SAFETY DATA SHEET
MONOETHANOLAMINE
REVISION 6, DATE 11 JUL 20

1. IDENTIFICATION

Product Name	**Monoethanolamine**
Other Names	2-Aminoethanol; MEA
Uses	Gas treatment agent; Chemical intermediate.
Chemical Family	No Data Available
Chemical Formula	C2H7NO
Chemical Name	Ethanol, 2-amino-
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox 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)	Schedule 6

Globally Harmonised System

Hazard Classification

Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Hazard Categories

Flammable Liquids - Category 4

Acute Toxicity (Oral) - Category 4

Skin Corrosion/Irritation - Category 1B

Serious Eye Damage/Irritation - Category 1

Acute Hazard To The Aquatic Environment - Category 2

Long-term Hazard To The Aquatic Environment - Category 3

Pictograms

Signal Word

Danger

Hazard Statements		**H227**	Combustible liquid.
		H302	Harmful if swallowed.
		H314	Causes severe skin burns and eye damage.
		H401	Toxic to aquatic life.
		H412	Harmful to aquatic life with long lasting effects.
Precautionary Statements	Prevention	**P280**	Wear protective gloves/protective clothing/eye protection/face protection.
		P273	Avoid release to the environment.
		P270	Do not eat, drink or smoke when using this product.
		P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
		P260	Do not breathe mist/vapour/spray.
	Response	**P303 + P361 + P353**	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
		P310	Immediately call a POISON CENTER or doctor.
		P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
		P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
		P363	Wash contaminated clothing before reuse.
		P304 + P340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
		P370 + P378	In case of fire: Use dry chemical, alcohol resistant foam or dry sand for extinction.
	Storage	**P405**	Store locked up.
		P403	Store in a well-ventilated place.
	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

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

Safe Work Australia
National Guide for Classifying Hazardous Chemicals under the Model WHS Regulations

Hazard Classification	Hazardous according to the criteria of Safe Work Australia under Model WHS Regulations

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Monoethanolamine	No Data Available	141-43-5	>=99 - <=100 %
N,N-Diethanolamine	No Data Available	111-42-2	<=0.5 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	IF SWALLOWED: Rinse mouth, then give one cup (8 ounces or 240 ml) of water or milk. Do NOT induce vomiting. Immediately call a Poison Centre or doctor/physician for advice. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. Never give anything by mouth to an unconscious person.
Eye	IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue flushing until advised to stop by a Poisons Information Centre or a doctor, or for at least 20 minutes. Obtain prompt medical consultation, preferably from an ophthalmologist. *Chemical eye burns may require extended irrigation.
Skin	IF ON SKIN (or hair): Immediately flush skin and hair with running water continuously for at least 20 minutes, while removing contaminated clothing and shoes. Immediately call a Poison Centre or doctor/physician for advice. Prompt medical consultation is essential! For minor skin contact, avoid spreading material on unaffected skin. Wash contaminated clothing before reuse and dispose of contaminated leather items, such as shoes, belts and watchbands. *If burn is present, treat as any thermal burn, after decontamination.
Inhaled	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a Poison Centre or doctor/physician for advice. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult.
Advice to Doctor	No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Keep victim calm and warm. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. *Due to irritant properties, swallowing may result in burns and/or ulceration of mouth, stomach and lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest endotracheal or esophageal control if lavage is done.
Medical Conditions Aggravated by Exposure	No information available.

5. FIRE FIGHTING MEASURES

General Measures	Keep people away. Isolate fire and deny unnecessary entry. Move containers from fire area if you can do it without risk. Cool containers with flooding quantities of water until well after fire is out. Burning liquids may be moved by flushing with water to protect personnel and minimise property damage. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers.

Flammability Conditions	Combustible liquid; may burn but does not ignite readily. *Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.
Extinguishing Media	Use dry chemical, Carbon dioxide (CO2), foam or water spray/fog for extinction. Alcohol resistant foams (ATC type) are preferred; General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective. Do not use direct water stream - May spread fire! *Burning liquids may be extinguished by dilution with water.
Fire and Explosion Hazard	When heated, vapours may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards! 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 Nitrogen oxides, Carbon monoxide, Carbon dioxide.
Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may be corrosive and/or toxic and cause pollution.
Personal Protective Equipment	Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical-resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical-resistant clothing with self-contained breathing apparatus and fight fire from a remote location.
Flash Point	93 °C [PMCC]
Lower Explosion Limit	3.0 %
Upper Explosion Limit	23.5 %
Auto Ignition Temperature	410 °C
Hazchem Code	2X

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation - Ventilate enclosed areas before entering. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not breathe mist/vapours. Do not get in eyes, on skin or on clothing. *Only trained and properly protected personnel must be involved in clean-up operations.
Clean Up Procedures	Contain large spills, if possible. Pump into suitable and properly labelled containers. Dilute small spills with water. Absorb or cover with dry earth, sand or other non-combustible material and transfer to suitable and properly labelled containers for disposal (see SECTION 13).
Containment	Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas.
Decontamination	No information available.
Environmental Precautionary Measures	Prevent from entering into soil, ditches, sewers, waterways and/or groundwater.
Evacuation Criteria	Immediately isolate spill or leak area. Evacuate area. Keep unauthorised personnel away. Stay upwind and/or uphill.
Personal Precautionary Measures	Do not touch damaged containers or spilled material unless wearing appropriate protective clothing (see SECTION 8). *Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible.

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations. Handle in accordance with good industrial hygiene and safety practice. Do not breathe mist/vapours. Do not get in eyes, on skin or on clothing. Do not ingest. Wear protective gloves/protective clothing/eye protection/face protection (see SECTION 8). Keep away from heat, sparks and flame - No smoking. Avoid release to the environment. *Monoethanolamine can react with iron to form an unstable material that can decompose at temperatures above 130 °C in air. Use caution when thawing drummed material. If steam heating is necessary, use only low pressure steam and stainless steel coils.
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container closed. Hygroscopic - Avoid moisture.

	Keep away from heat, sparks and flame - No smoking. Keep away from incompatible materials (see SECTION 10). Store locked up. Store in accordance with all applicable regulations. *Storage temperature: 10 - 32 °C. Storage period: 24 months (Plastic drums), 6 months (Bulk).
Container	Keep only in original packaging. Do not store in Zinc, Aluminum, Copper, Copper alloys, Galvanised containers. *Containers, even those that have been emptied, can contain vapours. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	For Ethanolamine (CAS No. 141-43-5): - Safe Work Australia Workplace Exposure Standard: TWA = 3 ppm (7.5 mg/m3); STEL = 6 ppm (15 mg/m3). - WorkSafe New Zealand Workplace Exposure Standard [Next review 2022]: TWA = 3 ppm (7.5 mg/m3); STEL = 6 ppm (15 mg/m3). COMPONENT: Diethanolamine (CAS No. 111-42-2): - Safe Work Australia Workplace Exposure Standard: TWA = 3 ppm (13 mg/m3). - WorkSafe New Zealand Workplace Exposure Standard: TWA = 3 ppm (13 mg/m3); Skin absorption (skin).
Exposure Limits	No Data Available
Biological Limits	No information available.
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.
Personal Protection Equipment	- Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines (refer to AS/NZS 1715 & AS/NZS 1716). Recommended: Air-purifying respirator - Organic vapour cartridge. Selection of air-purifying or positive-pressure supplied-air will depend on the specific operation and the potential airborne concentration of the material. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus. - Eye/face protection: Wear appropriate eye protection to prevent eye contact (refer to AS/NZS1336 & AS/NZS 1337). Recommended: Use chemical goggles. If exposure causes eye discomfort, use a full-face respirator. - Hand protection: Wear protective gloves (refer to AS/NZS 2161). Recommended: Use chemical-resistant gloves, e.g. Polyethylene, Chlorinated polyethylene, Ethyl vinyl alcohol laminate (EVAL). Avoid gloves made of: Polyvinyl alcohol (PVA). - Skin/body protection: Wear appropriate personal protective clothing to prevent skin contact (refer to AS/NZS 2210 & AS/NZS 4501). Recommended: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.
Special Hazards Precaustions	No information available.
Work Hygienic Practices	Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Take off immediately all contaminated clothing. Wash contaminated clothing before reuse and dispose of contaminated leather items, such as shoes, belts and watchbands.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Liquid
Odour	Ammoniacal
Colour	Colourless
pH	12.1 (50% aq. sol.)
Vapour Pressure	0.5 hPa [Literature] (@ 20 °C)
Relative Vapour Density	2.1 Air = 1
Boiling Point	170.3 °C (at 1,013.25 hPa) [Literature]
Melting Point	No Data Available
Freezing Point	10.5 °C
Solubility	1000 g/L in water 20°C [Literature]

Specific Gravity	1.02 (Water = 1) [Literature]
Flash Point	93 °C [PMCC]
Auto Ignition Temp	410 °C
Evaporation Rate	No Data Available
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	61.08 g/mol [Literature]
Net Propellant Weight	No Data Available
Octanol Water Coefficient	log Pow: -2.3 [Measured]
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	20 °C
Viscosity	23.18 mPa.s (@ 20 °C)
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	Not expected to be a static-accumulating flammable liquid.
Potential for Dust Explosion	Not applicable.
Fast or Intensely Burning Characteristics	No information available.
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.
Properties That May Initiate or Contribute to Fire Intensity	Combustible liquid; may burn but does not ignite readily. *Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.
Reactions That Release Gases or Vapours	Decomposition products depend upon temperature, air supply and the presence of other materials. 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 Nitrogen oxides, Carbon monoxide, Carbon dioxide.
Release of Invisible Flammable Vapours and Gases	When heated, vapours may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards! *Heating above 60°C in the presence of aluminum can result in corrosion and generation of flammable hydrogen gas.

10. STABILITY AND REACTIVITY

General Information	Product may potentially react with various halogenated organic solvents, resulting in temperature and/or pressure increases. Corrosive when wet. Heating above 60°C in the presence of aluminum can result in corrosion and generation of flammable hydrogen gas.
Chemical Stability	Stable under recommended storage conditions.
Conditions to Avoid	Avoid exposure to elevated temperatures. Avoid moisture.
Materials to Avoid	Avoid contact with strong acids, strong oxidisers. Avoid unintended contact with halogenated hydrocarbons.
Hazardous Decomposition Products	Decomposition products depend upon temperature, air supply and the presence of other materials. 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 Nitrogen oxides, Carbon monoxide, Carbon dioxide.
Hazardous Polymerisation	Polymerisation will not occur.

11. TOXICOLOGICAL INFORMATION

General Information

- Acute toxicity: Harmful if swallowed. Swallowing may result in gastrointestinal irritation or ulceration. Swallowing may result in burns of the mouth and throat. Prolonged skin contact is unlikely to result in absorption of harmful amounts. Prolonged excessive (inhalation) exposure may cause adverse effects.
- Skin corrosion/irritation: Causes severe skin burns and eye damage. Brief contact may cause skin burns. Symptoms may include pain, severe local redness and tissue damage.
- Eye damage/irritation: Causes serious eye damage. May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur. Vapour may cause eye irritation experienced as mild discomfort and redness.
- Respiratory/skin sensitisation: Did not cause allergic skin reactions when tested in guinea pigs (Monoethanolamine/Diethanolamine).
- Germ cell mutagenicity: In vitro genetic toxicity studies were negative; Animal genetic toxicity studies were negative (Monoethanolamine/Diethanolamine).
- Carcinogenicity: 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.
- Reproductive toxicity: Monoethanolamine 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. In animal studies, did not interfere with reproduction. Diethanolamine has been toxic to the fetus in laboratory animals at doses toxic to the mother. Did not cause birth defects in laboratory animals. In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals. Repeated excessive exposures to high amounts may cause effects on testes and fertility in males.
- STOT (single exposure): Material is corrosive. Material is not classified as a respiratory irritant; however, upper respiratory tract irritation or corrosivity may be expected. Excessive exposure may cause irritation to upper respiratory tract (nose and throat).
- STOT (repeated exposure): In animals, effects have been reported on the Kidney & Liver (Monoethanolamine). 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.
- Aspiration toxicity: Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury (Monoethanolamine).

Acute

Ingestion

Acute toxicity (Oral):
- LD50, Rat: 1,089 mg/kg [Based on product testing; Supplier's SDS].

Other

Acute toxicity (Dermal):
- LD50, Rat: 2,504 mg/kg [Based on information for component(s); Supplier's SDS].

Inhalation

Acute toxicity (Inhalation):
- LC50, Rat: >1.48 mg/l vapour (4 h) [Estimated; Supplier's SDS].
*No deaths occurred at this concentration.

Carcinogen Category

None

12. ECOLOGICAL INFORMATION

Ecotoxicity

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

Persistence/Degradability

Material is readily biodegradable (>90 %, 21 d) [OECD Test Guideline 301A or Equivalent].
*10-day Window: Pass

Mobility

Potential for mobility in soil is very high (Koc between 0 and 50).
*Koc: 1.17 [Estimated].

Environmental Fate

Toxic to aquatic life/Harmful to aquatic life with long lasting effects. Avoid release to the environment.

Bioaccumulation Potential

Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
*log Pow: -2.3 at 25 °C [Measured].

Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. For unused and uncontaminated product, the preferred disposal options include sending to a licensed, permitted incinerator or other thermal destructive device. Do NOT dump into any sewers, on the ground, or into any body of water.
Special Precautions for Land Fill	Waste characterisations and compliance with applicable laws are the responsibility solely of the waste generator.

14. TRANSPORT INFORMATION

Land Transport (Australia)
ADG Code

Proper Shipping Name	ETHANOLAMINE
Class	8 Corrosive Substances
Subsidiary Risk(s)	C1 Combustible Liquids - Flash Point >60°C - <=93°C, Closed Cup
EPG	36 Toxic And/Or Corrosive Substances Combustible
UN Number	2491
Hazchem	2X
Pack Group	III
Special Provision	No Data Available

Land Transport (Malaysia)
ADR Code

Proper Shipping Name	ETHANOLAMINE
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
EPG	36 Toxic And/Or Corrosive Substances Combustible
UN Number	2491
Hazchem	2X
Pack Group	III
Special Provision	No Data Available

Land Transport (New Zealand)
NZS5433

Proper Shipping Name	ETHANOLAMINE
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
EPG	36 Toxic And/Or Corrosive Substances Combustible
UN Number	2491
Hazchem	2X
Pack Group	III

Special Provision	No Data Available

Land Transport (United States of America)
US DOT

Proper Shipping Name	ETHANOLAMINE
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
ERG	153 Substances - Toxic and/or Corrosive (Combustible)
UN Number	2491
Hazchem	2X
Pack Group	III
Special Provision	No Data Available

Sea Transport
IMDG Code

Proper Shipping Name	ETHANOLAMINE
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
UN Number	2491
Hazchem	2X
Pack Group	III
Special Provision	No Data Available
EMS	F-A, S-B
Marine Pollutant	No

Air Transport
IATA DGR

Proper Shipping Name	ETHANOLAMINE
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
UN Number	2491
Hazchem	2X
Pack Group	III
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	Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

15. REGULATORY INFORMATION

General Information	MONOETHANOLAMINE
Poisons Schedule (Aust)	Schedule 6

Environmental Protection Authority (New Zealand)
Hazardous Substances and New Organisms Amendment Act 2015

Approval Code	HSR002492 - Additives, Process Chemicals and Raw Materials (Combustible, Corrosive) Group Standard 2020

National/Regional Inventories

Australia (AIIC)	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	MONOET0500, MONOET0501, MONOET0900, MONOET0901, MONOET1000, MONOET1001, MONOET1002, MONOET1003, MONOET1004, MONOET1005, MONOET1006, MONOET1007, MONOET1008, MONOET1009, MONOET1010, MONOET1011, MONOET1012, MONOET1013, MONOET1014, MONOET1015, MONOET1016, MONOET1017, MONOET1018, MONOET1019, MONOET1020, MONOET1021, MONOET1023, MONOET1033, MONOET1100, MONOET1101, MONOET1200, MONOET1201, MONOET1300, MONOET1301, MONOET1302, MONOET1400, MONOET1401, MONOET1500, MONOET1501, MONOET1800, MONOET1801, MONOET1802, MONOET1803, MONOET1804, MONOET1805, MONOET1806, MONOET1807, MONOET1808, MONOET1809, MONOET1810, MONOET1811, MONOET1812, MONOET1813, MONOET1814, MONOET1815, MONOET1816, MONOET1817, MONOET1818, MONOET1819, MONOET1820, MONOET1821, MONOET1822, MONOET1823, MONOET1824, MONOET1825, MONOET1826, MONOET1827, MONOET1828, MONOET1829, MONOET1830, MONOET1831, MONOET2000, MONOET2001, MONOET2100, MONOET2101, MONOET2150, MONOET2200, MONOET2201, MONOET2202, MONOET2220, MONOET2250, MONOET2260, MONOET2300, MONOET2400, MONOET2500, MONOET2700, MONOET2701, MONOET2810, MONOET2811, MONOET2812, MONOET2813, MONOET2820, MONOET2821, MONOET2830, MONOET2850, MONOET3000, MONOET3010, MONOET3020, MONOET3100, MONOET3701, MONOET3800, MONOET4000, MONOET5000, MONOET5001, MONOET5002, MONOET5003, MONOET6000, MONOET6500, MONOET6600, MONOET6601, MONOET6602, MONOET6603, MONOET6604, MONOET6605, MONOET6606, MONOET7011, MONOET7012, MONOET7013, MONOET7020, MONOET7021, MONOET7022, MONOET7023, MONOET7031, MONOET7040, MONOET7500, MONOET7501, MONOET8000, MONOET8500, MONOET9000,

MONOET9500

Revision	6
Revision Date	11 Jul 2020
Reason for Issue	Updated SDS
Key/Legend	< Less Than > Greater Than **AICS** Australian Inventory of Chemical Substances **atm** Atmosphere **CAS** Chemical Abstracts Service (Registry Number) **cm^2** 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/cm^3** 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/m^3** 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 **m^3** Cubic Metre **mbar** Millibar **mg** Milligram **mg/24H** Milligrams per 24 Hours **mg/kg** Milligrams per Kilogram **mg/m^3** 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 Heath 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