SAFETY DATA SHEET
CMIT/MIT 14%
REVISION 4, DATE 21 APR 2023

1. IDENTIFICATION

Product Name	**CMIT/MIT 14%**
Other Names	No Data Available
Uses	Industrial water treatment; Pulp and paper mills.
Chemical Family	No Data Available
Chemical Formula	Unspecified
Chemical Name	Contains: 5-Chloro-2-methyl-3-isothiazolone; 2-Methyl-3-isothiazolone
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	Suite 13A.03, Menara Summit Persiaran Kewajipan USJ1 47600 UEP Subang Jaya Selangor, 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	Australia – Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
National Poison Centre	Malaysia	+60-4-6536-999
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)	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

Acute Toxicity (Oral) - Category 4

Acute Toxicity (Dermal) - Category 4

Acute Toxicity (Inhalation) - Category 4

Skin Corrosion/Irritation - Category 1B

Serious Eye Damage/Irritation - Category 1

Sensitisation (Skin) - Category 1

Acute Hazard To The Aquatic Environment - Category 1

Long-term Hazard To The Aquatic Environment - Category 1

Pictograms

Signal Word

Danger

Hazard Statements

H302 + H312 + H332	Harmful if swallowed, in contact with skin or if inhaled.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary Statements

Prevention	**P260**	Do not breathe mist/vapour/spray.
	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.
	P272	Contaminated work clothing should not be allowed out of the workplace.
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.
	P391	Collect spillage.
	P304 + P340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
Storage	**P405**	Store locked up.
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)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Magnesium nitrate	Mg(NO3)2	10377-60-3	18 - 24 %
5-Chloro-2-methyl-3-isothiazolone (CMIT)	C4H4ClNOS	26172-55-4	10 - 12 %
Magnesium chloride	MgCl2	7786-30-3	4 - 7 %
2-Methyl-3-isothiazolone (MIT)	C4H5NOS	2682-20-4	3 - 5 %
Water	H2O	7732-18-5	Balance %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed IF SWALLOWED: Rinse mouth, then drink plenty of water. Do NOT induce vomiting. Immediately call a Poison Centre or doctor/physician for advice. 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 rinsing for at least 15 minutes. Immediately call a Poison Centre or doctor/physician for advice.

Skin IF ON SKIN (or hair): Remove and isolate contaminated clothing and shoes. Immediately wash skin and hair with soap and running water for at least 15 minutes. Immediately call a Poison Centre or doctor/physician for advice. Wash contaminated clothing before reuse. Discard contaminated shoes, belts and other articles made of leather. Contaminated work clothing should not be allowed out of the workplace!
*For minor skin contact, avoid spreading material on unaffected skin.

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 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.
*Material is corrosive. It may not be advisable to induce vomiting. Possible mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock and convulsions maybe necessary.

Medical Conditions Aggravated by Exposure May cause an allergic skin reaction.

5. FIRE FIGHTING MEASURES

General Measures If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out. Dike fire-control water for later disposal; do not scatter the material.

Flammability Conditions This product is non-combustible. However, following evaporation of aqueous component under fire conditions, the non-aqueous component may decompose and/or burn.

Extinguishing Media Use water spray, dry chemical, Carbon dioxide (CO2) or foam for extinction.

Fire and Explosion Hazard When heated, vapours may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards! Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated.

Hazardous Products of Combustion Fire may produce irritating, corrosive and/or toxic gases, including Nitrogen oxides (NOx), Sulphur oxides, Hydrogen chloride.

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). Wear chemical protective clothing - It may provide little or no thermal protection. 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.

Flash Point	No Data Available
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	No Data Available
Hazchem Code	2X

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation - Ventilate enclosed spaces before entering. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Do not breathe vapours and prevent contact with eyes, skin and clothing.
Clean Up Procedures	Absorb with earth, sand or other non-combustible material and transfer to a suitable container for disposal (see SECTION 13). *Do NOT add deactivation solution to the waste container to deactivate the absorbed material.
Containment	Stop leak if safe to do so - Prevent entry into waterways, drains or confined areas.
Decontamination	Deactivate spill area with freshly prepared solution of 5% Sodium bicarbonate and 5% Sodium hypochlorite in water. Apply solution to the spill area at a ratio of 10 volumes deactivation solution per estimated volume of residual spill. Let stand for 30 minutes. Flush the spill area with copious amounts of water.
Environmental Precautionary Measures	Spillages and decontamination runoff should be prevented from entering drains and watercourses.
Evacuation Criteria	Spill or leak area should be isolated immediately. Evacuate personnel to safe areas. Keep unauthorised personnel away. Keep upwind and to higher ground.
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. Ensure adequate ventilation - Use only outdoors or in a well-ventilated area. Handle in accordance with good industrial hygiene and safety practice. Do not breathe mist/vapours/spray and prevent contact with eyes, skin and clothing. Do not ingest. Wear protective gloves/protective clothing/eye protection/face protection (see SECTION 8). Do not exposure to extreme temperatures. Keep away from sources of ignition - No smoking. Avoid release to the environment - Collect spillage (see SECTION 6).
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Protect from freezing. Keep away from incompatible materials (see SECTION 10). Store locked up. *Recommended storage temperature: >=1 °C - <= 55 °C.
Container	Keep in the original container. Do not store in Steel containers.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No specific exposure standards are available for this product.
Exposure Limits	No Data Available
Biological Limits	No information available.
Engineering Measures	Use local exhaust ventilation with a minimum capture velocity of 150 ft/min (0.75 m/sec) at the point of dust or mist evolution.
Personal Protection Equipment	- Respiratory protection: Wear respiratory protection in case of inadequate ventilation or where risk assessment shows air-purifying respirators are appropriate. Recommended: Approved half-mask or full facepiece respirator, Filter type: A/P

	(organic vapour + particulate). In any emergency situation, wear an approved self-contained breathing apparatus (SCBA). - Eye/face protection: Wear appropriate eye protection to prevent eye contact. Recommended: Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards. - Hand protection: Wear protective gloves. Recommended: Impervious gloves, e.g. Nitrile, Butyl rubber. Gloves should be removed and replaced immediately if there is any indication of degradation or chemical breakthrough. - Skin/body protection: Wear appropriate personal protective clothing to prevent skin contact. Recommended: Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the hazardous substance(s) at the specific workplace.
Special Hazards Precaustions	No information available.
Work Hygienic Practices	Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Remove contaminated clothing and shoes immediately and wash before reuse. Discard contaminated shoes, belts and other articles made of leather. Contaminated work clothing should not be allowed out of the workplace.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Liquid
Odour	Pungent
Colour	Yellow or yellow-green
pH	2.0 - 4.0
Vapour Pressure	No Data Available
Relative Vapour Density	0.62 Air = 1
Boiling Point	100 °C (Water)
Melting Point	-33 °C
Freezing Point	No Data Available
Solubility	Soluble in water
Specific Gravity	1.27 - 1.33 g/mL
Flash Point	No Data Available
Auto Ignition Temp	No Data Available
Evaporation Rate	<1 (n-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	16,000 cPs (@ 25 °C)
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No information available.
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	No information available.
Properties That May Initiate or Contribute to Fire Intensity	This product is non-combustible. However, following evaporation of aqueous component under fire conditions, the non-aqueous component may decompose and/or burn.
Reactions That Release Gases or Vapours	Fire/decomposition may produce irritating, corrosive and/or toxic gases, including Nitrogen oxides (NOx), Sulphur oxides, Hydrogen chloride.
Release of Invisible Flammable Vapours and Gases	When heated, vapours may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards! Contact with metals may evolve flammable hydrogen gas.

10. STABILITY AND REACTIVITY

General Information	No dangerous reactions known.
Chemical Stability	This material is considered stable under specified conditions of storage and use.
Conditions to Avoid	Do not expose to extreme temperatures. Protect from freezing.
Materials to Avoid	Incompatible/reactive with oxidizing agents, reducing agents, amines, mercaptans.
Hazardous Decomposition Products	Fire/decomposition may produce irritating, corrosive and/or toxic gases, including Nitrogen oxides (NOx), Sulphur oxides, Hydrogen chloride.
Hazardous Polymerisation	Product will not undergo polymerisation.

11. TOXICOLOGICAL INFORMATION

General Information

Information on toxicological effects:
- Acute toxicity: Harmful if swallowed, in contact with skin and if inhaled.
- Skin corrosion/irritation: Corrosive! Causes severe skin burns and eye damage.
- Eye damage/irritation: Corrosive! Causes serious eye damage.
- Respiratory/skin sensitisation: Skin sensitiser. May cause an allergic skin reaction.
- Germ cell mutagenicity: Based on weight of evidence, not considered to be genotoxic.
- Carcinogenicity: No evidence of carcinogenicity.
- Reproductive toxicity: No evidence of reproductive/developmental toxicity.
- STOT (single exposure): No information available.
- STOT (repeated exposure): Not considered to cause serious damage to health from repeated exposure.
- Aspiration toxicity: No information available.

Acute

Ingestion	Acute toxicity: LD50, Rat: 465 mg/kg (male) & 393 mg/kg (female) [Supplier's SDS].
Other	Acute toxicity (Dermal): - LD50, Rabbit: 1,008 mg/kg [Supplier's SDS].
Inhalation	Acute toxicity (Inhalation): COMPONENT: CMIT/MIT (CAS No. 55965-84-9): - LC50, Rat: 0.33 mg/L (4 h) [Supplier's SDS].
Carcinogen Category	None

12. ECOLOGICAL INFORMATION

Ecotoxicity	Aquatic toxicity: COMPONENT: CMIT/MIT (CAS No. 55965-84-9): - LC50, Fish (Oncorhynchus mykiss (Rainbow trout)): 0.19 mg/L (96 h). - LC50, Fish (Lepomis macrochirus (Bluegill sunfish)): 0.28 mg/L (96 h). - EC50, Aq. invertebrates (Daphnia magna): 0.16 mg/L (48 h). - EC50, Algae (Marine algae (Skeletonema costatum)): 0.003 mg/L (48 h). - EC50, Algae (Selenastrum capricornutum): 0.018 mg/L (48 h).
Persistence/Degradability	Not readily biodegradable. Biodegrades slowly in the environment (18 %, 35 d) [OECD 302 B].
Mobility	Accidental spillage may lead to penetration in the soil and groundwater.
Environmental Fate	Very toxic to aquatic life with long lasting effects - Avoid release to the environment.
Bioaccumulation Potential	There is no evidence to suggest bioaccumulation will occur.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Dispose of as hazardous waste through a licensed professional waste disposal service and in accordance with local/regional/national regulations. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
Special Precautions for Land Fill	Contaminated packaging: Dispose of as unused product.

14. TRANSPORT INFORMATION

Land Transport (Australia)
ADG Code

Proper Shipping Name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Contains: 5-Chloro-2-methyl-3-isothiazolone; 2-methyl-3-isothiazolone)
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
EPG	37 Toxic And/Or Corrosive Substances Non-Combustible
UN Number	3265
Hazchem	2X
Pack Group	II
Special Provision	No Data Available

Land Transport (Malaysia)
ADR Code

Proper Shipping Name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Contains: 5-Chloro-2-methyl-3-isothiazolone; 2-methyl-3-isothiazolone)
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
EPG	37 Toxic And/Or Corrosive Substances Non-Combustible
UN Number	3265
Hazchem	2X
Pack Group	II
Special Provision	No Data Available

Land Transport (New Zealand)
NZS5433

Proper Shipping Name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Contains: 5-Chloro-2-methyl-3-isothiazolone; 2-methyl-3-isothiazolone)
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
EPG	37 Toxic And/Or Corrosive Substances Non-Combustible
UN Number	3265
Hazchem	2X
Pack Group	II
Special Provision	No Data Available

Land Transport (United States of America)
US DOT

Proper Shipping Name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Contains: 5-Chloro-2-methyl-3-isothiazolone; 2-methyl-3-isothiazolone)
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
ERG	154 Substances - Toxic and/or Corrosive (Non-Combustible)
UN Number	3265
Hazchem	2X
Pack Group	II
Special Provision	No Data Available

Sea Transport
IMDG Code

Proper Shipping Name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Contains: 5-Chloro-2-methyl-3-isothiazolone; 2-methyl-3-isothiazolone)
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
UN Number	3265
Hazchem	2X
Pack Group	II
Special Provision	No Data Available
EMS	F-A, S-B
Marine Pollutant	Yes

Air Transport
IATA DGR

Proper Shipping Name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Contains: 5-Chloro-2-methyl-3-isothiazolone; 2-methyl-3-isothiazolone)
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
UN Number	3265
Hazchem	2X
Pack Group	II
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	METHYLCHLOROISOTHIAZOLINONE
Poisons Schedule (Aust)	6

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

Approval Code	HSR002681 - Water Treatment Chemicals 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 (List of Classified Substances)	Not Determined
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Not Determined
Taiwan (TCSI)	Not Determined
USA (TSCA)	Not Determined
Mexico (INSQ)	Not Determined

16. OTHER INFORMATION

Related Product Codes	CHMEIS3000, CHMEIS3001, CHMEIS3002, CHMEIS3200, CHMEIS3220, CHMEIS3221, CHMEIS3225, CHMEIS7000
Revision	4
Revision Date	21 Apr 2023

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