:	(800) 424 - 9300
Chemtrec International	:	(703) 527 - 3887
Chemical family	:	Adhesive.
Product use	:	Construction Adhesive
Product type	:	solvent free

2 . Hazards identification

Physical state	:	Liquid. [Paste.]
Odor	:	Characteristic. [Slight]
OSHA/HCS status	:	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Emergency overview	:	WARNING! HARMFUL IF SWALLOWED. MAY CAUSE EYE AND SKIN IRRITATION. Harmful if swallowed. Slightly irritating to the eyes and skin. Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.
Routes of entry	:	Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Inhalation	:	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Ingestion	:	Toxic if swallowed.
Skin	:	Slightly irritating to the skin. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
Eyes	:	Slightly irritating to the eyes. This product may irritate eyes upon contact.

Potential chronic health effects

Chronic effects	:	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.

2 . Hazards identification

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Target organs : May cause damage to the following organs: skin, eyes.
Contains material which may cause damage to the following organs: upper respiratory tract, central nervous system (CNS), eye, lens or cornea.

Over-exposure signs/symptoms

Inhalation : No specific data.

Ingestion : No specific data.

Skin : Adverse symptoms may include the following:
irritation
redness

Eyes : Adverse symptoms may include the following:
irritation
watering
redness

Medical conditions aggravated by over-exposure : None known.

See toxicological information (section 11)

3 . Composition/information on ingredients

United States

Name	CAS number	%
oxydipropyl dibenzoate	27138-31-4	5 - 10
Urea	57-13-6	1 - 5
ethanediol	107-21-1	1 - 5

Canada

Name	CAS number	%
oxydipropyl dibenzoate	27138-31-4	5 - 10
Urea	57-13-6	1 - 5
ethanediol	107-21-1	1 - 5

Mexico

Name	CAS number	UN number	%	IDLH	Classification H	F	R	Special
oxydipropyl dibenzoate	27138-31-4	Not available.	5 - 10	-	2	0	0	
ethanediol	107-21-1	Not available.	1 - 5	-	0	1	0	

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

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

Skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

4 . First aid measures

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

5 . Fire-fighting measures

Flammability of the product : In a fire or if heated, a pressure increase will occur and the container may burst.

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

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 : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

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).

Small spill : Stop leak if without risk. Move containers from spill area. Dispose of via a licensed waste disposal contractor. Absorb with an inert material.

Large 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. 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

Handling : Put on appropriate personal protective equipment (see section 8). 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. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. 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.

7 . Handling and storage

Storage : 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

United States

Ingredient	Exposure limits
Urea ethanediol	**AIHA WEEL (United States, 5/2010).** TWA: 10 mg/m³ 8 hour(s). **OSHA PEL 1989 (United States, 3/1989).** CEIL: 50 ppm CEIL: 125 mg/m³ **ACGIH TLV (United States, 2/2010).** C: 100 mg/m³ Form: Aerosol

Canada

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
ethanediol	US ACGIH 2/2010	-	-	-	-	-	-	-	100	-	[a]
	AB 4/2009	-	-	-	-	-	-	-	100	-	[3] [b]
	BC 10/2009	-	-	-	-	-	-	-	100	-	[a]
		-	10	-	-	20	-	-	-	-	[c]
		-	-	-	-	-	-	50	-	-	[d]
	ON 7/2010	-	-	-	-	-	-	-	100	-	[b]
	QC 6/2008	-	-	-	50	127	-	-	-	-	[e]
Urea	US AIHA 5/2010	-	10	-	-	-	-	-	-	-	

[3]Skin sensitization
Form: [a]Aerosol [b]aerosol [c]Particulate [d]Vapour [e]vapour and mist

Mexico

Ingredient	Exposure limits
ethanediol	**NOM-010-STPS (Mexico, 9/2000).** LMPE-Pico: 100 mg/m³

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures : No special ventilation requirements. Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If this product contains ingredients with exposure limits, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

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.

Personal protection

Respiratory : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

8 . Exposure controls/personal protection

Hands : 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.

Eyes : 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 or dusts.

Skin : 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.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

9 . Physical and chemical properties

Physical state : Liquid. [Paste.]

Flash point : Closed cup: >93.333°C (>200°F) [Setaflash.]

Color : Beige.

Odor : Characteristic. [Slight]

pH : 5

Boiling/condensation point : 100°C (212°F)

Relative density : 1.4

Volatility : 25% (w/w)

Evaporation rate : <1 (Butyl acetate. = 1)

VOC (less water, less exempt solvents) : 6.6 g/l

Dispersibility properties : Dispersible in the following materials: cold water and hot water.

10 . Stability and reactivity

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Hazardous polymerization : Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to avoid : No specific data.

Materials to avoid : No specific data.

Incompatibility : Reactive or incompatible with the following materials: acids and alkalis.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 . Toxicological information

United States

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Urea	LD50 Intraperitoneal	Rat	>5 g/kg	-
	LD50 Intratracheal	Rat	567 mg/kg	-
	LD50 Intravenous	Rat	5300 mg/kg	-
	LD50 Oral	Rat	8471 mg/kg	-
	LD50 Subcutaneous	Rat	8200 mg/kg	-
	TDLo Oral	Rat	750 mg/kg	-
ethanediol	LD50 Dermal	Rabbit	9530 uL/kg	-

11 . Toxicological information

	LD50 Intraperitoneal	Rat	5010 mg/kg	-
	LD50 Intravenous	Rat	3260 mg/kg	-
	LD50 Oral	Rat	4700 mg/kg	-
	LD50 Subcutaneous	Rat	2800 mg/kg	-
	LD50 Unreported	Rat	13 g/kg	-
	LDLo Intravenous	Rat	2800 mg/kg	-
	LDLo Intramuscular	Rat	3300 mg/kg	-
	TDLo Oral	Rat	1110 mg/kg	-
	TDLo Oral	Rat	5000 mg/kg	-
	TDLo Oral	Rat	120 mg/kg	-
	TDLo Oral	Rat	1000 mg/kg	-
	TDLo Subcutaneous	Rat	3000 mg/kg	-
oxydipropyl dibenzoate	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	3295 mg/kg	-

Chronic toxicity

No known significant effects or critical hazards.

Irritation/Corrosion

Conclusion/Summary

Skin : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Eyes : This product may irritate eyes upon contact.

Sensitizer

No known significant effects or critical hazards.

Carcinogenicity

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
ethanediol	A4	-	-	-	-	-

Mutagenicity

No known significant effects or critical hazards.

Teratogenicity

No known significant effects or critical hazards.

Reproductive toxicity

No known significant effects or critical hazards.

Canada

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
ethanediol	LD50 Dermal	Rabbit	9530 uL/kg	-
	LD50 Intraperitoneal	Rat	5010 mg/kg	-
	LD50 Intravenous	Rat	3260 mg/kg	-
	LD50 Oral	Rat	4700 mg/kg	-
	LD50 Subcutaneous	Rat	2800 mg/kg	-
	LD50 Unreported	Rat	13 g/kg	-
	LDLo Intramuscular	Rat	3300 mg/kg	-
	LDLo Intravenous	Rat	2800 mg/kg	-
	TDLo Oral	Rat	1110 mg/kg	-

11 . Toxicological information

	TDLo Oral	Rat	5000 mg/kg	-
	TDLo Oral	Rat	120 mg/kg	-
	TDLo Subcutaneous	Rat	3000 mg/kg	-
	TDLo Oral	Rat	1000 mg/kg	-
oxydipropyl dibenzoate	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	3295 mg/kg	-
Urea	LD50 Intraperitoneal	Rat	>5 g/kg	-
	LD50 Intratracheal	Rat	567 mg/kg	-
	LD50 Intravenous	Rat	5300 mg/kg	-
	LD50 Oral	Rat	8471 mg/kg	-
	LD50 Subcutaneous	Rat	8200 mg/kg	-
	TDLo Oral	Rat	750 mg/kg	-

Chronic toxicity

No known significant effects or critical hazards.

Irritation/Corrosion

Conclusion/Summary

Skin : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Eyes : This product may irritate eyes upon contact.

Sensitizer

No known significant effects or critical hazards.

Carcinogenicity

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
ethanediol	A4	-	-	-	-	-

Mutagenicity

No known significant effects or critical hazards.

Teratogenicity

No known significant effects or critical hazards.

Reproductive toxicity

No known significant effects or critical hazards.

Mexico

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
oxydipropyl dibenzoate	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	3295 mg/kg	-
ethanediol	LD50 Dermal	Rabbit	9530 uL/kg	-
	LD50 Intraperitoneal	Rat	5010 mg/kg	-
	LD50 Intravenous	Rat	3260 mg/kg	-
	LD50 Oral	Rat	4700 mg/kg	-
	LD50 Subcutaneous	Rat	2800 mg/kg	-
	LD50 Unreported	Rat	13 g/kg	-
	LDLo Intravenous	Rat	2800 mg/kg	-
	LDLo Intramuscular	Rat	3300 mg/kg	-

11 . Toxicological information

TDLo Oral	Rat	1110 mg/kg	-
TDLo Oral	Rat	5000 mg/kg	-
TDLo Oral	Rat	120 mg/kg	-
TDLo Subcutaneous	Rat	3000 mg/kg	-
TDLo Oral	Rat	1000 mg/kg	-

Chronic toxicity

No known significant effects or critical hazards.

Irritation/Corrosion

Conclusion/Summary

Skin : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Eyes : This product may irritate eyes upon contact.

Sensitizer

No known significant effects or critical hazards.

Carcinogenicity

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
ethanediol	A4	-	-	-	-	-

Mutagenicity

No known significant effects or critical hazards.

Teratogenicity

No known significant effects or critical hazards.

Reproductive toxicity

No known significant effects or critical hazards.

12 . Ecological information

Environmental effects : No known significant effects or critical hazards.

United States

Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
Urea	-	Acute EC50 6573.1 mg/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate - <24 hours	48 hours
	-	Acute EC50 6573.1 to 7061 mg/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate - <24 hours	48 hours
	-	Acute EC50 3910000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - Neonate - <24 hours	48 hours
	-	Acute LC50 72600 to 75900 ug/L Fresh water	Fish - Rohu - Labeo rohita - Egg	96 hours
	-	Acute LC50 66800 to 70500 ug/L Fresh water	Fish - Rohu - Labeo rohita - Egg	96 hours
	-	Acute LC50 65800 to 70200 ug/L Fresh water	Fish - Rohu - Labeo rohita - FRY - 0.8 g	96 hours
	-	Acute LC50 64700 to 69200 ug/L Fresh water	Fish - Rohu - Labeo rohita - Egg	96 hours
	-	Acute LC50 23400 to 26500 ug/L Fresh water	Fish - Rohu - Labeo rohita - Egg	96 hours
	-	Acute LC50 22500 ug/L	Fish - Mozambique tilapia - Tilapia mossambica	96 hours

12 . Ecological information

	-	Acute LC50 16700 to 19600 ug/L Fresh water	Fish - Rohu - Labeo rohita - Egg	96 hours
	-	Acute LC50 >1000 mg/L Marine water	Crustaceans - Amphipod - Chaetogammarus marinus - Young - 5 mm	48 hours
	-	Acute LC50 90100 to 93900 ug/L Fresh water	Fish - Rohu - Labeo rohita - FRY - 0.8 g	96 hours
	-	Acute LC50 5000 ug/L Fresh water	Fish - Giant gourami - Colisa fasciata - Fingerling	96 hours
	-	Acute LC50 83700 to 86900 ug/L Fresh water	Fish - Rohu - Labeo rohita - FRY - 0.8 g	96 hours
ethanediol	-	Acute LC50 >18500 mg/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss	96 hours
	-	Acute LC50 41 to 47 ml/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 0.7 g	96 hours
	-	Acute LC50 16 to 18 ml/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 1.1 g	96 hours
	-	Acute LC50 27540 mg/L Fresh water	Fish - Bluegill - Lepomis macrochirus - Juvenile (Fledgling, Hatchling, Weanling) - 0.85 g	96 hours
	-	Acute LC50 22600000 to 26500000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
	-	Acute LC50 13900000 to 16600000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
	-	Acute LC50 13140000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - <=24 hours	48 hours
	-	Acute LC50 10500000 to 12700000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
	-	Acute LC50 >10000000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas	96 hours
	-	Acute LC50 >10000000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna	48 hours
	-	Acute LC50 10000000 to 12300000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
	-	Acute LC50 8050000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - <=7 days	96 hours
	-	Acute LC50 6900000 to 8800000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
	-	Acute LC50 >100000 ug/L Marine water	Crustaceans - Common shrimp, sand shrimp - Crangon crangon - Adult	48 hours
	-	Acute LC50 1000000000 ug/L Marine water	Crustaceans - Common shrimp, sand shrimp - Crangon crangon	48 hours
	-	Acute LC50 53000000 to 56000000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - FRY - 10 to 15 days - 9.5	96 hours

12 . Ecological information

		mm - 11.6 mg	
-	Acute LC50 25500000 to 29800000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
-	Acute LC50 49000000 to 60000000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling) - 30 to 35 days - 14.9 mm - 76.8 mg	96 hours
-	Chronic NOEC 6090000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - <=7 days	96 hours
-	Chronic NOEC 24000000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - <=24 hours	48 hours
-	Chronic NOEC 11610000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - <=24 hours	48 hours
-	Chronic NOEC 39140000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - <=7 days	96 hours

Biodegradability

No known significant effects or critical hazards.

Canada

Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
ethanediol	-	Acute LC50 >18500 mg/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss	96 hours
	-	Acute LC50 41 to 47 ml/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 0.7 g	96 hours
	-	Acute LC50 16 to 18 ml/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 1.1 g	96 hours
	-	Acute LC50 27540 mg/L Fresh water	Fish - Bluegill - Lepomis macrochirus - Juvenile (Fledgling, Hatchling, Weanling) - 0.85 g	96 hours
	-	Acute LC50 22600000 to 26500000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
	-	Acute LC50 13900000 to 16600000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
	-	Acute LC50 13140000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - <=24 hours	48 hours
	-	Acute LC50 10500000 to 12700000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
	-	Acute LC50 >10000000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas	96 hours
	-	Acute LC50 10000000 to 12300000 ug/L Fresh	Daphnia - Water flea - Ceriodaphnia dubia -	48 hours

12 . Ecological information

		water	Neonate	
	-	Acute LC50 >10000000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna	48 hours
	-	Acute LC50 8050000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - <=7 days	96 hours
	-	Acute LC50 6900000 to 8800000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
	-	Acute LC50 >100000 ug/L Marine water	Crustaceans - Common shrimp, sand shrimp - Crangon crangon - Adult	48 hours
	-	Acute LC50 1000000000 ug/L Marine water	Crustaceans - Common shrimp, sand shrimp - Crangon crangon	48 hours
	-	Acute LC50 53000000 to 56000000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - FRY - 10 to 15 days - 9.5 mm - 11.6 mg	96 hours
	-	Acute LC50 25500000 to 29800000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
	-	Acute LC50 49000000 to 60000000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling) - 30 to 35 days - 14.9 mm - 76.8 mg	96 hours
	-	Chronic NOEC 6090000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - <=7 days	96 hours
	-	Chronic NOEC 24000000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - <=24 hours	48 hours
	-	Chronic NOEC 11610000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - <=24 hours	48 hours
	-	Chronic NOEC 39140000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - <=7 days	96 hours
Urea	-	Acute EC50 6573.1 mg/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate - <24 hours	48 hours
	-	Acute EC50 6573.1 to 7061 mg/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate - <24 hours	48 hours
	-	Acute EC50 3910000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna - Neonate - <24 hours	48 hours
	-	Acute LC50 72600 to 75900 ug/L Fresh water	Fish - Rohu - Labeo rohita - Egg	96 hours
	-	Acute LC50 66800 to 70500 ug/L Fresh water	Fish - Rohu - Labeo rohita - Egg	96 hours
	-	Acute LC50 65800 to 70200 ug/L Fresh water	Fish - Rohu - Labeo rohita - FRY - 0.8 g	96 hours
	-	Acute LC50 64700 to 69200 ug/L Fresh water	Fish - Rohu - Labeo rohita - Egg	96 hours
	-	Acute LC50 23400 to 26500 ug/L Fresh water	Fish - Rohu - Labeo rohita - Egg	96 hours
	-	Acute LC50 22500 ug/L	Fish - Mozambique tilapia -	96 hours

12 . Ecological information

		Tilapia mossambica	
-	Acute LC50 16700 to 19600 ug/L Fresh water	Fish - Rohu - Labeo rohita - Egg	96 hours
-	Acute LC50 >1000 mg/L Marine water	Crustaceans - Amphipod - Chaetogammarus marinus - Young - 5 mm	48 hours
-	Acute LC50 90100 to 93900 ug/L Fresh water	Fish - Rohu - Labeo rohita - FRY - 0.8 g	96 hours
-	Acute LC50 5000 ug/L Fresh water	Fish - Giant gourami - Colisa fasciata - Fingerling	96 hours
-	Acute LC50 83700 to 86900 ug/L Fresh water	Fish - Rohu - Labeo rohita - FRY - 0.8 g	96 hours

Biodegradability

No known significant effects or critical hazards.

Mexico

Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
ethanediol	-	Acute LC50 >18500 mg/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss	96 hours
	-	Acute LC50 41 to 47 ml/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 0.7 g	96 hours
	-	Acute LC50 16 to 18 ml/L Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss - 1.1 g	96 hours
	-	Acute LC50 27540 mg/L Fresh water	Fish - Bluegill - Lepomis macrochirus - Juvenile (Fledgling, Hatchling, Weanling) - 0.85 g	96 hours
	-	Acute LC50 22600000 to 26500000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
	-	Acute LC50 13900000 to 16600000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
	-	Acute LC50 13140000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - <=24 hours	48 hours
	-	Acute LC50 10500000 to 12700000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
	-	Acute LC50 >10000000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas	96 hours
	-	Acute LC50 >10000000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna	48 hours
	-	Acute LC50 10000000 to 12300000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
	-	Acute LC50 8050000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - <=7 days	96 hours
	-	Acute LC50 6900000 to 8800000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
	-	Acute LC50 >100000 ug/L	Crustaceans - Common	48 hours

12 . Ecological information

	Marine water	shrimp, sand shrimp - Crangon crangon - Adult	
-	Acute LC50 1000000000 ug/L Marine water	Crustaceans - Common shrimp, sand shrimp - Crangon crangon	48 hours
-	Acute LC50 53000000 to 56000000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - FRY - 10 to 15 days - 9.5 mm - 11.6 mg	96 hours
-	Acute LC50 25500000 to 29800000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - Neonate	48 hours
-	Acute LC50 49000000 to 60000000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling) - 30 to 35 days - 14.9 mm - 76.8 mg	96 hours
-	Chronic NOEC 6090000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - <=7 days	96 hours
-	Chronic NOEC 24000000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - <=24 hours	48 hours
-	Chronic NOEC 11610000 ug/L Fresh water	Daphnia - Water flea - Ceriodaphnia dubia - <=24 hours	48 hours
-	Chronic NOEC 39140000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas - <=7 days	96 hours

Biodegradability

No known significant effects or critical hazards.

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

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14 . Transport information

14 . Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	Not regulated.	-	-	-		-
TDG Classification	Not regulated.	-	-	-		-
Mexico Classification	Not regulated.	-	-	-		-
ADR/RID Class	Not regulated.	-	-	-		-
IMDG Class	Not regulated.	-	-	-		-
IATA-DGR Class	Not regulated.	-	-	-		-

PG* : Packing group

15 . Regulatory information

United States

HCS Classification : Toxic material

U.S. Federal regulations : TSCA 8(a) IUR: water; Distillates (petroleum), solvent-refined heavy paraffinic; water; Poloxalkol
United States inventory (TSCA 8b): All components are listed or exempted.

SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: ethanediol; Urea
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: No products were found.

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 313

		Product name	CAS number	Concentration
Form R - Reporting requirements	:	ethanediol	107-21-1	1 - 5
Supplier notification	:	ethanediol	107-21-1	1 - 5

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

State regulations : **Massachusetts Spill:** None of the components are listed.
Massachusetts Substances: The following components are listed: ETHYLENE GLYCOL

New Jersey Hazardous Substances: The following components are listed: ETHYLENE GLYCOL; 1,2-ETHANEDIOL
New Jersey Spill: None of the components are listed.
New Jersey Toxic Catastrophe Prevention Act: None of the components are listed.

Pennsylvania RTK Hazardous Substances: The following components are listed: 1,2-ETHANEDIOL

Canada

WHMIS (Canada) : Class D-2A: Material causing other toxic effects (Very toxic).

15 . Regulatory information

Canadian lists : **CEPA Toxic substances:** None of the components are listed.
Canadian ARET: None of the components are listed.
Canadian NPRI: The following components are listed: Ethylene glycol
Alberta Designated Substances: None of the components are listed.
Ontario Designated Substances: None of the components are listed.
Quebec Designated Substances: None of the components are listed.

Canada inventory : Not determined.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Mexico

Classification :

International regulations

International lists : **Australia inventory (AICS):** Not determined.
China inventory (IECSC): Not determined.
Japan inventory: Not determined.
Korea inventory: Not determined.
New Zealand Inventory of Chemicals (NZIoC): Not determined.
Philippines inventory (PICCS): Not determined.

Chemical Weapons Convention List Schedule I Chemicals : Not listed

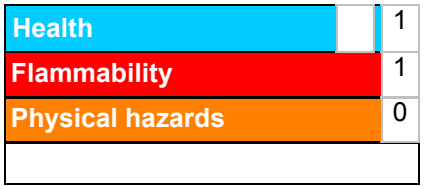
Chemical Weapons Convention List Schedule II Chemicals : Not listed

Chemical Weapons Convention List Schedule III Chemicals : Not listed

16 . Other information

Label requirements : HARMFUL IF SWALLOWED. MAY CAUSE EYE AND SKIN IRRITATION.

Hazardous Material Information System (U.S.A.) :



Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

Date of printing : **12/16/2010.**

Date of issue : 11/30/2010.

Date of previous issue : 11/16/2010.

Version : 1

16 . Other information

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.