



Material Safety Data Sheet

NFPA	HMIS	Personal Protective Equipment						
	<table border="1" style="margin: auto;"> <tr><td style="background-color: #00FFFF;">Health Hazard</td><td style="text-align: center; border: 1px solid black;">2</td></tr> <tr><td style="background-color: #FFC0CB;">Fire Hazard</td><td style="text-align: center; border: 1px solid black;">1</td></tr> <tr><td style="background-color: #FFFF00;">Reactivity</td><td style="text-align: center; border: 1px solid black;">1</td></tr> </table>	Health Hazard	2	Fire Hazard	1	Reactivity	1	 See Section 15.
Health Hazard	2							
Fire Hazard	1							
Reactivity	1							

Section 1. Chemical Product and Company Identification		Page Number: 1
Common Name/Trade Name	Triethanolamine	
Manufacturer	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	
Commercial Name(s)	Trolamine	
Synonym	Tri(2-hydroxyethyl)amine; Triethanolamine	
Chemical Name	Ethanol,2,2',2"-nitrilotris-	
Chemical Family	Alkanolamine. (Alkali.)	
Chemical Formula	(HOCH ₂ CH ₂) ₃ N	
Supplier	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	
Catalog Number(s)	YY1485, YY695, T2561, T2564, TR143	
CAS#	102-71-6	
RTECS	KL9275000	
TSCA	TSCA 8(b) inventory: Triethanolamine	
CI#	Not applicable.	
IN CASE OF EMERGENCY CHEMTREC (24hr) 800-424-9300 CALL (310) 516-8000		

Section 2. Composition and Information on Ingredients					
Name	CAS #	Exposure Limits			% by Weight
		TWA (mg/m ³)	STEL (mg/m ³)	CEIL (mg/m ³)	
1) Triethanolamine	102-71-6	5			100
Toxicological Data on Ingredients					
Triethanolamine: ORAL (LD50): Acute: 2200 mg/kg [Guinea pig]. 5846 mg/kg [Mouse]. 2200 mg/kg [Rabbit].					

Section 3. Hazards Identification	
Potential Acute Health Effects	Hazardous in case of eye contact (irritant). Slightly hazardous in case of skin contact (irritant, permeator), of ingestion, of inhalation.
Potential Chronic Health Effects	Slightly hazardous in case of skin contact (sensitizer). CARCINOGENIC EFFECTS: 3 (Not classifiable for human.) by IARC. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to kidneys, liver, skin, eyes Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Get medical attention. Finish by rinsing thoroughly with running water to avoid a possible infection.
Skin Contact	Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.
Serious Skin Contact	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Serious Inhalation	Not available.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.
Serious Ingestion	Not available.

Section 5. Fire and Explosion Data

Flammability of the Product	May be combustible at high temperature.
Auto-Ignition Temperature	Not available.
Flash Points	CLOSED CUP: 179.44°C (355°F). OPEN CUP: 190.5°C (374.9°F) (Cleveland).
Flammable Limits	Not available.
Products of Combustion	These products are carbon oxides (CO, CO ₂).
Fire Hazards in Presence of Various Substances	Slightly flammable to flammable in presence of open flames and sparks, of heat. Non-flammable in presence of shocks.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.
Fire Fighting Media and Instructions	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.
Special Remarks on Fire Hazards	Not available.
Special Remarks on Explosion Hazards	Not available.

Section 6. Accidental Release Measures

Small Spill	Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: Neutralize the residue with a dilute solution of acetic acid. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
Large Spill	If the product is in its solid form: Use a shovel to put the material into a convenient waste disposal container. If the product is in its liquid form: Absorb with an inert material and put the spilled material in an appropriate waste disposal. Neutralize the residue with a dilute solution of acetic acid. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7. Handling and Storage

Precautions	Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Avoid contact with eyes. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents, metals, acids.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area. Hygroscopic Sensitive to light. Store in light-resistant containers.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the workstation location.
Personal Protection	Splash goggles Synthetic apron. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Due to the low vapor pressure, vapor inhalation is not likely to be a significant route of exposure unless it is heated. Use respirator if ventilation is inadequate and the airborne concentrations of vapors mist have exceeded the threshold limit value. Gloves (impervious).
Personal Protection in Case of a Large Spill	Splash goggles Full suit. Vapor respirator. Boots Gloves A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits	TWA: 5 from ACGIH (TLV) [United States] [2001] Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical state and appearance	Liquid. (Clear viscous liquid.)	Odor	Ammoniacal. (Slight.)
Molecular Weight	149.19 g/mole	Taste	Not available.
pH (1% soln/water)	10 [Basic.]	Color	Colorless to light yellow.
Boiling Point	335°C (635°F)		
Melting Point	21.5°C (70.7°F)		
Critical Temperature	Not available.		
Specific Gravity	1.12 (Water = 1)		
Vapor Pressure	0 kPa (@ 20°C)		
Vapor Density	5.1 (Air = 1)		
Volatility	Not available.		
Odor Threshold	Not available.		
Water/Oil Dist. Coeff.	The product is more soluble in water; log(oil/water) = -1		
Ionicity (in Water)	Not available.		
Dispersion Properties	See solubility in water, methanol, acetone.		
Solubility	Easily soluble in cold water, hot water. Soluble in methanol, acetone. Very slightly soluble in diethyl ether, n-octanol.		

Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	Excess heat, light, exposure to air, exposure to moist air or water, incompatible materials
Incompatibility with various substances	Reactive with oxidizing agents, metals, acids. Slightly reactive to reactive with moisture.
Corrosivity	Non-corrosive in presence of glass.
Special Remarks on Reactivity	Very hygroscopic. Turns brown on exposure to air and light. Sensitive to light. Incompatible with alkali metals, copper and copper alloys
Special Remarks on Corrosivity	Not available.
Polymerization	Will not occur.

Section 11. Toxicological Information

Routes of Entry	Absorbed through skin. Dermal contact. Eye contact.
Toxicity to Animals	Acute oral toxicity (LD50): 2200 mg/kg [Rabbit].
Chronic Effects on Humans	CARCINOGENIC EFFECTS: 3 (Not classifiable for human.) by IARC. May cause damage to the following organs: kidneys, liver, skin, eyes
Other Toxic Effects on Humans	Slightly hazardous in case of skin contact (irritant, permeator), of ingestion, of inhalation.
Special Remarks on Toxicity to Animals	LD50 [Rat] - Route: Oral; Dose: 4920 ul/kg LD50 [Rabbit] - Route: Skin; Dose: >20ml/kg LD50 [Rat] - Route: Skin; Dose: >16ml/kg
Special Remarks on Chronic Effects on Humans	May cause cancer (tumorigenic) based on animal data. May affect genetic material (mutagen): cytogenic analysis (human lymphocyte) = 100 umol/L; sister chromatid exchange (human lymphocyte) = 1mmol/L.
Special Remarks on other Toxic Effects on Humans	Acute Potential Health Effects: Skin: May cause skin irritation with burning pain, itching, and redness. May be absorbed through the skin and affect the liver, metabolism (anorexia), and urinary tract (kidneys). Eyes: Causes eye irritation with tearing (lacrimation) and burning pain. May cause transient corneal injury. Ingestion: Causes gastrointestinal (digestive) tract irritation with nausea, vomiting, hypermotility, and diarrhea. May also affect behavior/central nervous system (convulsions), liver and urinary system (kidneys). Inhalation: 1 Due to the low vapor pressure, vapor inhalation is not likely to be a significant route of exposure. Inhalation of mist may cause respiratory tract irritation. May also affect the liver, blood, urinary system and cardiovascular system. Chronic Potential Health Effects: Inhalation and Ingestion: Prolonged or repeated ingestion or inhalation of mist may cause liver and kidney damage. Skin: Prolonged or repeated contact may cause allergic skin reaction (dermatitis) or possible skin necrosis and/or ulceration of the skin. Prolonged or repeated skin absorption may affect the liver and kidneys, and cause weight loss.


Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	The product itself and its products of degradation are not toxic.
Special Remarks on the Products of Biodegradation	Not available.

Section 13. Disposal Considerations

Waste Disposal	Waste must be disposed of in accordance with federal, state and local environmental control regulations.
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Section 14. Transport Information

DOT Classification	Not a DOT controlled material (United States).
Identification	Not applicable.
Special Provisions for Transport	Not applicable.
DOT (Pictograms)	

Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations	Rhode Island RTK hazardous substances: Triethanolamine Pennsylvania RTK: Triethanolamine Minnesota: Triethanolamine Massachusetts RTK: Triethanolamine TSCA 8(b) inventory: Triethanolamine TSCA 8(d) H and S data reporting: Triethanolamine
California Proposition 65 Warnings	California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: No products were found. California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: No products were found.
Other Regulations	OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances (EINECS No. 203-049-8). Canada: Listed on Canadian Domestic Substance List (DSL). China: Listed on National Inventory. Japan: Listed on National Inventory (ENCS). Korea: Listed on National Inventory (KECI). Philippines: Listed on National Inventory (PICCS). Australia: Listed on AICS.
Other Classifications	WHMIS (Canada) Not controlled under WHMIS (Canada). DSCL (EEC)

R36/38- Irritating to eyes and skin.

S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S37/39- Wear suitable gloves and eye/face protection.

HMS (U.S.A.)

Health Hazard	2
Fire Hazard	1
Reactivity	1
Personal Protection	H

National Fire Protection Association (U.S.A.)

Health



Flammability

Reactivity

Specific hazard

WHMIS (Canada) (Pictograms)



DSCL (Europe) (Pictograms)



TDG (Canada) (Pictograms)



ADR (Europe) (Pictograms)



Protective Equipment



Gloves



Synthetic apron.



Vapor respirator. Be sure to use an approved/certified respirator or equivalent.



Splash goggles.

Section 16. Other Information**MSDS Code** T4050**References** -The Sigma-Aldrich Library of Chemical Safety Data, Edition II.
-Hawley, G.G.. The Condensed Chemical Dictionary, 11e ed., New York N.Y., Van Nostrand Reinold, 1987, RTECS database.**Other Special Considerations** Not available.

Validated by Sonia Owen on 4/7/2009.

Verified by Sonia Owen.

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CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.