SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

- Trade name AERO® 3894 PROMOTER

1.2 Relevant identified uses of the substance or mixture and uses advised against

Uses of the Substance/Mixture

- Use in mining industry

1.3 Details of the supplier of the safety data sheet

Company

CYTEC AUSTRALIA HOLDINGS PTY LTD.
Suite 1, Level 1, 21 Solent Cct.,
Baulkham Hills, 2153 Australia
Telephone: +61 2 9846 6200

E-mail address

For questions about SDS content: manager.sds@syensqo.com
For all other topics use: www.syensqo.com/en/form/documentation

1.4 Emergency telephone number

+61 2 8014 4558 [CareChem 24]

MULTI LINGUAL EMERGENCY NUMBER (24/7)

Europe/Latin America/Africa:+44 1235 239 670 (UK)

Middle East/Africa speaking Arabic: +44 1235 239 671 (UK)

Asia Pacific : +65 3158 1074 (Singapore)

China : 400 120 6011 (toll-free, access from China only)

North America : +1 800 424 9300

Disclaimer

The ® indicates a Registered Trademark in the United States and the ™ indicates a trademark in the United States. The mark may also be registered, subject of an application for registration, or a trademark in other countries.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Work Health and Safety Regulation 2011

- Flammable liquids , Category 4	H227: Combustible liquid.
- Acute toxicity , Category 4	H302: Harmful if swallowed.
- Skin irritation , Category 2	H315: Causes skin irritation.

SUSMP (AU)

- Not scheduled

Please use the original publication to check for specific uses, specific conditions or threshold limits that might apply for this chemical.

2.2 Label elements

Work Health and Safety Regulation 2011

Hazardous products which must be listed on the label

- ***** Modified thionocarbamate

Pictogram

Exclamation mark

Signal word

- Warning

Hazard statements

- H227 Combustible liquid.
- H302 Harmful if swallowed.
- H315 Causes skin irritation.

Precautionary statements

Prevention

- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P264 Wash skin thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response

- P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
- P302 + P352 IF ON SKIN: Wash with plenty of water.
- P332 + P313 If skin irritation occurs: Get medical advice/ attention.
- P362 + P364 Take off contaminated clothing and wash it before reuse.
- P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage

- P403 Store in a well-ventilated place.

Disposal

- P501 Dispose of contents/ container to an approved waste disposal plant.

Additional Labeling

- AUH032 Contact with acids liberates very toxic gas.

2.3 Other hazards which do not result in classification

- Short-term (acute) aquatic hazard, Category 3 — H402: Harmful to aquatic life.
- Long-term (chronic) aquatic hazard, Category 3 — H412: Harmful to aquatic life with long lasting effects.

SECTION 3: Composition/information on ingredients

3.1 Substance

- Chemical nature Thionocarbamate compound

Information on Components and Impurities

Chemical name	CAS-No.	GHS Classification	Concentration [%]
Modified thionocarbamate	*****	Acute toxicity, Category 4 ; H302 Skin irritation, Category 2 ; H315	90 - 100
Propan-2-ol	67-63-0	Flammable liquids, Category 2 ; H225 Eye irritation, Category 2A ; H319 Specific target organ toxicity - single exposure, Category 3 ; H336 (Central nervous system)	<= 3
Non-hazardous ingredients *			Balance

* (Ingredients present at non-hazardous concentrations, according to criteria of SWAC (Australia) based on available information).

3.2 Mixture

- Not applicable, this product is a substance.

SECTION 4: First aid measures

4.1 Description of first aid measures

In case of inhalation

- Quickly move the person away from the contaminated area. Make the affected person rest.
- Obtain medical attention.
- Show this sheet to the doctor.
- Be prepared to provide first aid or medical support if necessary.

In case of skin contact

- Wash off immediately with plenty of water for at least 15 minutes.
- Use appropriate protective equipment when treating a contaminated person.
- Obtain medical attention.
- Show this sheet to the doctor.
- Be prepared to provide first aid or medical support if necessary.

In case of eye contact

- Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
- Keep eye wide open while rinsing.
- Show this sheet to the doctor.
- Always obtain medical advice, even if there are no symptoms.
- Be prepared to provide first aid or medical support if necessary.

In case of ingestion

- Do NOT induce vomiting.
- Obtain medical attention.
- Show this sheet to the doctor.
- Do not give anything to drink.
- Be prepared to provide first aid or medical support if necessary.

4.2 Most important symptoms and effects, both acute and delayed

Effects

- Effects on health may appear after exposure.
- The effects will depend on target organs.
- If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.
- In case of inhalation, irritation/corrosion of the respiratory tract.
- Risk of respiratory disorder

- May cause irreversible skin damage.
- Chronic exposure may cause dermatitis.
- May cause irreversible eye damage.
- Loss of the eye

Symptoms

- Symptoms will depend on the target organs.
- Inhalation may provoke the following symptoms:
- Cough
- Breathing difficulties
- Irritation
- Redness
- Swelling of tissue
- Ingestion may provoke the following symptoms:
- Nausea
- Diarrhoea
- Abdominal pain
- May cause respiratory tract irritation.
- Dermatitis
- Causes skin burns.
- Lachrymation
- Conjunctivitis
- Causes eye burns.
- The gas deadens the sense of smell. Do not depend on odor to detect presence of gas.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician

- Be aware to maintain life support if necessary.
- Take victim immediately to hospital.
- Immediate medical attention is required.
- Consult with an ophthalmologist immediately in all cases.
- Burns must be treated by a physician.
- Treat symptomatically.
- Contact a poison control center.
- Keep under medical supervision for at least 48 hours.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

- Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media

- High volume water jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting

- Under fire conditions:
- Will burn
- On combustion, toxic gases are released.

Hazardous combustion products:

- Sulfur dioxide, hydrogen sulfide or carbon disulfide may be formed under fire conditions.

5.3 Advice for firefighters

Special protective equipment for firefighters

- In the event of fire, wear self-contained breathing apparatus.
- Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing.
- Wear a positive-pressure supplied-air respirator with full facepiece.
- For further information refer to section 8 "Exposure controls/personal protection".

Specific fire fighting methods

- Cool containers/tanks with water spray.
- Do not use a solid water stream as it may scatter and spread fire.

Further information

- Do not flush to sewer which may contain acid.
- This could result in generation of toxic and flammable carbon disulfide, carbonyl sulfide and hydrogen sulfide.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Where exposure level is not known, wear approved, positive pressure, self-contained respirator.
- Where exposure level is known, wear approved respirator suitable for level of exposure.
- In addition to the protective clothing/equipment in Section 8 (Exposure Controls/Personal Protection), wear impermeable boots.

6.2 Environmental precautions

- Stop the leak. Turn leaking containers leak-side up to prevent the escape of liquid.
- Contain the spilled material by bunding.
- Do not let product enter drains.
- Do not allow uncontrolled discharge of product into the environment.

6.3 Methods and materials for containment and cleaning up

- Remove all sources of ignition.
- Stop leak if safe to do so.
- Keep in properly labelled containers.
- Keep in suitable, closed containers for disposal.
- Wash non-recoverable remainder with large amounts of water.
- Soak up with inert absorbent material and dispose of as hazardous waste.
- Decontaminate tools, equipment and personal protective equipment in a segregated area.
- Dispose of in accordance with local regulations.
- Never return spills in original containers for re-use.

6.4 Reference to other sections

- 7. HANDLING AND STORAGE
- 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
- 13. DISPOSAL CONSIDERATIONS

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Containers must be bonded and grounded when pouring or transferring material.
- This material contains a flammable or combustible liquid and vapor.
- Large quantities of undiluted product should not be mixed with acids, since evolution of toxic and flammable hydrogen sulfide, carbon disulfide and carbonyl sulfide could result. In particular, precautions must be taken to avoid the accidental discharge of large volumes of the product in acid storage tanks or any tank or containment containing acidic materials. This precaution does not, of course, apply to addition of this reagent to flotation pulps in amounts customarily used in flotation, where the reagent amounts are small and instantly diluted to concentrations well below the solubility limits.

Hygiene measures

- Handle in accordance with good industrial hygiene and safety practice.
- Wash hands before breaks and at the end of workday.
- When using do not eat, drink or smoke.
- Eye wash bottles or eye wash stations in compliance with applicable standards.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions

- Observe the general rules of industrial fire protection.
- Areas containing this material should have fire safe practices and electrical equipment in accordance with applicable regulations and/or guidelines. Standards are primarily based on the material`s flashpoint, but may also take into account properties such as miscibility with water or toxicity. All local and national regulations should be followed. In the Americas, National Fire Protection Association (NFPA) 30: Flammable and Combustible Liquids Code, is a widely used standard. NFPA 30 establishes storage conditions for the following classes of materials: Class I Flammable Liquids, Flashpoint <37.8 °C. Class II Combustible Liquids, 37.8 °C < Flashpoint <60 °C. Class IIIa Combustible Liquids, 60 °C < Flashpoint < 93 °C. Class IIIb Combustible Liquids, Flashpoint > 93 °C.
- Keep away from sources of ignition - No smoking.

Requirements for storage rooms and vessels

Recommended storage temperature: 0 - 35 °C

- To guarantee the quality and properties of the product keep according to Storage temperature and conditions.

Australian AS 1940 Storage Classification

- (C1 combustible liquid)

7.3 Specific end use(s)

- Contact your supplier for additional information

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with national occupational exposure limits

Components	Value type	Value	Basis
Propan-2-ol	TWA	400 ppm 983 mg/m3	Australia. Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment
Propan-2-ol	STEL	500 ppm 1,230 mg/m3	Australia. Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment

Components with other occupational exposure limits

Components	Value type	Value	Basis
Propan-2-ol	TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV)
Propan-2-ol	STEL	400 ppm	USA. ACGIH Threshold Limit Values (TLV)

Biological Exposure Indices

Components	Value type	Value	Basis
Propan-2-ol	BEI	40 mg/l Acetone Urine End of shift at end of workweek	ACGIH - Biological Exposure Indices (BEI)
	Nonspecific Background		

8.2 Exposure controls

Control measures

Engineering measures

- Ensure adequate ventilation.
- Apply technical measures to comply with the occupational exposure limits.

Individual protection measures

Respiratory protection

- Keep in a well-ventilated place.

Hand protection

- Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).
- Impervious gloves

Eye protection

- If splashes are likely to occur, wear:
- Chemical resistant goggles must be worn.

Skin and body protection

- Impervious clothing
- Change working clothes after each workshift.
- Contaminated work clothing should not be allowed out of the workplace.

Hygiene measures

- Handle in accordance with good industrial hygiene and safety practice.
- Wash hands before breaks and at the end of workday.
- When using do not eat, drink or smoke.
- Eye wash bottles or eye wash stations in compliance with applicable standards.

Environmental exposure controls

- Dispose of rinse water in accordance with local and national regulations.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	colourless to brown.
Odour	characteristic

Odour Threshold	No data available
Melting point/freezing point	Freezing point: <= -12 °C
Initial boiling point and boiling range	Thermal decomposition: Decomposes below the boiling point.
Flammability (solid, gas)	No data available
Flammability (liquids)	No data available
Flammability/Explosive limit	No data available
Flash point	65.1 °C Pensky-Martens closed cup
Auto-ignition temperature	No data available
Decomposition temperature	>= 200 °C
pH	Not applicable
Viscosity	Viscosity, dynamic : 5.2 mPa.s (40 °C)
Solubility	Water solubility: negligible
Partition coefficient: n-octanol/water	No data available
Vapour pressure	No data available
Density	0.99 g/cm3 (20 °C)
Relative density	No data available
Relative vapor density	No data available
Particle characteristics	No data available
Evaporation rate (Butylacetate = 1)	negligible

9.2 Other information

Oxidizing properties	Not considered as oxidizing
Peroxides	The substance or mixture is not classified as organic peroxide.
Corrosion of Metals	Not corrosive to metals
Molecular weight	Mixture
Reactions with water/air	Contact with acids liberates very toxic gas.

SECTION 10: Stability and reactivity

10.1 Reactivity

- no data available

10.2 Chemical stability

- Stable

10.3 Possibility of hazardous reactions

- no data available

10.4 Conditions to avoid

- Keep away from heat, sparks and flame.
- Strong acids and oxidizing agents

10.5 Incompatible materials

- Acids
- Strong oxidizing agents
- Alkaline compounds.
- Copper
- Brass

10.6 Hazardous decomposition products

Hazardous decomposition products

- carbon disulphide.
- Carbon dioxide (CO2)
- Carbonyl sulfide

Thermal decomposition

- acetamide
- Hydrogen sulphide
- isopropyl thiocyanate
- n-ethyl acetamide
- propyl thiocyanate
- Pyridine
- ethyl isothiocyanate
- Ammonia
- Alkyl mercaptans
- Carbon monoxide

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity	LD50 : 568 mg/kg - Rat Published data
Acute inhalation toxicity	LC50 - 4 h (dust/mist) > 20 mg/l - Rat Published data
Acute dermal toxicity	LD50 > 2,000 mg/kg - Rabbit Not classified as hazardous for acute dermal toxicity according to GHS. Published data
Acute toxicity (other routes of administration)	No data available
Skin corrosion/irritation	Rabbit Skin irritation Published data
Serious eye damage/eye irritation	Rabbit slight irritation Published data
Respiratory or skin sensitisation	Local lymph node assay - Mouse Does not cause skin sensitisation. Published data

Mutagenicity

Genotoxicity in vitro

Ames test
Strain: Salmonella typhimurium
negative
Published data

In vitro mammalian cell gene mutation test
Strain: Chinese hamster fibroblasts
negative
Published data

Chromosome aberration test in vitro
Strain: Human lymphocytes
negative
Published data

Genotoxicity in vivo

propan-2-ol

In vivo micronucleus test - Mouse
male and female
Intraperitoneal route
Method: OECD Test Guideline 474

negative
Unpublished reports

Carcinogenicity

No data available

Toxicity for reproduction and development

Toxicity to reproduction/Fertility

Modified thionocarbamate

Reproduction/developmental toxicity screening test - Rat, male and female, Oral
General Toxicity - Parent NOAEL: 31 mg/kg bw/day
Fertility NOAEL Parent: < 31 mg/kg bw/day
Developmental Toxicity NOAEL F1: 31 mg/kg bw/day
OECD Test Guideline 422
Gavage, Effects on fertility, Unpublished reports

propan-2-ol

Two-generation reproductive toxicity - Rat, male and female
Fertility NOAEL Parent: 1,000 mg/kg
OECD Test Guideline 416

Fertility NOAEL F1: 1,000 mg/kg
Gavage, Unpublished reports, Fertility and developmental toxicity tests did not reveal any effect on reproduction.

Fertility study 1 generation - Rat, male and female
Fertility NOAEL Parent: 853 mg/kg
OECD Test Guideline 415
drinking water, Published data, The product is not considered to affect fertility.

Developmental Toxicity/Teratogenicity

Modified thionocarbamate

Pre-natal - Rat, female, Oral
General Toxicity Maternal NOAEL: 30 mg/kg bw/day
Embryo-foetal toxicity NOAEL F1: 10 mg/kg bw/day
Method: OECD Test Guideline 414
Gavage, Teratogenic effects have been observed, Unpublished reports

propan-2-ol	Rat, male and female General Toxicity Maternal NOAEL: 400 mg/kg Teratogenicity NOAEL:400mg/kg Method: OECD Test Guideline 414 Gavage, Unpublished reports, The product is not considered to be embryotoxic/foetotoxic. Rat, male and female General Toxicity Maternal NOAEL: 596 mg/kg Teratogenicity NOAEL:596mg/kg Method: OECD Test Guideline 414 drinking water, Published data, The product is not considered to be embryotoxic/foetotoxic.

STOT

STOT - single exposure

propan-2-ol	Exposure routes: Inhalation, Ingestion Target Organs: Central nervous system The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects according to GHS criteria. Unpublished reports

STOT - repeated exposure

Modified thionocarbamate	The substance or mixture is not classified as specific target organ toxicant, repeated exposure. Unpublished reports
propan-2-ol	Exposure routes: Inhalation The substance or mixture is not classified as specific target organ toxicant, repeated exposure. Unpublished reports
Modified thionocarbamate	Oral 90-day - Rat , male and female NOAEL: 100 mg/kg bw/day Target Organs: Liver Method: OECD Test Guideline 408 Gavage Not considered to cause serious damage to health on repeated exposure Unpublished reports
propan-2-ol	Inhalation (vapour) two-year - Rat , male and female : 500 ppm Target Organs: No specific target organs noted Method: OECD Test Guideline 451 Chronic exposure Not considered to cause serious damage to health on repeated exposure Unpublished reports

Experience with human exposure

Experience with human exposure : Inhalation

In contact with acid

Symptoms: Released substances:
Hydrogen sulphide
carbon disulphide.
Carbonyl sulfide
Inhalation may provoke the following symptoms:
Irritating to the respiratory system and mucous membranes.
Coma
cardiorespiratory failure
Neurological disorders
Gastrointestinal disturbance

Aspiration toxicity — No data available

SECTION 12: Ecological information

12.1 Toxicity

Aquatic Compartment

Acute toxicity to fish

LC50 - 96 h : 50 mg/l - Oncorhynchus mykiss (rainbow trout)
semi-static test
Method: OECD Test Guideline 203
Published data

Acute toxicity to daphnia and other aquatic invertebrates

EC50 - 48 h : 17 mg/l - Daphnia magna (Water flea)
static test
Method: OECD Test Guideline 202
Published data

Toxicity to aquatic plants

Modified thionocarbamate

ErC10 - 72 h : 1.4 mg/l - Pseudokirchneriella subcapitata (green algae)
static test
Analytical monitoring: yes
End point: Growth rate
Method: OECD Test Guideline 201
No adverse chronic effect observed up to and including the threshold of 1 mg/L.
(nominal concentrations)
Unpublished reports

ErC50 - 72 h : 20.8 mg/l - Pseudokirchneriella subcapitata (green algae)
static test
Analytical monitoring: yes
End point: Growth rate
Method: OECD Test Guideline 201
Harmful to algae.
(nominal concentrations)
Unpublished reports

propan-2-ol

EC50 - 7 Days : > 100 mg/l - Scenedesmus quadricauda (Green algae)
static test
Analytical monitoring: no
End point: Biomass
Method: OECD Test Guideline 201
Not harmful to algae (EC/EL50 > 100 mg/L)
Freshwater species
Published data

Toxicity to microorganisms

propan-2-ol	NOEC - 16 h : 1,050 mg/l - Pseudomonas putida static test Analytical monitoring: no Freshwater species Published data

Chronic toxicity to fish — No data available

Chronic toxicity to daphnia and other aquatic invertebrates

propan-2-ol	NOEC: 30 mg/l - 21 Days - Daphnia magna (Water flea) No adverse chronic effect observed up to and including the threshold of 1 mg/L. Freshwater species Unpublished reports

12.2 Persistence and degradability

Abiotic degradation

Stability in water

Modified thionocarbamate	DT50: Half-life value : > 1 yr (25 °C) Hydrolysis pH: 4.0 DT50: Half-life value : > 1 yr (25 °C) pH: 7.0 DT50: Half-life value : > 1 yr (25 °C) pH: 9.0 Method: OECD Test Guideline 111 Unpublished reports

Photodegradation

propan-2-ol	indirect photo-oxidation Sensitizer: OH Half-life indirect photolysis: ca. 3 Days Air

Physical- and photo-chemical elimination — No data available

Biodegradation

Biodegradability

Ready biodegradability study:
Method: OECD Test Guideline 301 D
ca. 2 % - 28 Days
The substance does not fulfill the criteria for ready biodegradability and ultimate aerobic biodegradability
Published data

Degradability assessment

Modified thionocarbamate	The product is not considered to be rapidly degradable in the environment
propan-2-ol	The product is considered to be rapidly degradable in the environment

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water

Modified thionocarbamate	Due to the distribution coefficient n-octanol/water, accumulation in organisms is not expected.

propan-2-ol	Due to the distribution coefficient n-octanol/water, accumulation in organisms is not expected.
Bioconcentration factor (BCF)	No data available

12.4 Mobility in soil

Adsorption potential (Koc)

propan-2-ol	Water/soil considerable solubility and mobility Soil/sediments Log Koc: 0.03 Method: Estimation method / Structure-activity relationship (SAR) non-significant adsorption Highly mobile in soils

Known distribution to environmental compartments

propan-2-ol	Ultimate destination of the product : Water Air Method: Estimation method / Structure-activity relationship (SAR) Predicted distribution to environmental compartments Published data

12.5 Results of PBT and vPvB assessment

Modified thionocarbamate	Substance is not persistent, bioaccumulative, and toxic (PBT). Substance is not very persistent and very bioaccumulative (vPvB).
propan-2-ol	Not classified as PBT substance. Not classified as vPvB.

12.6 Other adverse effects

Ecotoxicity assessment

Short-term (acute) aquatic hazard	Harmful to aquatic life.
Long-term (chronic) aquatic hazard	Harmful to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product Disposal

- The Company encourages the recycle, recovery and reuse of materials, where permitted. If disposal is necessary, The Company recommends that organic materials, especially when classified as hazardous waste, be disposed of by thermal treatment or incineration at approved facilities. All local and national regulations should be followed.

SECTION 14: Transport information

Road and Rail transport – ADG (Australia)

not regulated

IMDG

not regulated

IATA

not regulated

Note: The above regulatory prescriptions are those valid on the date of publication of this sheet. Given the possible evolution of transport regulations for hazardous materials, it would be advisable to check their validity with your sales office.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Poison Schedule (SUSMP Australia)

- Not scheduled
- Please use the original publication to check for specific uses, specific conditions or threshold limits that might apply for this chemical.

Notification status

Inventory Information	Status
United States TSCA Inventory	- All substances listed as active on the TSCA inventory
Canadian Domestic Substances List (DSL)	- Listed on Inventory
Australian Inventory of Industrial Chemicals (AIIC)	- Listed on Inventory
Japan. CSCL - Inventory of Existing and New Chemical Substances	- Listed on Inventory
Korea. Korean Existing Chemicals Inventory (KECI)	- One or more components not listed on inventory
China. Inventory of Existing Chemical Substances in China (IECSC)	- Listed on Inventory
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	- Listed on Inventory
Taiwan Chemical Substance Inventory (TCSI)	- One or more components not listed on inventory
New Zealand. Inventory of Chemical Substances	- All components are listed on the NZIoC inventory. Additional HSNO obligations may apply. Please refer to Section 15 of SDS for New Zealand.
EU. European Registration, Evaluation, Authorization and Restriction of Chemical (REACH)	- When purchased from a Syensqo legal entity based in the EEA (""European" "Economic Area""), this product is compliant with the registration" provisions of the REACH Regulation (EC) No. 1907/2006 as all its components are either excluded, exempt, and/or registered. When purchased from a legal entity outside of the EEA, please contact your local representative for additional information.
Korea. Act on Registration and Evaluation of Chemicals	- When purchased from a Syensqo legal entity based in Korea, this product is compliant with "Act on Registration and Evaluation of Chemicals" (AREC or K-REACH, Article 10) as all its components are either excluded, exempt, and/or (pre)registered. When purchased from a legal entity outside of Korea, please contact your local representative for additional information.

SECTION 16: Other information

Full text of H-Statements

- H225: Highly flammable liquid and vapour.
- H227: Combustible liquid.
- H302: Harmful if swallowed.
- H315: Causes skin irritation.
- H319: Causes serious eye irritation.
- H336: May cause drowsiness or dizziness.
- H402: Harmful to aquatic life.
- H412: Harmful to aquatic life with long lasting effects.

Key or legend to abbreviations and acronyms used in the safety data sheet

- STEL: Exposure standard - short term exposure limit
- TWA: Exposure standard - time weighted average
- ca.: approximately
- ADR: European Agreement on International Carriage of Dangerous Goods by Road.
- ADN: European Agreement on the International Carriage of Dangerous Goods by Inland Waterways.
- RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
- IATA: International Air Transport Association.
- ICAO-TI: Technical Instructions for Safe Transport of Dangerous Goods by Air.
- IMDG: International Maritime Dangerous Goods.
- TWA: Time weighted average
- ATE: Estimated value of acute toxicity
- EC: European Community number
- CAS: Chemical Abstracts Service.
- LD50: Substance that causes 50% (half) death in the test animals group (Median Fatal Dose).
- LC50: Substance concentration causing 50% (half) death in the test animals group.
- EC50: Effective Concentration of the substance causing the maximum of 50%.
- PBT: Persistent, Bioaccumulative and Toxic substance.
- vPvB: Very Persistent and Very Bioaccumulative.
- GHS/CLP/SEA: Classification, labeling, packaging regulation
- DNEL: Derived No Effect Level
- PNEC: Predicted No Effect Concentration
- STOT: Specific Target Organ Toxicity

Not all acronyms listed above are referenced in this SDS.

Further information

- Distribute new edition to clients

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. Such information is only given as a guidance to help the user handle, use, process, store, transport, dispose and release the product in satisfactory safety conditions and is not to be considered as a warranty or quality specification. It should be used in conjunction with technical sheets but do not replace them. Thus, the information only relates to the designated specific product and may not be applicable if such product is used in combination with other materials or in any other manufacturing process, unless otherwise specifically indicated. It does not release the user from ensuring he is in conformity with all regulations linked to its activity.

SAFETY DATA SHEET

Hydrated Lime

Section 1: Identification of the Material and Supplier

Company Details

Cement Australia Pty Limited

ABN 75 104 053 474

18 Station Avenue
Darra, Queensland 4076

Tel: 1300 CEMENT (1300 236 368)
Fax: 1800 CEMENT (1800 236 368)
Website: www.cementaustralia.com.au

Emergency Contact Number:

Contact Person: Technical Manager
Telephone: 1300 CEMENT (1300 236 368 - Business Hours) or
Poisons Information Centre 13 11 26

Manufacturing Plants

Tamaree:	276 Tamaree Rd, Gympie QLD 4570, Australia
Attunga:	220 Garthowen Rd, Attunga NSW 2345, Australia
Galong:	342 Eubindal Rd, Galong NSW 2585, Australia
Angaston:	845 Stockwell Rd, Angaston SA 5353
Le Pham(Vietnam):	8F LP Building, 508 Le Thanh Tong, Ngo Quyen, Hai Phong
Marulan:	5 Hume St, Marulan NSW

Product

Name:	**Hydrated Lime**
Other Names:	Slaked Lime, Calcium Hydrate, Lime Hydrate, Calcium Hydroxide, Builders Lime, Garden Lime, Plasterers Lime
Use:	Hydrated lime is used in water and sewage treatment, construction, soil stabilisation, environmental applications, etc.

Section 2: Hazards Identification

2.1 Classification

DANGER

GHS CLASSIFICATION

Classified as Hazardous according to the Safe Work Australia guidelines for Globally Harmonised System of Classification and Labelling of Chemicals (GHS).

Not classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)

Hazard Class and Category

Skin Corrosion/ Irritation: Category 2

Serious Eye Damage/Eye Irritation: Category 1

Specific target organ toxicity (single exposure): Category 3

2.2 GHS Label elements

Pictograms and Signal Words

DANGER

Hazard Statement(s)

H315	Causes skin irritation.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.

Prevention Statement(s)

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read label before use.
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P103	Read label before use.
P261	Avoid breathing dust/ Dry cement can become easily airborne. Wet surface before cutting to reduce dust emissions.
P264	Wash any skin exposed to the product thoroughly after handling. Do not touch eyes until hands are thoroughly washed clean of material.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves in accordance with AS2161. Wear dust proof eye protection in accordance with (AS/NZS1337.1).

Response Statement(s)

P305+P351+P338	IF IN EYES: Immediately call POISON CENTRE 131126 or Doctor. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P332 + P313	If skin irritation occurs: Get medical advice/attention.

P304 + P340 + P305	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P308 + P313	If exposed or concerned: Get medical advice/attention.
P310	Immediately call POISON CENTRE 131126 or Doctor if you feel unwell.
P321	Specific treatment is advised - see first aid instructions.
P362	Take off contaminated clothing and wash before re-use.

Storage Statement(s)

P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

Disposal Statement(s)

P501	Dispose of unused contents or container as normal general waste or in accordance with jurisdictional regulations.

Section 3: Composition/Information on Ingredients

Chemical Entity	Proportion	CAS Number
Water	0.1 - 2.5%	7732-18-5
Calcium Hydroxide	90 - 95%	1305-62-0
Magnesium Hydroxide	0.5 - 1.0%	1309-42-8
Total respirable silica	Below reporting limits	14808-60-7
Silicon Dioxide	0.5 - 2%	7631-86-9
Aluminium Dioxide	0 - 2%	1344-28-1
Iron Oxide	0 – 0.4%	1309-37-1

Section 4: First Aid Measures

Swallowed:	Rinse mouth and lips with water. Do not induce vomiting. Give water to drink to dilute stomach contents. If symptoms persist, seek medical attention.
Eyes:	Flush thoroughly with flowing water for 15 minutes to remove all traces. If symptoms such as irritation or redness persist, seek medical attention. If wet cement is splashed in the eye, always treat as above, and seek urgent medical attention.
Skin:	Immediately remove all contaminated clothing, including footwear. Wash material off skin, using plenty of water preferably under shower. If effects persist, seek medical attention.
Inhalation:	Remove to fresh air away from the dusty area. Seek medical attention.
First Aid Facilities:	Eye wash station. Washing facilities with running water.
Advice to Doctor:	Treat symptomatically as for poisoning with strong alkali. Contact Poisons Information Centre: Tel 13 11 26 (Australia wide)

Section 5: Fire Fighting Measures

Fire/Explosion Hazard:	Hydrated Lime is non-combustible. Under fire conditions this product may emit toxic and/or irritating fumes and gases. The product decomposes with loss of water at approx. 5800°C to form calcium oxide (quicklime).
Hazchem Code:	None allocated
Flammability:	Not flammable

Extinguishing Media:	Water
Hazards from Combustion Products:	None
Danger of violent reaction or explosion:	Violent reactions with maleic anhydride, nitroethane, nitromethane, nitroparaffins, nitropropane and phosphorus.
Evacuate	No

Section 6: Accidental Release Measures

Spills: Increase ventilation. Evacuate all unprotected personnel. PPE must be worn to clean up spillages with broom, shovel, or vacuum equipment.
Keep out of sewer, storm water drains, and natural waterways.

Section 7: Handling and Storage

Handling: When supplied in bags these need to be handled in accordance with manual handling Code of Practice.

Storage: Hydrated Lime should be stored in a cool protected place away from moisture, strong oxidants or acids and to minimize dust emissions. Storage in steel or concrete bins and silos, or plastic lined bags, is appropriate.

Section 8: Exposure Controls/Personal Protection

Occupational exposure limit values

No exposure standards have been established for this material. However, the available exposure limits for ingredients are listed below:

- Calcium hydroxide TWA: 5 mg/m 3
- Crystalline Silica (Quartz)TWA: 0.05 mg/m 3 (i.e. the average airborne concentration of a substance when calculated over a normal eight hour working day, for a five-day week.)
- Iron Oxide TWA: 5 mg/m 3

Biological Limit Values

No biological limits allocated.

Appropriate Engineering Controls

This substance is hazardous and should be used with a local exhaust ventilation system, drawing solid/dust away from workers' breathing zone. If the engineering controls are not sufficient to maintain concentrations of particulates below the exposure standards, suitable respiratory protection must be worn.

Respiratory Protection

If engineering controls are not effective in controlling airborne exposure, then an approved respirator with a replaceable dust/ particulate filter should be used. Refer to relevant regulations for further information concerning respiratory protective requirements.

Eye Protection

Safety glasses with full face shield should be used. Eye protection devices should conform to relevant regulations.

Hand Protection

Wear gloves of impervious material such as PVC and conforms to relevant regulations.

Body Protection

Suitable protective work wear, e.g. cotton overalls buttoned at neck and wrist is recommended. Chemical resistant apron is recommended where large quantities are handled.

Section 9: Physical and Chemical Properties

Appearance:	White to off-white powder
Odour:	No odour
Boiling/Melting Point:	Decomposes to water and calcium oxide at 580°C
Vapour Pressure:	Not applicable
Specific Gravity:	2.0 – 2.8
Bulk Density:	450 - 800kg/m³
Flash Point:	Not applicable
Flammability Limits:	Non-combustible
Solubility In Water:	Approx. 1.6g/L @20°C
pH:	Approximately 12
Particle Size:	9% < 100µm

Section 10: Stability and Reactivity

Reactivity:	Reacts with incompatible materials.
Chemical Stability:	Stable under normal conditions of storage and handling.
Avoid:	Extremes of temperature, dust accumulation and direct sunlight. Moisture.
Incompatible materials:	Oxidising agents, strong acids, nitro-organic compounds, maleic anhydride and phosphorus.
Decomposition Products:	Thermal decomposition may result in the release of toxic and/or irritating fumes and gases. Decomposes with loss of water at approx. 580°C to form calcium oxide (quicklime).
Hazardous reactions:	Reacts exothermically with acids. Absorbs carbon dioxide from air. Attacks aluminium, lead and brass in the presence moisture. Hazardous Polymerization Will not occur.

Section 11: Toxicological Information

Acute Toxicity – Oral:	For calcium hydroxide: LD50 (rat): 7,300 – 7,3500 mg/kg
Ingestion:	Ingestion of this product may irritate the gastric tract causing nausea and vomiting.
Inhalation:	May cause respiratory irritation. Inhalation of product dust can cause irritation of the nose, throat and respiratory system. Repeated exposure to respirable crystalline silica dust may lead to silicosis, or other serious delayed lung injury. The onset of silicosis is usually slow and lung damage may occur even when no symptoms or signs of ill-health have occurred. Silicosis can develop to a more serious degree even after exposure has ceased and may also lead to other diseases including heart disease and scleroderma. Exposure by inhalation may aggravate pre-existing upper respiratory and lung disorders such as bronchitis, emphysema and asthma.

	Chronic exposure to this material may aggravate existing respiratory disorders and lung disorders such as bronchitis, emphysema and asthma. Onset and progression are related to dust concentrations and duration of exposure.
Skin:	Causes skin irritation. Skin contact will cause redness, itching and swelling. Repeated exposure may cause skin dryness and cracking and may lead to dermatitis.
Eye:	Causes serious eye damage. On eye contact this product will cause tearing, stinging, blurred vision, and redness.
	For calcium hydroxide - Eye Irritation (rabbit):
	Severe (Standard Draize Test, 10 mg)
Germ cell mutagenicity:	Not considered to be a mutagenic hazard.
Carcinogenicity:	This product contains crystalline silica which is classified as carcinogenic to humans (IARC Group 1). However, RSC is below reporting limits.
Reproductive Toxicity:	Not considered to be toxic to reproduction.
STOT-single exposure:	Not expected to cause toxicity to a specific target organ.
STOT-repeated exposure:	May cause damage to organs through prolonged or repeated exposure by inhalation.
Aspiration Hazard:	Not expected to be an aspiration hazard.

Section 12: Ecological Information

Ecotoxicity:	Because of the high pH of this product, it would be expected to produce significant acute ecotoxicity upon exposure to aquatic organisms and aquatic systems.
Persistence and Degradability:	Product has no bioaccumulation or food chain toxicity potential.
Mobility:	Soluble in water (as hydroxide) to form alkaline solution. Low mobility in most ground conditions.

Section 13: Disposal Considerations

Material should be recycled or neutralised with dilute hydrochloric acid to a pH of 6-9, before disposal in accordance with local authority guidelines. Keep out of sewer, storm water drains, and natural waterways.

Section 14: Transport Information

Not classified as Dangerous Goods according to the Australian Code for the Transport of Dangerous Goods by Road and Rail. (7th edition)

Not classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

Not classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.

UN Number:	None allocated
Proper Shipping Name:	None allocated
Class and Subsidiary Risk:	None allocated
Packing Group:	None allocated
Special precautions for user:	Avoid generating and breathing dust

Hazchem Code: None allocated

Section 15: Regulatory Information

Classified as Hazardous according to the Globally Harmonised System of Classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

All chemicals listed on the Australian Inventory of Chemical Substances (AICS)

Section 16: Other Information

For further information on this product contact:

Telephone: 1300 CEMENT (1300 236 368) (Business Hours)
Facsimile: 1800 CEMENT (1800 236 368)

Previous Edition: 2019 – GHS Compliance edits made, and supplementary compliance edits added.

Previous Edition and edits made:

2020 – Format updates

2022/2023 – Format updates

2025 – Update to manufacturer address

Next Review Date for this SDS: 31 December 2026.

Australian and New Zealand Standards:

AS 2161: Industrial Safety Gloves and Mittens (excluding electrical and medical gloves).

AS/NZ 1336: Recommended Practices for Occupational Eye Protection.

AS/NZS 1715: Selection, use and maintenance of respiratory protective devices.

AS/NZS 1716: Respiratory protective devices.

AS/NZS 4501: Occupational protective clothing.

Advice Note:

Cement Australia believes the information in this document to be accurate as at the date of preparation, but, to the maximum extent permitted by law, Cement Australia accepts no responsibility for any loss or damage caused by any person acting or refraining from action because of this information.

The provision of this information should not be construed by anyone as a recommendation to use this product. No one should use any product in violation of any patent or other intellectual proprietary rights or in breach of any statute or regulation.

Users should rely on their own knowledge and inquiries and make their own determination as to the applicability of this information in relation to their particular purposes and specific circumstances. Each user should read this MSDS and consider the information in the context of how the product will be handled and used in the workplace and in conjunction with other substances or products.

[SDS Ends]

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The Chemical Company

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Magnafloc®

Flocculants for the Mining Industry

Description

Magnafloc mining grade flocculants are a series of non-ionic, anionic and cationic water soluble polymers of varying ionic charge density and molecular weight for clarification, thickening, filtration and centrifugation in mineral beneficiation processes.

Advantages

The main benefits accruing from the use of Magnafloc flocculants are the following:

1. Low dose levels and resultant lower flocculant costs
2. Faster settling, leading to increased mill throughput and greater capacity
3. Higher underflow density yielding better recovery and greater tonnage through CCD
4. Improved overflow clarity producing improved product quality and increased filter capacity
5. Increased filter yield with higher cake solids and greater pick-up
6. Effective over a wide pH range
7. Improved product solubility in a wide range of process liquors

Solution preparation

Laboratory

Solutions may be prepared at a convenient concentration between 0.1 % and 0.5 %. Fresh water or appropriate mill solutions may be used.

Place the pre-weighed dry polymer in a clean dry beaker, wet with 3 mls of methanol, ethanol, isopropanol or acetone and add the required amount of water. Agitate for one hour. If mechanical mixers are not available, a stoppered jar can be used. In this case, shake continuously for one minute after addition of water and then occasionally over the period of one hour.

Dilute the resultant stock solutions to 0.05 % or below, for use.

For liquid polymers prepare 1 % stock solution by direct dilution. This can be used immediately.

Flocculant selection

The recommendation is to carry out a series of laboratory bench tests with several flocculants in order to select the best grade. The table over may be used as a guide but it should be stressed that it is impossible to always predict which product would be most suited to a given application.

Application & Storage

The recommended solution concentration for addition to the system may vary depending on the type of application and the particular polymer in use. Refer to separate data sheets for further information but generally dilution of 0.05 % for dry polymers and 0.5 % for liquids is recommended.

The general principles to be observed in the application procedure are:

1. Addition of the polymer solution at a point of local agitation
2. Addition of the polymer solution across the process stream and, if possible at several points.
3. Avoid excessive turbulence after floc formation

The use of positive displacement pumps or gear pumps rather than centrifugal pumps is recommended for metering polymer solutions, to avoid polymer degradation by shear.

Storage of the dry polymers should be in a cool, dry place and except when polymer is being withdrawn, bags should be kept closed to prevent entry of moisture.

Liquid grade polymers should be protected from frost.

Suggested applications for Magnafloc mining grade flocculants

Product	Ionic character	Physical form	Uranium acid leach	Uranium-alkaline leach	Potash tailings	Electrolytic zinc-acid leach	Electrolytic zinc-neutral leach	Copper tailings	Coal tailings	Brine clarification	Phosphate slimes	Metal hydroxides	Ni, Co, Cu acid leach	Ni, Co alkaline leach	Base metals concentrates	Iron ore tailings	Barytes thickening	Clays and sands
351, 333	non ionic	powder	X		X	X	X	X	X	X	X		X	X	X	X		X
10	low anionic	powder	X		X	X	X		X				X	X				X
338	low anionic	powder					X	X	X		X	X		X			X	
155	medium anionic	powder					X	X	X		X	X		X	X		X	X
1011	medium anionic	powder						X	X	X	X	X			X	X	X	X
366	high anionic	powder						X	X	X	X	X			X	X	X	X
156, 5250	high anionic	powder						X	X	X	X	X			X	X	X	X
345, 919	high anionic	powder					X	X	X	X	X	X			X	X	X	X
6260	high anionic	powder					X	X	X	X	X	X			X	X	X	X
611	very high anionic	powder		X						X				X				
1597	high cationic	liquid							X							X		X
1697	high cationic	liquid							X							X		X

Separate Magnafloc TI sheets are available on request.

Shipping & Handling

Magnafloc powders are supplied in 25 kg net plastic bags shrinkwrapped onto a pallet suitable for export shipment. The product can also be supplied via intermediate big bags or bulk tanker. Specific details of bag and tanker sizes can be obtained on request.

Magnafloc liquid grade polymers are supplied in 240 kg net plastic drums or 1000 kg net semi-bulk containers. Bulk tanker deliveries are also available.

Corrosivity towards most standard materials of construction is low, but aluminium and galvanized equipment should be avoided.

Technical service

Advice and assistance in the running of laboratory and plant tests is given by representatives of BASF, who are experienced in mineral processing applications.

Health & Safety

Detailed information on handling and any precautions to be observed in the use of the product(s) described in this leaflet can be found in our relevant health and safety information sheet.

Note

The data contained in this publication is based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, this data does not relieve processors from carrying out their own investigations and tests; neither does this data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed.

February 2012

BASF SE
Global Oilfield & Mining Chemicals
67056 Ludwigshafen, Germany
www.performancechemicals.basf.com

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	Magnafloc™ 333 FLOCCULANT ™ Trademark, Solenis or its subsidiaries or affiliates, registered in various countries
Product code	:	932669
Company	:	Solenis Australia Pty Ltd 1612 Centre Road Springvale VIC 3171 Australia
E-mail address	:	EHSProductSafetyTeam@solenis.com
Telephone	:	+61385592440
Emergency telephone number	:	1800 033 111 International: +61 3 9663 2130
Use of the Substance/Mixture	:	Flocculating agent Paper water management

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Not a hazardous substance or mixture.

GHS label elements

Not a hazardous substance or mixture.

Other hazards which do not result in classification

Material can create slippery conditions.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components

No hazardous ingredients

SECTION 4. FIRST AID MEASURES

General advice	:	No hazards which require special first aid measures.
If inhaled	:	If breathed in, move person into fresh air.

If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact	:	First aid is not normally required. However, it is recommended that exposed areas be cleaned by washing with soap and water.
In case of eye contact	:	Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. If eye irritation persists, consult a specialist.
If swallowed	:	IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
Most important symptoms and effects, both acute and delayed	:	No symptoms known or expected.
Notes to physician	:	No hazards which require special first aid measures.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray Foam
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	Ammonia Carbon monoxide Carbon dioxide (CO2) acid vapors Nitrogen oxides (NOx)
Specific extinguishing methods	:	Product is compatible with standard fire-fighting agents. Material can create slippery conditions. Water may cause extremely slippery conditions.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Material can create slippery conditions. Avoid dust formation. Avoid breathing dust. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. Comply with all applicable federal, state, and local regulations.
Environmental precautions	:	Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	For small spills, quickly contain and remove the spilled material using absorbent pads, socks, kitty litter, sawdust etc, then appropriately dispose. Do not leave absorbents to sit overnight, as they will become hard and difficult to remove. The remaining residue or film can be treated with dilute caustic (2%) or dilute liquid bleach (2–5%), allowed to soak for up to one hour, and clean with warm water (between 49C – 54C (120F – 130 F)) or flushed to a sewer using high volumes of water taking into account local guidelines. Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Take measures to prevent the build up of electrostatic charge. Provide appropriate exhaust ventilation at places where dust is formed.
Advice on safe handling	:	Avoid spillage on floor as the product can become very slippery. Avoid dust formation. Smoking, eating and drinking should be prohibited in the application area. For personal protection see section 8. Dispose of rinse water in accordance with local and national regulations.
Hygiene measures	:	Avoid breathing dust. Wash hands before breaks and at the end of workday. When using do not eat or drink. When using do not smoke.
Conditions for safe storage	:	Keep container tightly closed in a dry and well-ventilated place. Electrical installations / working materials must comply with the technological safety standards.
Further information on storage stability	:	Keep in a dry place. No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures : Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.

Provide appropriate exhaust ventilation at places where dust is formed.

Personal protective equipment

Hand protection

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Safety glasses

Skin and body protection : Wear as appropriate:
Safety shoes
Dust impervious protective suit
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Wear resistant gloves (consult your safety equipment supplier).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : powder

Colour : off-white

Odour : odourless

Odour Threshold : No applicable information available.

No data available

pH : 7 (25 °C)

Melting point/freezing point : No data available

Boiling point/boiling range : Not applicable

decomposition point		No data available
Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not classified as a flammability hazard Method: estimate
Self-ignition	:	not self-igniting
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	The product has not been tested.
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	No data available
		No data available
Solubility(ies)		
Water solubility	:	Forms a viscous solution.
Solubility in other solvents	:	No data available
		No data available
Partition coefficient: n-octanol/water	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	not determined
Viscosity, kinematic	:	No data available
		No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	not fire-propagating

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	Stable under recommended storage conditions.
Possibility of hazardous reactions	:	Product will not undergo hazardous polymerization.
Conditions to avoid	:	Keep away from heat, flame, sparks and other ignition sources.
Incompatible materials	:	Acids Chlorine nitrates strong bases Strong oxidizing agents
Hazardous decomposition products	:	Ammonia Carbon monoxide Carbon dioxide (CO2) acid vapors Nitrogen oxides (NOx)

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity	:	LD50 (Rat): > 2,000 mg/kg Method: Acute toxicity estimate
Acute dermal toxicity	:	Remarks: No data available

Skin corrosion/irritation

Not classified based on available information.

Product:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	No skin irritation

Serious eye damage/eye irritation

Not classified based on available information.

Product:

Species	:	Rabbit
Result	:	No eye irritation
Remarks	:	Unlikely to cause eye irritation or injury. Product dust may be irritating to eyes, skin and respiratory system.

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Product:

Result : Does not cause skin sensitisation.

Chronic toxicity

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.

Reproductive toxicity

Not classified based on available information.

STOT - single exposure

Not classified based on available information.

STOT - repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

Further information

Product:

Remarks : No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Product:

Additional ecological information	:	No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Do not dispose of waste into sewer. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company. Dispose of in accordance with local regulations.
Contaminated packaging	:	Empty remaining contents. Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations

ADG
Not regulated as a dangerous good

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

Prohibition/Licensing Requirements	:	There is no applicable prohibition,

authorisation and restricted use requirements, including for carcinogens referred to in Schedule 10 of the model WHS Act and Regulations.

The components of this product are reported in the following inventories:

NZIoC	:	On the inventory, or in compliance with the inventory
TSCA	:	All substances listed as active on the TSCA inventory
AIIC	:	All components are listed on the inventory, regulatory obligations/restrictions apply
DSL	:	All components of this product are on the Canadian DSL
ENCS	:	Not in compliance with the inventory
KECI	:	Not in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
TCSI	:	On the inventory, or in compliance with the inventory

SECTION 16. OTHER INFORMATION

Further information

Date format	:	dd.mm.yyyy
Revision Date	:	21.12.2023

Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test

population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Sources of key data used to compile the Safety Data Sheet
Key literature references and sources of data
SOLENIS Internal data
SOLENIS internal data including own and sponsored test reports
The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

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

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SAFETY DATA SHEET

POLYFROTH® W24

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	26.06.2023	400041017011	Date of first issue: 26.06.2023

Print Date 26.06.2023

Section 1: Identification

Product identifier : **POLYFROTH® W24**

Other means of identification
Product code :

Recommended use of the chemical and restrictions on use : Foaming agent

Details of manufacturer or importer

Company name of supplier : Indorama Ventures Oxides Australia Pty Limited
Address : 61 Market Road, Brooklyn, Victoria, 3012 Australia
Telephone : 1300 301 529

E-mail address of person responsible for the SDS : oxide.productsafety.us@us.indorama.net
Emergency telephone number : CHEMTREC – Australia (English)
Local (City) : +61 2 9037 2994
Toll Free : 1800 862 115

SECTION 2. HAZARDS IDENTIFICATION

Classification of the hazardous chemical

GHS classification in accordance with the Work Health and Safety Amendment (Hazardous Chemicals) Regulations 2020

Not a hazardous substance or mixture.

Label elements, including precautionary statements

No hazard pictogram, no signal word, no hazard statement(s), no precautionary statement(s) required

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

Components

No hazardous ingredients

SECTION 4. FIRST AID MEASURES

Description of necessary first aid measures

General advice	:	Do not leave the victim unattended.
If inhaled	:	If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
In case of skin contact	:	Get medical attention if irritation develops and persists.
In case of eye contact	:	Remove contact lenses. Protect unharmed eye. If eye irritation persists, consult a specialist.
Ingestion	:	Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
Symptoms caused by exposure	:	None known.

Medical attention and special treatment

Protection of first-aiders	:	First Aid responders should pay attention to self-protection and use the recommended protective clothing If potential for exposure exists refer to Section 8 for specific personal protective equipment. Avoid inhalation, ingestion and contact with skin and eyes. No action shall be taken involving any personal risk or without suitable training.
Notes to physician	:	Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing equipment

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	:	High volume water jet
Specific hazards arising from the chemical	:	No hazardous combustion products are known

Special protective equipment and precautions for fire-fighters

Specific hazards during fire fighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Special protective equipment for fire-fighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Refer to protective measures listed in sections 7 and 8.

Environmental precautions	:	If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Wipe up with absorbent material (e.g. cloth, fleece). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.
Hygiene measures	:	General industrial hygiene practice.

Conditions for safe storage, including any incompatibilities

Conditions for safe storage	:	Electrical installations / working materials must comply with the technological safety standards.
Materials to avoid	:	Keep away from oxidizing agents.
Further information on storage stability	:	No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure control measures

Contains no substances with occupational exposure limit values.

Biological monitoring

Engineering controls	:	Use a local and/or general ventilation system.

Individual protection measures, for example personal protective equipment (PPE)

Eye/face protection	:	Safety glasses
Skin protection	:	Protective suit
Hand protection		
Remarks	:	The suitability for a specific workplace should be discussed with the producers of the protective gloves.
Respiratory protection	:	No personal respiratory protective equipment normally required.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	No data available
Color	:	Clear
Odor	:	slight
Odor Threshold	:	No data available
pH	:	7 Concentration: 10 g/l
Melting point/freezing point	:	-4 °F / -20 °C
Boiling point and boiling range	:	No data available
Flash point	:	179 °C Method: open cup
Evaporation rate	:	No data available

Upper/lower flammability or explosive limits

Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	No data available
Vapour density	:	No data available
Relative density	:	1.026 (25 °C)
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	Stable under recommended storage conditions. No hazards to be specially mentioned.
Conditions to avoid	:	No data available
Incompatible materials	:	Not applicable
Hazardous decomposition products	:	No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : None known.

Acute toxicity
Not classified based on available information.

Skin corrosion/irritation
Not classified based on available information.

serious eye damage/irritation
Not classified based on available information.

Respiratory or skin sensitization

Skin sensitization
Not classified based on available information.

Respiratory sensitization
Not classified based on available information.

Germ cell mutagenicity
Not classified based on available information.

Carcinogenicity
Not classified based on available information.

Reproductive toxicity
Not classified based on available information.

Specific Target Organ Toxicity (STOT)—single exposure
Not classified based on available information.

Specific Target Organ Toxicity (STOT)—repeated exposure
Not classified based on available information.

Aspiration toxicity
Not classified based on available information.

Other information

Product:
Remarks : No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity
No data available

Persistence and degradability
No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

Product:

Additional ecological information : No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of contents and container in accordance with all local, regional, national and international regulations.
Dispose of contents/ container to an approved waste disposal plant.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number	:	Not applicable
Proper Shipping Name or Technical Name	:	Not applicable
Transport hazard class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable

IATA-DGR

UN/ID No.	:	Not applicable
Proper Shipping Name or Technical Name	:	Not applicable
Transport hazard class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
Packing instruction (cargo aircraft)	:	Not applicable
Packing instruction (passenger aircraft)	:	Not applicable

IMDG-Code

UN number	:	Not applicable
Proper Shipping Name or Technical Name	:	Not applicable
Transport hazard class	:	Not applicable
Subsidiary risk	:	Not applicable

Packing group	:	Not applicable
Labels	:	Not applicable
EmS Code	:	Not applicable
Marine pollutant	:	Not applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

ADG

UN number	:	Not applicable
Proper Shipping Name or Technical Name	:	Not applicable
Transport hazard class	:	Not applicable
Subsidiary risk	:	Not applicable
Packing group	:	Not applicable
Labels	:	Not applicable
Forming oil	:	Not applicable

Special precautions for user

Additional information

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations

Australia Work Health and Safety Regulations - Schedule 10 Prohibited carcinogens, restricted carcinogens and restricted hazardous chemicals.	:	Not listed

SECTION 16 - ANY OTHER RELEVANT INFORMATION

Date of preparation or review		
Revision Date	:	26.06.2023
Date format		yyyy/mm/dd

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