

1. IDENTIFICATION

Product Name	Triethanolamine 85%
Other Names	TEA 85; Triethanolamine 85% Commercial
Uses	Chemical intermediate. Chemical additive.
Chemical Family	Alkanolamines
Chemical Formula	No Data Available
Chemical Name	Triethanolamine 85%
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Pty Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Pty Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, Malaysia	+60-3-5614-2111

Emergency Contact Details


For emergencies only; DO NOT contact these companies for general product advice.

Organisation	Location	Telephone
Poisons Information Centre	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust) 5

Globally Harmonised System

Hazard Classification	Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)		
Hazard Categories	Skin Corrosion/Irritation - Category 2 Serious Eye Damage/Irritation - Category 1 Specific Target Organ Toxicity (Repeated Exposure) - Category 2 Acute Hazard To The Aquatic Environment - Category 3		
Pictograms			
Signal Word	Danger		
Hazard Statements	H315	Causes skin irritation.	
	H318	Causes serious eye damage.	
	H373	May cause damage to organs (Kidney, Liver, Blood) through prolonged or repeated exposure if swallowed.	
	H402	Harmful to aquatic life.	
Precautionary Statements	Prevention	P260	Do not breathe dust/fume/gas/mist/vapours/spray.
		P264	Wash skin thoroughly after handling.
		P280	Wear protective gloves/eye protection/face protection.
	Response	P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
		P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE/doctor.
		P310	Immediately call a POISON CENTER or doctor/physician.
		P321	Specific treatment (see First Aid Measures on Safety Data Sheet).
		P332 + P313	If skin irritation occurs: Get medical advice/attention.
		P362	Take off contaminated clothing and wash before reuse.
	Disposal	P501	Dispose of contents/container in accordance with local / regional / national / international regulations.

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

HSNO Classifications	Health Hazards	6.1E	Substances that are acutely toxic –May be harmful, Aspiration hazard
		6.3B	Substances that are mildly irritating to the skin
		6.4A	Substances that are irritating to the eye
	Environmental Hazards	9.2D	Substances that are slightly harmful in the soil environment

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Triethanolamine	No Data Available	102-71-6	85.0 - 89.0 %
2,2'-Iminodiethanol; diethanolamine	No Data Available	111-42-2	11.0 - 15.0 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.
Eye	Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Take care not to rinse contaminated water into the non-affected eye. Seek immediate medical attention, preferably from an ophthalmologist.
Skin	Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands.
Inhaled	Remove from exposure to fresh air. If not breathing apply artificial respiration. If breathing is difficult, give oxygen. Seek medical attention.
Advice to Doctor	If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.
Medical Conditions Aggravated by Exposure	No information available on medical conditions aggravated by exposure to this product.

5. FIRE FIGHTING MEASURES

General Measures	Clear fire area of all non-emergency personnel. Stay upwind. Keep out of low areas. Eliminate ignition sources. Move fire exposed containers from fire area if it can be done without risk. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container.
Flammability Conditions	Product is a combustible liquid.
Extinguishing Media	Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective. Unsuitable extinguishing media: Do not use direct water stream. May spread fire.
Fire and Explosion Hazard	Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.
Hazardous Products of Combustion	During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Carbon monoxide. Carbon dioxide.
Special Fire Fighting Instructions	Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage.
Personal Protective Equipment	Fire fighters should wear a positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots and gloves) or chemical splash suit.
Flash Point	194.4 °C Closed Cup ASTM D93
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	No Data Available
Hazchem Code	No Data Available

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Eliminate all sources of ignition. Increase ventilation. Avoid walking through spilled product as it may be slippery. Use clean, non-sparking tools and equipment. Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.
Clean Up Procedures	Contain spilled material if possible. Small spills: Absorb with materials such as: Non-combustible material. Clay. Vermiculite. Zorb-all®. Large spills: Pump into suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.
Containment	Stop leak if safe to do so.
Environmental Precautionary Measures	Do not allow product to reach drains, sewers or waterways. If product does enter a waterway, advise the Environmental Protection Authority or your local Waste Authority.
Evacuation Criteria	Evacuate all unnecessary personnel.
Personal Precautionary Measures	Personnel involved in the clean up should wear full protective clothing as listed in section 8.

7. HANDLING AND STORAGE

Handling	Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Keep container closed. Use with adequate ventilation. Do not use sodium nitrite or other nitrosating agents in formulations containing this product. Suspected cancer-causing nitrosamines could be formed. Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION
Storage	Store in a cool, dry, well-ventilated area. Keep containers tightly closed when not in use. Inspect regularly for deficiencies such as damage or leaks. Protect against physical damage. Store away from incompatible materials as listed in section 10. Store in a dry place. Avoid freezing. Thaw and mix well before using. This product is classified as a 'C2' Combustible Liquid for the purpose of storage and handling in accordance with the requirements of AS1940.
Container	Store in original packaging as approved by manufacturer. Store in the following material(s): Stainless steel. Do not store in: Galvanized steel. Copper. Copper alloys. Zinc.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	<table border="0"> <tr> <td>Exposure Limits</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Component</td> <td>List</td> <td>Type</td> <td colspan="2">Value</td> </tr> <tr> <td rowspan="2">Triethanolamine</td> <td>ELV (IE)</td> <td>TWA</td> <td colspan="2">5 mg/m³</td> </tr> <tr> <td>ACGIH</td> <td>TWA</td> <td colspan="2">5 mg/m³</td> </tr> <tr> <td>2,2'-Iminodiethanol; diethanolamine</td> <td>ELV (IE)</td> <td>TWA</td> <td>15 mg/m³</td> <td>3 ppm</td> </tr> <tr> <td></td> <td>EH40 OES</td> <td>TWA</td> <td>13 mg/m³</td> <td>3 ppm</td> </tr> <tr> <td></td> <td>ACGIH</td> <td>TWA</td> <td>2 mg/m³</td> <td>SKIN</td> </tr> </table> <p>A "skin" notation following the exposure guideline refers to the potential for dermal absorption of the material including mucous membranes and the eyes either by contact with vapors or by direct skin contact. It is intended to alert the reader that inhalation may not be the only route of exposure and that measures to minimize dermal exposures should be considered.</p>	Exposure Limits					Component	List	Type	Value		Triethanolamine	ELV (IE)	TWA	5 mg/m ³		ACGIH	TWA	5 mg/m ³		2,2'-Iminodiethanol; diethanolamine	ELV (IE)	TWA	15 mg/m ³	3 ppm		EH40 OES	TWA	13 mg/m ³	3 ppm		ACGIH	TWA	2 mg/m ³	SKIN
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Exposure Limits	No Data Available																																		
Biological Limits	No information available on biological limit values for this product.																																		
Engineering Measures	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Adequate ventilation should be provided so that exposure limits are not exceeded.																																		
Personal Protection Equipment	<p>RESPIRATOR: For most conditions, no respiratory protection should be needed. However if material is heated or sprayed, use an approved air-purifying respirator. Use an approved air-purifying respirator with cartridge/filter for: Organic vapor cartridge with a particulate pre-filter, type AP2 (AS1715/1716).</p> <p>EYES: Chemical splash goggles (AS1336/1337).</p> <p>HANDS: Use chemical resistant gloves. Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 4 or higher (breakthrough time greater than 120 minutes) is recommended. When only brief contact is expected, a glove with a protection class of 1 or higher (breakthrough time greater than 10 minutes) is recommended. NOTICE: The selection of a specific glove for a particular application and duration of use in a</p>																																		

workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier (AS2161).
CLOTHING: When prolonged or frequently repeated contact could occur, use protective clothing chemically resistant to this material. Selection of specific items such as faceshield, boots, apron, or full-body suit will depend on the task (AS3765/2210).

Work Hygienic Practices

Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Liquid
Odour	Ammoniacal
Colour	Colourless to yellow
pH	No Data Available
Vapour Pressure	< 0.01 kPa@ 20 deg C (@ 20 °C)
Relative Vapour Density	4.9 Air = 1
Boiling Point	310.3 Estimated. Extrapolated °C
Melting Point	No Data Available
Freezing Point	15.8 °C
Solubility	100% 20°C
Specific Gravity	1.126 H2O = 1
Flash Point	194.4 °C Closed Cup ASTM D93
Auto Ignition Temp	No Data Available
Evaporation Rate	<0.01 Butyl Acetate = 1
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	No Data Available
Specific Heat	No Data Available
Molecular Weight	No Data Available
Net Propellant Weight	No Data Available
Octanol Water Coefficient	No Data Available
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	No Data Available
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	Flash point : open cup 190.5 °C ASTM D92
Potential for Dust Explosion	Product is a liquid.
Fast or Intensely Burning Characteristics	Combustible liquid.
Flame Propagation or Burning Rate of Solid Materials	No Data Available
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No Data Available
Properties That May Initiate or Contribute to Fire Intensity	Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

Reactions That Release Gases or Vapours No Data Available

Release of Invisible Flammable Vapours and Gases No Data Available

10. STABILITY AND REACTIVITY

General Information	Combustible liquid. Hygroscopic.
Chemical Stability	Product is stable under normal conditions of use, storage and temperature.
Conditions to Avoid	Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems. Avoid moisture.
Materials to Avoid	Avoid contact with: Nitrites. Strong acids. Strong oxidizers. Product may potentially react with various halogenated organic solvents, resulting in temperature and/or pressure increases Corrosive when wet. Heating above 60 deg C in the presence of aluminum can result in corrosion and generation of flammable hydrogen gas. Avoid unintended contact with: Halogenated hydrocarbons.
Hazardous Decomposition Products	Decomposition products depend upon temperature, air supply and the presence of other materials. In event of fire combustion products may include and are not limited to: Nitrogen oxides. Carbon monoxide. Carbon dioxide. During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating.
Hazardous Polymerisation	Polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

General Information	<p>Oral LD50, Rat > 4,000 mg/kg</p> <p>Dermal LD50, Rabbit > 2,000 mg/kg</p> <p>2,2'-iminodiethanol Acute inhalation toxicity LC0, Rat, male, 4 Hour, Aerosol, 3.35 mg/l</p> <p>Specific Target Organ Systemic Toxicity (Single Exposure) Evaluation of available data suggests that this material is not an STOT-SE toxicant.</p> <p>Specific Target Organ Systemic Toxicity (Repeated Exposure) Results from repeated exposure tests on diethanolamine in laboratory animals include anemia (rats) and effects on kidney (rats and mice) and liver (mice). Heart and nervous system effects were also observed in animals given exaggerated doses of diethanolamine. Changes in other organs, causes of which are nonspecific, were judged secondary to the poor health of the animals due to the extremely high doses of diethanolamine given. Contains component(s) which have been reported to cause effects on the following organs in animals: Male reproductive organs. Propylene glycol monomethyl ether acetate.</p> <p>Carcinogenicity For the major component(s): Findings from a chronic skin painting study by NTP include liver tumors in mice. Mechanistic studies indicate that tumor formation is of questionable relevance to humans. Findings from a chronic diethanolamine skin painting study by NTP include liver and kidney tumors in mice; no tumors were observed in rats. Mechanistic studies indicate that tumor formation is of questionable relevance to humans. A number of factors may have influenced the results and are being considered in their interpretation.</p> <p>Teratogenicity : For the major component(s): Has been toxic to the fetus in laboratory animals at doses toxic to the mother. However, the relevance of this to humans is unknown. Dose levels producing these effects were many times higher than any dose levels expected from exposure due to use.</p> <p>Reproductive toxicity : Based on information for component(s): Repeated excessive exposures to high amounts may cause effects on testes and fertility in males.</p> <p>Mutagenicity : Based on information for component(s): In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.</p>
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	Triethanolamine Acute inhalation toxicity Based on the available data, respiratory irritation was not observed. No deaths occurred following exposure to a saturated atmosphere.
Eye/Irritant	May cause severe eye irritation. May cause severe corneal injury.
Ingestion	Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.
Inhalation	At room temperature, exposure to vapour is minimal due to low volatility. Vapour from heated material may cause respiratory irritation and other effects. As product: The LC50 has not been determined.
Skin/Irritant	Prolonged contact may cause skin irritation with local redness. Repeated contact may cause skin burns. Symptoms may include pain, severe local redness, swelling, and tissue damage.
Sensitisation	Skin contact may cause an allergic skin reaction in a small proportion of individuals. Did not cause allergic skin reactions when tested in guinea pigs.
Carcinogen Category	No Data Available

12. ECOLOGICAL INFORMATION

Ecotoxicity	<p>Triethanolamine :</p> <p>Acute toxicity to fish Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species). May increase pH of aquatic systems to > pH 10 which may be toxic to aquatic organisms. LC50, Pimephales promelas (fathead minnow), flow-through test, 96 Hour, 11,800 mg/l, OECD Test Guideline 203 or Equivalent.</p> <p>Acute toxicity to aquatic invertebrates EC50, Ceriodaphnia dubia (water flea), static test, 48 Hour, 609.9 mg/l, OECD Test Guideline 202 or Equivalent</p> <p>Acute toxicity to algae/aquatic plants ErC50, alga Scenedesmus sp., static test, 72 Hour, Growth rate inhibition, 512 mg/l, OECD Test Guideline 201 or Equivalent, Test substance: Neutralised product</p> <p>Toxicity to bacteria EC50, activated sludge, 3 Hour, > 1,000 mg/l, OECD 209 Test</p> <p>Chronic toxicity to aquatic invertebrates NOEC, Daphnia magna (Water flea), semi-static test, 21 d, number of offspring, 16 mg/l LOEC, Daphnia magna (Water flea), semi-static test, 21 d, number of offspring, 31 mg/l</p> <p>2,2'-iminodiethanol :</p> <p>Acute toxicity to fish Material is toxic to aquatic organisms (LC50/EC50/IC50 between 1 and 10 mg/L in the most sensitive species). May increase pH of aquatic systems to > pH 10 which may be toxic to aquatic organisms. LC50, Pimephales promelas (fathead minnow), static test, 96 Hour, 1,460 mg/l, OECD Test Guideline 203 or Equivalent.</p> <p>Acute toxicity to aquatic invertebrates EC50, Daphnia magna (Water flea), static test, 48 Hour, 55 mg/l, OECD Test Guideline 202 or Equivalent.</p> <p>Acute toxicity to algae/aquatic plants ErC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, Growth rate inhibition, 2.2 mg/l, OECD Test Guideline 201 or Equivalent.</p> <p>Toxicity to bacteria EC50, Respiration inhibition, 3 Hour, > 1,000 mg/l, activated sludge test (OECD 209).</p> <p>Chronic toxicity to aquatic invertebrates NOEC, Daphnia magna (Water flea), semi-static test, 21 d, 0.78 mg/l LOEC, Daphnia magna (Water flea), semi-static test, 21 d, 1.56 mg/l</p>
Persistence/Degradability	<p>Triethanolamine</p> <p>Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability). 10-day Window: Pass Biodegradation: 97 % Exposure time: 28 d Method: OECD Test Guideline 301A or Equivalent</p>

10-day Window: Not applicable
Biodegradation: 89 %
Exposure time: 14 d
Method: OECD Test Guideline 302B or Equivalent

2,2'-iminodiethanol
Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is ultimately biodegradable (reaches > 70% mineralization in OECD test(s) for inherent biodegradability).
10-day Window: Pass
Biodegradation: 93 %
Exposure time: 28 d
Method: OECD Test Guideline 301F or Equivalent

Theoretical Oxygen Demand: 2.13 mg/mg
Chemical Oxygen Demand: 1.33 mg/mg Dichromate
Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Atmospheric half-life: 0.167 d
Method: Estimated.

Mobility

Triethanolamine
Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): 10 Estimated.

2,2'-iminodiethanol
Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): 1 Estimated.

Environmental Fate

Do NOT let product reach waterways, drains and sewers.

Bioaccumulation Potential

Triethanolamine
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): -2.3 at 25 °C Measured
Bioconcentration factor (BCF): < 3.9 Cyprinus carpio (Carp) 42 d Measured

2,2'-iminodiethanol
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): -2.18 at 25 °C OECD Test Guideline 107 or Equivalent

Triethanolamine
This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).
N,N-Diethanolamine
This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Environmental Impact

No Data Available

13. DISPOSAL CONSIDERATIONS

General Information

Dispose of in accordance with all local, state and federal regulations. All empty packaging should be disposed of in accordance with Local, State, and Federal Regulations or recycled/reconditioned at an approved facility.

Special Precautions for Land Fill

Contact a specialist disposal company or the local waste regulator for advice. Incinerate at an approved site following all local regulations. Empty containers should be recycled or disposed of through an approved waste management facility. Laboratory tests show that, at very low concentration (about 10 ppm), these ethanolamines can be degraded in a biological wastewater treatment system. It may be feasible to flush a small spill of ethanolamines to a sanitary sewer, with large amounts of water. However, a large spill might be detrimental to aquatic life. If spilled material cannot be collected, it may be possible to neutralize with dilute hydrochloric acid and then, dispose of the resulting salt in accordance with national and local regulations. Empty containers can only be disposed of when the remaining waste products adhering to the container walls have been removed. Remove all labels.

14. TRANSPORT INFORMATION

Land Transport (Australia)

ADG Code

Proper Shipping Name	Triethanolamine 85%
Class	C2 Combustible Liquids - Flash Point >93°C, Closed Cup, Not Excluded Flammable
Subsidiary Risk(s)	No Data Available No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available

Land Transport (Malaysia)

ADR

Proper Shipping Name	Triethanolamine 85%
Class	C2 Combustible Liquids - Flash Point >93°C, Closed Cup, Not Excluded Flammable
Subsidiary Risk(s)	No Data Available No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available

Land Transport (New Zealand)

NZS5433

Proper Shipping Name	Triethanolamine 85%
Class	No Data Available
Subsidiary Risk(s)	No Data Available No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available

Land Transport (United States of America)

US DOT

Proper Shipping Name	Triethanolamine 85%
Class	No Data Available
Subsidiary Risk(s)	No Data Available No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available

Sea Transport

IMDG Code

Proper Shipping Name	Triethanolamine 85%
Class	No Data Available
Subsidiary Risk(s)	No Data Available

UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
EMS	No Data Available
Marine Pollutant	No

Air Transport

IATA DGR

Proper Shipping Name	Triethanolamine 85%
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)
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15. REGULATORY INFORMATION

General Information	No Data Available
Poisons Schedule (Aust)	5

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code	HSR006673
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National/Regional Inventories

Australia (AICS)	Listed
Canada (DSL)	Not Determined
Canada (NDSL)	Not Determined
China (IECSC)	Not Determined
Europe (EINECS)	Not Determined
Europe (REACH)	Not Determined
Japan (ENCS/METI)	Not Determined
Korea (KECI)	Not Determined
Malaysia (EHS Register)	Not Determined

New Zealand (NZIoC)	Listed
Philippines (PICCS)	Not Determined
Switzerland (Giftliste 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Not Determined
USA (TSCA)	Not Determined

16. OTHER INFORMATION

Related Product Codes	TRETAM1000, TRETAM1001, TRETAM1002, TRETAM1003, TRETAM1004, TRETAM1005, TRETAM1006, TRETAM1007, TRETAM1008, TRETAM1009, TRETAM1010, TRETAM1011, TRETAM1012, TRETAM1013, TRETAM1014, TRETAM1015, TRETAM1016, TRETAM1017, TRETAM1018, TRETAM1019, TRETAM1020, TRETAM1021, TRETAM1100, TRETAM1101, TRETAM1102, TRETAM1200, TRETAM1201, TRETAM1202, TRETAM1300, TRETAM1301, TRETAM1400, TRETAM1500, TRETAM1600, TRETAM1800, TRETAM1801, TRETAM1802, TRETAM1803, TRETAM1804, TRETAM1805, TRETAM1806, TRETAM1807, TRETAM1808, TRETAM1809, TRETAM1810, TRETAM1811, TRETAM1812, TRETAM1813, TRETAM1814, TRETAM1815, TRETAM1816, TRETAM1817, TRETAM1818, TRETAM1819, TRETAM1820, TRETAM1821, TRETAM1822, TRETAM1823, TRETAM1824, TRETAM1825, TRETAM1826, TRETAM1827, TRETAM1828, TRETAM1829, TRETAM1830, TRETAM1831, TRETAM1832, TRETAM1833, TRETAM1834, TRETAM1835, TRETAM1838, TRETAM1839, TRETAM1840, TRETAM1841, TRETAM1842, TRETAM1843, TRETAM1844, TRETAM1845, TRETAM1846, TRETAM2000, TRETAM2001, TRETAM2500, TRETAM2830, TRETAM2831, TRETAM2832, TRETAM2840, TRETAM2850, TRETAM3000, TRETAM3001, TRETAM3002, TRETAM3010, TRETAM3200, TRETAM3201, TRETAM3202, TRETAM3203, TRETAM3210, TRETAM3250, TRETAM3300, TRETAM3301, TRETAM3302, TRETAM3350, TRETAM3351, TRETAM3355, TRETAM3400, TRETAM3500, TRETAM3501, TRETAM3502, TRETAM3503, TRETAM3600, TRETAM4000, TRETAM4100, TRETAM4101, TRETAM4102, TRETAM4200, TRETAM4201, TRETAM4202, TRETAM4300, TRETAM4400, TRETAM4500, TRETAM5900, TRETAM6000, TRETAM6500, TRETAM6600, TRETAM6700, TRETAM7000, TRETAM7001, TRETAM7032, TRETAM7033, TRETAM7034, TRETAM7043, TRETAM7054, TRETAM8500, TRETAM8501, TRETAM8502, TRETAM9500, TRETAM9510, TRETAM9520, TRETAM9800, TRETAM9900
Revision	4
Revision Date	20 Jul 2016
Reason for Issue	Updated SDS
Key/Legend	<p>< Less Than > Greater Than AICS Australian Inventory of Chemical Substances atm Atmosphere CAS Chemical Abstracts Service (Registry Number) cm² Square Centimetres CO₂ Carbon Dioxide COD Chemical Oxygen Demand deg C (°C) Degrees Celcius EPA (New Zealand) Environmental Protection Authority of New Zealand deg F (°F) Degrees Farenheit g Grams g/cm³ Grams per Cubic Centimetre g/l Grams per Litre HSNO Hazardous Substance and New Organism IDLH Immediately Dangerous to Life and Health immiscible Liquids are insoluable in each other. inHg Inch of Mercury inH₂O Inch of Water K Kelvin kg Kilogram kg/m³ Kilograms per Cubic Metre lb Pound LC50 LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours. LD50 LD stands for Lethal Dose. LD50 is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals. ltr or L Litre</p>

m³ Cubic Metre
mbar Millibar
mg Milligram
mg/24H Milligrams per 24 Hours
mg/kg Milligrams per Kilogram
mg/m³ Milligrams per Cubic Metre
Misc or **Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.
mm Millimetre
mmH₂O Millimetres of Water
mPa.s Millipascals per Second
N/A Not Applicable
NIOSH National Institute for Occupational Safety and Health
NOHSC National Occupational Health and Safety Commission
OECD Organisation for Economic Co-operation and Development
Oz Ounce
PEL Permissible Exposure Limit
Pa Pascal
ppb Parts per Billion
ppm Parts per Million
ppm/2h Parts per Million per 2 Hours
ppm/6h Parts per Million per 6 Hours
psi Pounds per Square Inch
R Rankine
RCP Reciprocal Calculation Procedure
STEL Short Term Exposure Limit
TLV Threshold Limit Value
tne Tonne
TWA Time Weighted Average
ug/24H Micrograms per 24 Hours
UN United Nations
wt Weight