

4. FIRST-AID MEASURES

	<u>Concentrated Product</u>	<u>Diluted Product >1:10</u>
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Call a doctor/physician if you feel unwell.	Non-reactive. No First-aid needed
Skin Contact	Take off all contaminated clothing. Wash off with soap and water. Call physician if you feel unwell. Wash contaminated clothing before reuse.	Non-irritating. No First-aid needed
Eye Contact	Immediately flush eyes with plenty of water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Contact a physician immediately.	May be slightly irritating. Rinse thoroughly with plenty of water. If irritation persists contact physician.
Ingestion	Call physician or poison control center immediately. Rinse mouth. Do not induce vomiting without advice from physician or poison control center. If vomiting occurs, keep head low so that stomach content does not get into the lungs.	Non-toxic. No First-aid needed.
Symptoms/effects, acute and delayed	Prolonged exposure may cause chronic effects.	None
Special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.	None anticipated.
General information	Follow directions above. If you feel unwell seek medical advice. Show label and SDS to attending First-aid giver and/or physician if possible.	

5. FIRE-FIGHTING MEASURES

	<u>Concentrated Product</u>	<u>Diluted Product >1:10</u>
Suitable extinguishing media	Alcohol resistant foam. Dry powder. Carbon dioxide (CO ₂)	Does not burn.
Unsuitable extinguishing media	Do not use water jet as extinguisher may spread the fire.	None
Specific hazards arising from the burning of chemicals	During fire, gases hazardous to health may be formed.	Does not burn.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.	Does not burn.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.	
General fire hazards	No unusual fire or explosion hazards noted.	

6. ACCIDENTAL RELEASE MEASURES

	<u>Concentrated Product</u>	<u>Diluted Product >1:10</u>
Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away from spill/leak. Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. Floor may be slippery. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see Section 8 of the SDS	None needed. Caution floor may be slippery.
Methods and materials for containment and cleaning up	This product is miscible in water. Large spills: Stop the flow of material, if this is without risk. Use water spray to reduce vapors or divert vapor or divert vapor cloud drift. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent product from entering drains. Following product recovery, flush area with water. Small spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.	Where possible, vacuum spilled liquid to recover material. Rinse water may be disposed of down a sanitary sewer system if authorized by the local municipality.
Environmental precautions	Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.	None needed - non-toxic, non-hazardous in diluted form.

7. HANDLING AND STORAGE

Precautions for safe handling	Do not breath mist of vapor. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Wash contaminated clothing before reuse. Observe good industrial hygiene practices.	Normal ventilation is adequate. Avoid contact with eyes. Wear safety glasses.
Conditions for safe storage, including any incompatibilities	Store locked up. Keep away from children and pets. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).	

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits

US OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Chemical Name	Type	Value	From
Glycerol (CAS 56-81-5)	PEL	5 mg/m ³ 15 mg/m ³	Respirable fraction. Total dust

Biological limit values	No biological exposure limits noted for the ingredient(s)	No exposure limits.
Appropriate engineering controls	Good general ventilation should be used. Ventilation rates should be	Normal ventilation is adequate

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear safety glasses with side shields or goggles	Safety glasses recommended
Skin protection - hands/other	Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier. Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.	None normally required. If allergic wear gloves and appropriate clothing/apron.
Respiratory protection	Chemical respirator with organic vapor cartridge and full face piece if threshold limits are exceeded.	None normally required.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary	None needed
General hygiene considerations	Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective	Observe good hygiene practices

9. PHYSICAL AND CHEMICAL PROPERTIES

	Concentrated Product	Diluted Product >1:10
Appearance	Clear; slightly hazy	Clear
Physical state	Liquid	Liquid
Form	Liquid	Liquid
Color	Light yellow	Clear
Odor	Soapy	Slightly soapy
Odor threshold	Not available	Not available
pH	7.5 - 8.5	Not available
Melting point/freezing point	23°F (-5°C) estimated	32°F (-0°C) estimated
Initial boiling point and boiling range	212 °F (100°C) estimated	212 °F (100°C) estimated
Flash point	Not available	Not available
Evaporation rate	Not available	Not available
Flammability (solid, gas)	Not available	Not available
Upper/lower flammability limits	Not available	Not available
Upper/lower explosive limits	Not available	Not available
Vapor pressure	0.01 hPa estimated	Not available
Vapor density	Not available	Not available
Relative density	Not available	Not available
Solubility(ies) in water	Complete	Complete
Partition coefficient (in n-octanol/water)	Not available	Not available
Auto-ignition temperature	739°F (393°C) estimated	>739°F (393°C) estimated
Decomposition temperature	Not available	Not available
Viscosity	Not available	Not available
Density	10.80 lbs/gal estimated	Not available
Explosive properties	Not explosive	Not explosive
Flammability class	IIIB - non-flammable, non-combustible	Non-flammable, Non-combustible
Oxidizing properties	Not oxidizing	Non oxidizing
Percent volatile	70.07%	Not available
Specific gravity	1.08	Not available
VOC (weight %)	14.13% estimated	Not available

10. STABILITY AND REACTIVITY

Reactivity	The product is stable and non-reactive under normal conditions of use,	None known
Chemical stability	Material is stable under normal conditions	Stable
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use	None known
Conditions to avoid	Contact with incompatible materials	None known
Incompatible materials	Strong oxidizing agents	None known
Hazardous decomposition	No hazardous decomposition products are known.	None known

11. TOXICOLOGICAL INFORMATIONInformation on likely routes of exposure

	Concentrated Product	Diluted Product >1:10
Inhalation	Not classified	Not classified
Skin contact	No significant hazard	Not harmful
Eye contact	Direct contact with eyes may cause temporary irritation Sodium Citrate test Result: No irritation - Rabbit	Slight irritation possible
Ingestion	Not available	Not available

Symptoms related to the physical,	Direct contact with eyes may cause temporary irritation	Slight irritation possible
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Information on toxicological effects

Acute toxicity	Harmful if swallowed Oral: LD50* Species: Mouse Test Result: 5.4 mg/kg Species: Rat Test Result: 11.7 mg/kg * Estimates for product may be based on additional data not shown	No significant hazards
Skin corrosion/irritation	No significant hazard	Not harmful
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation Sodium Citrate test Result: No irritation - Rabbit	Slight irritation possible

Respiratory or skin sensitization

Skin sensitization	This product is not expected to cause skin sensitization	None expected
Skin sensitization - Sodium Citrate	OECD Result: No sensitization Species: Guinea pig OECD Result: No skin irritation Species: Rabbit	
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	None expected
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) - NOT LISTED	None known
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.	None known
Specific target organ toxicity - repeated exposure	Not classified	None known
Aspiration hazard	Not an aspiration hazard	Not harmful

12. ECOLOGICAL INFORMATION

	Concentrated Product	Diluted Product >1:10
Ecotoxicity	Not available	No significant hazards
Persistence and degradability	Not available	No significant hazards
Mobility in soil	Not available	No significant hazards
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.	No significant hazards

13. DISPOSAL CONSIDERATIONS

	Concentrated Product	Diluted Product >1:10
Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.	Where possible, vacuum spilled liquid to recover material. Rinse water may be disposed of down a sanitary sewer system if authorized by the local municipality.
Local disposal regulations	Dispose in accordance with all applicable regulations.	No known hazards
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.	No hazardous
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).	Not hazardous

Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.	Not hazardous
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14. TRANSPORT INFORMATION

	<u>Concentrated Product</u>	<u>Diluted Product >1:10</u>
DOT	Not regulated as dangerous goods	
IATA	Not regulated as dangerous goods	
IMDG	Not regulated as dangerous goods	
Transport in bulk according to Annex II of MARPOL 73/38 and the IBC Code	Not established	

15. REGULATORY INFORMATION

	<u>Concentrated Product</u>	<u>Diluted Product >1:10</u>
US Federal Regulations	This product is a Hazardous Chemical as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200	Not hazardous
TSCA Section 12(b) Export Notification	Not regulated	Not applicable
CERCLA Hazardous Substance List (40 SARA 304 Emergency release)	Not listed	Not applicable
OSHA Specifically Regulated	Not listed.	Not applicable
Superfund Amendments and Reauthorization Act of 1986 (SARA)	Hazard categories	Immediate Hazard - Yes Delayed hazard - No Fire hazard - No Pressure hazard - No Reactivity hazard - No
	SARA 302 Extremely hazardous substance	Not listed
	SARA 311/312 hazardous chemical	No
	SARA 313 (TRI reporting)	Not regulated

Other Federal Regulations

	<u>Concentrated Product</u>	<u>Diluted Product >1:10</u>
Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List	Not regulated	
Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)	Not regulated	
Safe Drinking Water Act (SDWA)	Not regulated	

US State Regulations

	<u>Concentrated Product</u>	<u>Diluted Product >1:10</u>
US. California Controlled Substances.	Not listed.	Not applicable
US. Massachusetts RTK - Substance List	Glycerol (CAS 56-81-5)	Product quantity below regulation limits
US. New Jersey Worker and Community Right-to-Know Act	Glycerol (CAS 56-81-5)	Product quantity below regulation limits
US. Pennsylvania Worker and Community Right-to-Know Law	Glycerol (CAS 56-81-5)	Product quantity below regulation limits
US. Rhode Island RTK	Not regulated	Not applicable
US. California Proposition 65	California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.	Not applicable

International Inventories

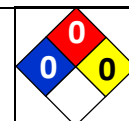
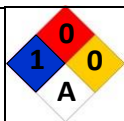
Country(s) or Region	Inventory Name	On Inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IEDSD)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	No
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s). A "No" indicates that one or more components of the product are not listed or are exempt from listing on the inventory administered by the governing country(s).

16. OTHER INFORMATION

	Concentrated Product		Diluted Product >1:10	
	HMIS® Ratings	NFPA Ratings	HMIS® Ratings	NFPA Ratings
Health	1	1	0	0
Flammability	0	0	0	0
Instability	0	0	0	0
Personal Protection	A	A	-	-

Symbol



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Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

END OF SAFETY DATA SHEET