Schlumberger

SAFETY DATA SHEET

(Australia)

According to the criteria of NOHSC:2011(2003)

Version: 1 *Revision date: 16 March 2012*

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product Name: **Surfactant F112**

Product Code: **F112**

Company Identification: Schlumberger Oilfield Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
256 St. Georges Terrace, Perth WA 6000

Emergency Telephone Number: 1-800-039-008 (24hr)

Use of the Substance/Preparation: For industrial use only. Surfactant in oilfield applications.

2. HAZARDS IDENTIFICATION

Indication of danger Xi - Irritant.

Most important hazards
R-phrase(s): Risk of serious damage to eyes.

Health hazards: May cause skin irritation.

S-phrase(s): S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S39 - Wear eye/face protection.

Environmental hazard: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Main physical hazards: None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	EC-No.	Weight % - Range	Classification (67/548)
Polyethylene glycol monohexyl ether	31726-34-8	500-077-5	7-13	Xi;R38,R41

For the full text of the R phrases mentioned in this Section, see Section 16

4. FIRST AID MEASURES

Inhalation: Move to fresh air. Consult a physician if necessary.

Skin contact: Wash off immediately with plenty of water for at least 15 minutes. Seek medical attention if irritation occurs.

Eye contact: Immediately flush eyes with water for .? minutes while holding eyelids open. Seek medical attention at once.

Ingestion: Do NOT induce vomiting. Call a physician or poison control centre immediately. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, minimize the risk of aspiration by properly positioning the affected person.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Water Fog, Alcohol Foam, CO2, Dry Chemical.

Extinguishing media which must not be used for safety reasons: None known.

Special protective equipment for firefighters: Wear protective fire fighting clothing and avoid breathing vapors. Use self-contained breathing apparatus in closed areas.

Special exposure hazards arising from the substance or preparation itself, its combustion products, or released gases: When heated strongly or burned, oxides of carbon, nitrogen oxides, ammonia and harmful organic chemical fumes are released.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Do not get on skin or clothing. Wash thoroughly after handling.

Environmental precautions: Keep out of waterways.

Methods for cleaning up: Dam up. After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

Handling:

Technical measures/Precautions: Ensure adequate ventilation.

Safe handling advice: Avoid contact with skin and eyes. Wear suitable protective equipment.

Storage:

Technical measures/Storage conditions: Store in well ventilated area out of direct sunlight. Keep container tightly closed.

Packaging requirements: High density polyethylene (HDPE) drum or can.

Incompatible products: Strong bases, Oxidizing agents

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures to reduce exposure: Ensure adequate ventilation

Respiratory protection: No personal respiratory protective equipment normally required.

Hand protection: Impervious gloves made of: Neoprene PVC

Eye protection: Tightly fitting safety goggles.

Skin and body protection: Clean, body-covering clothing.

Environmental exposure controls

Exposure limit(s)

Component	Australia - Occupational Exposure Standards - TWAs	Australia - Occupational Exposure Standards - STELs
Polyethylene glycol monohexyl ether	None	None

9. PHYSICAL AND CHEMICAL PROPERTIES

General Information

Form: Liquid
Odour: Alcohols
Colour: Clear Yellow

Important Health, Safety and Environmental Information

pH: 9-11
Boiling point/range: ~100 °C
Flash point: Does not flash.
Explosive properties:
Explosion data - sensitivity to mechanical impact: No information available.
Explosion data - sensitivity to static discharge: No information available
Flammability Limits in Air:
lower: Not applicable
upper: Not applicable
Oxidizing properties: None known
Relative density: ~ 1.0 (@ 20°C)
Solubility:
Water solubility: Soluble
Fat solubility: No information available.
Partition coefficient (n-octanol/water): See also section 12
Viscosity: 5-50 kPa.s (@ 16 °C)
Vapour density: No information available.
Vapour pressure: No information available.
Evaporation rate: No information available.

Other information

Melting point/range: 5 °C

10. STABILITY AND REACTIVITY

Stability: Stable under recommended storage conditions.

Conditions to avoid: Heat.

Materials to avoid: Strong bases, Oxidizing agents

Hazardous decomposition products: When heated strongly or burned, oxides of carbon, nitrogen oxides, ammonia and harmful organic chemical fumes are released.

Hazardous polymerization: Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Local effects

Skin: May cause skin irritation.

Eyes: Risk of serious damage to eyes.

Inhalation: No effect expected. Prolonged or repeated contact may cause mild irritation.

Ingestion: Accidental ingestion of small amounts is not expected to cause adverse effects. Swallowing large amounts may be harmful.

Sensitization - skin: Not known to cause allergic reaction.

Chronic Health Hazard

Carcinogenic effects: None known.

Mutagenic effects: Not known to cause heritable genetic damage.

Teratogenic effects: Not known to cause birth defects or have a deleterious effect on a developing fetus.

Reproductive toxicity: Not known to adversely affect reproductive functions and organs.

12. ECOLOGICAL INFORMATION

Ecotoxicity

COMPONENT INFORMATION

Polyethylene glycol monohexyl ether

Bioaccumulation: No information available

Persistence and degradability: No information available

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products: Dispose of as special waste in compliance with local and national regulations

Contaminated packaging: Empty containers should be transported/delivered using a registered waste carrier for local recycling or waste disposal

14. TRANSPORT INFORMATION

UN number: None
Shipping name: Not regulated.

ADR/RID
Class: Not regulated

IMDG/IMO
Class or Div.: Not regulated

ICAO/IATA
Class or Div.: Not regulated

15. REGULATORY INFORMATION

In accordance with the criteria of NOHSC

Indication of danger
- Xi - Irritant

R-phrase(s):
- R41 - Risk of serious damage to eyes.

S-phrase(s):
- S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S39 - Wear eye/face protection.

International Inventories

Australia (AICS): All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

Prepared by: Chemical Regulatory Compliance

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End of Safety Data Sheet

Schlumberger

SAFETY DATA SHEET

(Australia)

According to the criteria of NOHSC:2011(2003)

Version: 1 *Revision date: 11 April 2011*

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product Name: **Hydrochloric Acid 32% Unihibited H32**

Product Code: H032

Company Identification: Schlumberger Oilfield Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
256 St. Georges Terrace, Perth WA 6000

Emergency Telephone Number: 1-800-039-008 (24hr)

Use of the Substance/Preparation: Used as an acidizing additive in oilfield applications.

2. HAZARDS IDENTIFICATION

Indication of danger: C - Corrosive.

Most important hazards
R-phrase(s): Causes burns. Irritating to respiratory system.
Health hazards: Causes severe eye burns. Causes severe skin burns. Causes burns to respiratory tract. Causes burns to mouth, throat and stomach.

S-phrase(s): S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Safety Combination Phrases: S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

Environmental hazard: None known.

Main physical hazards: Corrosive to metals.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	EC-No.	Weight % - Range	Classification
Hydrochloric acid	7647-01-0	231-595-7	32	C;R34-37

For the full text of the R phrases mentioned in this Section, see Section 16

4. FIRST AID MEASURES

Inhalation: Move to fresh air. Seek medical attention at once. If breathing has stopped, begin artificial respiration.

Skin contact:	Take off contaminated clothing and shoes immediately. After contact with skin, wash immediately with plenty of soap and water for at least 15 minutes. Seek medical attention at once.
Eye contact:	Immediately flush eyes with water for 30 minutes while holding eyelids open. Seek medical attention at once.
Ingestion:	Do NOT induce vomiting. Drink large quantities of milk (preferred) or water. Give milk of magnesia. Seek medical attention at once.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media:	The product itself does not burn. Use extinguishing media appropriate for surrounding material.
Extinguishing media which must not be used for safety reasons:	None known.
Special protective equipment for firefighters:	Wear protective fire fighting clothing and avoid breathing vapors. Wear self-contained breathing apparatus and protective suit.
Special exposure hazards arising from the substance or preparation itself, its combustion products, or released gases:	Gives off hydrogen by reaction with metals.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:	Avoid contact with eyes. Do not get on skin or clothing. Wash thoroughly after handling. Wear suitable protective equipment. See also section 8.
Environmental precautions:	Prevent further leakage or spillage. Keep out of waterways.
Methods for cleaning up:	Dam up. Neutralize with lime milk or soda and flush with plenty of water. Put into suitable containers for disposal. See also section 13.

7. HANDLING AND STORAGE

Handling:

Technical measures/Precautions:	Ensure adequate ventilation.
Safe handling advice:	Keep airborne concentrations below exposure limits. Use personal protective equipment. See also section 8.

Storage:

Technical measures/Storage conditions:	Keep container tightly closed. Store in well ventilated area out of direct sunlight.
Packaging requirements:	High density polyethylene (HDPE) drum or can.

Incompatible products: Strong bases, Metals, Oxidizing agents

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures to reduce exposure: Ensure adequate ventilation, Keep airborne concentrations below exposure limits

Respiratory protection: Use NIOSH approved respirator with organic vapor/acid gas protection (color coded yellow).

Hand protection: Impervious gloves made of: Neoprene Butyl Nitrile

Eye protection: Chemical splash goggles and face shield.

Skin and body protection: Chemical resistant suit. Chemical resistant boots.

Environmental exposure controls

Exposure limit(s)

Component	Australia - Occupational Exposure Standards - TWAs	Australia - Occupational Exposure Standards - STELs
Hydrochloric acid	None	None

9. PHYSICAL AND CHEMICAL PROPERTIES

General Information

Form: Liquid (fumes)
Odour: Pungent
Colour: Colorless, - , Light yellow

Important Health, Safety and Environmental Information

pH: < 2
Boiling point/range: 55 °C
Flash point: Not combustible
Explosive properties:
Explosion data - sensitivity to mechanical impact: None
Explosion data - sensitivity to static discharge: None
Flammability Limits in Air:
lower: Not applicable
upper: Not applicable
Oxidizing properties: None
Relative density: 1.2 (@ 16°C)
Solubility:
Water solubility: Soluble
Fat solubility: No information available.
Partition coefficient (n-octanol/water): Not applicable.
Viscosity: 1.7 mPa.s (@ 20 °C)
Vapour density: 1.3 (air = 1)
Vapour pressure: 18.9 kPa (@ 25°C)

Evaporation rate:	No data available.
Other information	
Melting point/range:	-35 °C

10. STABILITY AND REACTIVITY

Stability:	Stable under recommended storage conditions.
Conditions to avoid:	Heat.
Materials to avoid:	Bases, Metals, Oxidizing agents
Hazardous decomposition products:	Chlorine, chlorine oxides, hydrogen chloride. May release hydrogen gas (explosive) on contact with metals.
Hazardous polymerization:	Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Local effects

Skin:	Corrosive; rapidly causes pain, burns, redness, swelling and damage to tissue.
Eyes:	Corrosive. Rapidly causes pain, burns, corneal injury. May cause permanent damage and blindness.
Inhalation:	Corrosive. Short exposure can injure lungs, throat, and mucous membranes. Causes pain, burns, choking, and coughing.
Ingestion:	Corrosive. Causes pain and severe burns to mouth, throat and stomach.
Sensitization - skin:	Not known to cause allergic reaction.
Sensitization - lung:	Not known to cause allergic reaction

Chronic Health Hazard

Carcinogenic effects:	None known.
Mutagenic effects:	Not known to cause heritable genetic damage.
Teratogenic effects:	Not known to cause birth defects or have a deleterious effect on a developing fetus.
Reproductive toxicity:	Not known to adversely affect reproductive functions and organs.
Target organ effects:	Eyes. Skin. Respiratory system.

Component	**LD50 / LC50**
Hydrochloric acid	- = 3124 ppm (Inhalation LC50; Rat) 1 h = 700 mg/kg (Oral LD50; Rat) > 5010 mg/kg (Dermal LD50; Rabbit)

12. ECOLOGICAL INFORMATION

Ecotoxicity

COMPONENT INFORMATION

Hydrochloric acid

Bioaccumulation:	Not applicable
Persistence and degradability:	The methods for determining biodegradability are not applicable to inorganic substances
Freshwater Fish Species Data	LC50 96 h (Gambusia affinis) = 282 mg/L

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products:	Dispose of as special waste in compliance with local and national regulations
Contaminated packaging:	Empty containers should be transported/delivered using a registered waste carrier for local recycling or waste disposal

14. TRANSPORT INFORMATION

UN number:	UN 1789
Shipping name:	HYDROCHLORIC ACID SOLUTION (32%)

ADR/RID

Class:	8
Classification Code:	C1
Packing Group:	II
ADR/RID-Labels	8
Hazard ID	80

IMDG/IMO

Class or Div.:	8
Packing Group:	II
EmS:	F-A, S-B

ICAO/IATA

Class or Div.:	8	
Packing group:	II	
Packing instruction (passenger aircraft):	851	**Max Net Qty/Pkg:** 1 L
Packing instruction (cargo aircraft):	855	**Max Net Qty/Pkg:** 30 L

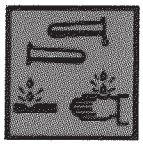
15. REGULATORY INFORMATION

In accordance with the criteria of NOHSC

contains: Hydrochloric acid .

Indication of danger:
- C - Corrosive

C



R-phrase(s):
- R34 - Causes burns.
- R37 - Irritating to respiratory system.

S-phrase(s):
- S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

International Inventories

Australia (AICS):	All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

Text of R phrases mentioned in Section 3
- R37 - Irritating to respiratory system.
- R34 - Causes burns.

Prepared by: Chemical Regulatory Compliance

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End of Safety Data Sheet

Schlumberger

SAFETY DATA SHEET

(Australia)

According to the criteria of NOHSC:2011(2003)

Version: 1 *Revision date: 06 May 2011*

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product Name: **Breaker J218**

Product Code: **J218**

Company Identification:
Schlumberger Oilfield Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
256 St. Georges Terrace, Perth WA 6000

Emergency Telephone Number: 1-800-039-008 (24hr)

Use of the Substance/Preparation: Used as a fracturing additive in oilfield applications.

2. HAZARDS IDENTIFICATION

Indication of danger: O - Oxidizing. Xn - Harmful.

Most important hazards
R-phrase(s):
Risk Combination Phrases
Harmful if swallowed. Contact with combustible material may cause fire.
Irritating to eyes, respiratory system and skin.
May cause sensitization by inhalation and skin contact.

S-phrase(s): S22 - Do not breathe dust. S24 - Avoid contact with skin. S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S37 - Wear suitable gloves.

Environmental hazard: None known

Main physical hazards: Contact with combustible material may cause fire. Explosive with dry bromates. Oxidizer.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	EC-No.	Weight % - Range	Classification
Diammonium peroxidisulphate	7727-54-0	231-786-5	100	O;R8 Xn;R22 Xi;R36/37/38 R42/43

For the full text of the R phrases mentioned in this Section, see Section 16

4. FIRST AID MEASURES

Inhalation: Move to fresh air. Seek medical attention if irritation occurs.

Skin contact: Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Seek medical attention if irritation occurs.

Eye contact: Immediately flush eyes with water for 15 minutes while holding eyelids open. Seek medical attention.

Ingestion: If several grams are swallowed, immediate medical is required. If delayed, consider inducing vomiting. After vomiting give milk or water.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Deluge with water. Other methods not effective.

Extinguishing media which must not be used for safety reasons: None known.

Special protective equipment for firefighters: Wear protective fire fighting clothing and avoid breathing vapors. Use self-contained breathing apparatus in closed areas.

Special exposure hazards arising from the substance or preparation itself, its combustion products, or released gases: May ignite combustible materials in contact with water or moist air. Disintegrates slowly at room temperature and rapidly at higher temperatures, releasing oxygen.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Use personal protective equipment. See also section 8.

Environmental precautions: Prevent further leakage or spillage. Keep out of waterways.

Methods for cleaning up: Shovel into suitable container for disposal. After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

Handling:

Technical measures/Precautions: Ensure adequate ventilation.

Safe handling advice: Avoid contact with skin and eyes. Keep airborne concentrations below exposure limits. Provide appropriate exhaust ventilation at places where dust is formed.

Storage:

Technical measures/Storage conditions: Do not store, transport with or allow to contact dry bromates. Keep material dry. Store in well ventilated area out of direct sunlight.

Packaging requirements: Bag with moisture barrier.

Incompatible products: Metals, Acids, Reducing agents, Organics, Bases, Combustible material, Dry bromates

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures to reduce exposure: Control the source, Local exhaust ventilation

Respiratory protection: Half mask with a particle filter P2 (BS EN 143).

Hand protection: Impervious gloves made of: PVC Rubber

Eye protection: Tightly fitting safety goggles.

Skin and body protection: Clean, body-covering clothing.

Environmental exposure controls

Exposure limit(s)

Component	Australia - Occupational Exposure Standards - TWAs	Australia - Occupational Exposure Standards - STELs
Diammonium peroxidisulphate	None	None

9. PHYSICAL AND CHEMICAL PROPERTIES

General Information

Form: Granules
Odour: None
Colour: White

Important Health, Safety and Environmental Information

pH: 4 - 5
pH concentration: @ 10 g/l
Boiling point/range: Decomposes
Flash point: Does not flash.
Explosive properties:
Explosion data - sensitivity to mechanical impact: None known
Explosion data - sensitivity to static discharge: None known
Flammability Limits in Air:
lower: Not applicable
upper: Not applicable
Oxidizing properties: Oxidizer
Relative density: 2 (@ 20°C)
Bulk density: 1000 kg/m^3
Solubility:
Water solubility: Soluble
Fat solubility: No information available.

Partition coefficient (n-octanol/water):	Not applicable.
Viscosity:	Not applicable.
Vapour density:	Not applicable.
Vapour pressure:	Not applicable.
Evaporation rate:	Not applicable.

Other information

Melting point/range:	Decomposes

10. STABILITY AND REACTIVITY

Stability:	May release hydrogen chloride above 120 F (49 C).
Conditions to avoid:	Decomposes with heat.
Materials to avoid:	Metals, Acids, Reducing agents, Organics, Bases, Dry bromates, Combustible material
Hazardous decomposition products:	Oxygen. nitrogen oxides (NOx). Ammonia. Sulfur oxides.
Hazardous polymerization:	Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Local effects

Skin:	Irritant; may cause pain, redness, dermatitis.
Eyes:	Irritant. May cause pain, redness, discomfort.
Inhalation:	Irritant; may cause pain and coughing.
Ingestion:	Harmful if swallowed; large amounts may cause illness.
Sensitization - skin:	May cause sensitization by skin contact.
Sensitization - lung:	May cause allergic reaction upon repeated inhalation exposure

Chronic Health Hazard

Carcinogenic effects:	None known.
Mutagenic effects:	Not known to cause heritable genetic damage.
Teratogenic effects:	Not known to cause birth defects or have a deleterious effect on a developing fetus.
Reproductive toxicity:	Not known to adversely affect reproductive functions and organs.

12. ECOLOGICAL INFORMATION

Ecotoxicity

COMPONENT INFORMATION

Diammonium peroxidisulphate

Bioaccumulation:	Not applicable
Persistence and degradability:	Not applicable
Crustacean toxicity:	48h LC50= 21 mg/l (Acartia tonsa)
Freshwater Fish Species Data	LC50 96 h (Lepomis macrochirus) = 103 mg/L LC50 96 h (Oncorhynchus mykiss) = 76.3 mg/L LC50 96 h (Poecilia reticulata) = 323 mg/L
Water Flea Data	EC50 48 h (Daphnia magna) = 120 mg/L

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products:	Dispose of as special waste in compliance with local and national regulations
Contaminated packaging:	Dispose of in accordance with local regulations

14. TRANSPORT INFORMATION

UN number:	UN 1444
Shipping name:	AMMONIUM PERSULPHATE

ADR/RID

Class:	5.1
Classification Code:	O2
Packing Group:	III
ADR/RID-Labels	5.1
Hazard ID	50

IMDG/IMO

Class or Div.:	5.1	**Subsidiary risk(s):**	-
Label(s):	5.1		
Packing Group:	III		
EmS:	F-A, S-Q		

ICAO/IATA

Class or Div.:	5.1	**Subsidiary risk(s):**	-
Label(s):	5.1		
Packing group:	III		
Packing instruction (passenger aircraft):	559	**Max Net Qty/Pkg:**	25 kg
Packing instruction (cargo aircraft):	563	**Max Net Qty/Pkg:**	100 kg

15. REGULATORY INFORMATION

In accordance with the criteria of NOHSC

contains: Diammonium peroxidisulphate.

Indication of danger:
- O - Oxidizing
- Xn - Harmful

R-phrase(s):
- R 8 - Contact with combustible material may cause fire.
- R22 - Harmful if swallowed.
- R36/37/38 - Irritating to eyes, respiratory system and skin.
- R42/43 - May cause sensitization by inhalation and skin contact.

S-phrase(s):
- S22 - Do not breathe dust.
- S24 - Avoid contact with skin.
- S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S37 - Wear suitable gloves.

International Inventories

Australia (AICS):	All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

Text of R phrases mentioned in Section 3
- R 8 - Contact with combustible material may cause fire.
- R22 - Harmful if swallowed.
- R42/43 - May cause sensitization by inhalation and skin contact.
- R36/37/38 - Irritating to eyes, respiratory system and skin.

Prepared by: Chemical Regulatory Compliance

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End of Safety Data Sheet

Schlumberger

SAFETY DATA SHEET

(Australia)

According to the criteria of NOHSC:2011(2003)

Version: 1 *Revision date: 05 April 2011*

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product Name: **EB-CLEAN* J479 LT Encapsulated Breaker**

Product Code: **J479**

Company Identification: Schlumberger Oilfield Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
256 St. Georges Terrace, Perth WA 6000

Emergency Telephone Number: 1-800-039-008 (24hr)

Use of the Substance/Preparation: Used as a fracturing additive in oilfield applications.

2. HAZARDS IDENTIFICATION

Indication of danger: Xn - Harmful. O - Oxidizing.

Most important hazards
Health hazards: Harmful if swallowed. Irritating to eyes, respiratory system and skin. May cause sensitization by inhalation and skin contact..

S-phrase(s): S17 - Keep away from combustible material. S22 - Do not breathe dust. S24 - Avoid contact with skin. S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S36 - Wear suitable protective clothing. S37 - Wear suitable gloves.

Environmental hazard: None known.

Main physical hazards: Explosive with dry bromates. Oxidizer.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	EC-No.	Weight % - Range	Classification
Diammonium peroxidisulphate	7727-54-0	231-786-5	60 - 100	O;R8 Xn;R22 Xi;R36/37/38 R42/43

For the full text of the R phrases mentioned in this Section, see Section 16

4. FIRST AID MEASURES

Inhalation: Move to fresh air. Consult a physician if necessary.

Skin contact: Take off contaminated clothing and shoes immediately. Wash off immediately with soap and plenty of water. Seek medical attention if irritation occurs.

Eye contact: Immediately flush eyes with water for 15 minutes while holding eyelids open. Seek medical attention.

Ingestion: Do NOT induce vomiting. Drink large quantities of milk (preferred) or water. Consult a physician if necessary.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Deluge with water. Other methods not effective.

Extinguishing media which must not be used for safety reasons: None known.

Special protective equipment for firefighters: Wear protective fire fighting clothing and avoid breathing vapors. Use self-contained breathing apparatus in closed areas.

Special exposure hazards arising from the substance or preparation itself, its combustion products, or released gases: Oxygen. Hydrogen chloride. When heated strongly or burned, oxides of carbon and harmful organic chemical fumes are released. Explosive with dry bromates.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Do not get on skin or clothing. Wash thoroughly after handling.

Environmental precautions: Prevent further leakage or spillage.

Methods for cleaning up: Sweep up and shovel into suitable containers for disposal.

7. HANDLING AND STORAGE

Handling:

Technical measures/Precautions: Avoid dust formation.
Safe handling advice: Provide appropriate exhaust ventilation at places where dust is formed.

Storage:

Technical measures/Storage conditions: Do not store, transport with or allow to contact dry bromates. Store in well ventilated area out of direct sunlight. Keep containers tightly closed in a dry, cool and well-ventilated place.

Packaging requirements: Bag with moisture barrier.

Incompatible products: Do not store, transport with or allow to contact combustible materials, corrosives, reducing agents or dry bromates

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures to reduce exposure: Ensure adequate ventilation

Respiratory protection: Half mask with a particle filter P2 (BS EN 143).

Hand protection: Rubber gloves. Impervious gloves made of: PVC

Eye protection: Tightly fitting safety goggles.

Skin and body protection: Clean, body-covering clothing.

Environmental exposure controls

Exposure limit(s)

Component	Australia - Occupational Exposure Standards - TWAs	Australia - Occupational Exposure Standards - STELs
Diammonium peroxidisulphate	None	None

9. PHYSICAL AND CHEMICAL PROPERTIES

General Information

Form: Granules
Odour: mild Sweet
Colour: White

Important Health, Safety and Environmental Information

pH: 6.5 - 8
pH concentration: @ 10 g/l
Boiling point/range: Decomposes
Flash point: Not applicable.
Explosive properties:
Explosion data - sensitivity to mechanical impact: None known
Explosion data - sensitivity to static discharge: None known
Flammability Limits in Air:
lower: Not applicable
upper: Not applicable
Oxidizing properties: Oxidizer
Relative density: 1.8 (@ 20°C)
Bulk density: 1150 kg/m^3
Solubility:
Water solubility: 10 - 20 g/l (@ 20°C)
Fat solubility: Insoluble.

Partition coefficient (n-octanol/water):	Not applicable.
Viscosity:	Not applicable.
Vapour density:	Not applicable.
Vapour pressure:	Not applicable.
Evaporation rate:	Not applicable.

Other information

Melting point/range:	Decomposes

10. STABILITY AND REACTIVITY

Stability:	May release hydrogen chloride above 120 F (49 C).
Conditions to avoid:	Decomposes with heat.
Materials to avoid:	Organics, Dry bromates, Combustible material, Reducing agents
Hazardous decomposition products:	Oxygen. Hydrogen chloride. When heated strongly or burned, oxides of carbon and harmful organic chemical fumes are released. Sulfur oxides. nitrogen oxides (NOx). Explosive with dry bromates.
Hazardous polymerization:	Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Local effects

Skin:	Irritant; may cause pain, redness, dermatitis.
Eyes:	Irritant. May cause pain, redness, discomfort.
Inhalation:	Irritant; may cause pain and coughing.
Ingestion:	Harmful if swallowed; large amounts may cause illness. Irritant; may cause pain or discomfort to mouth, throat and stomach.
Sensitization - skin:	May cause sensitization by skin contact.
Sensitization - lung:	

Chronic Health Hazard

Carcinogenic effects:	None known.
Mutagenic effects:	Not known to cause heritable genetic damage.
Teratogenic effects:	Not known to cause birth defects or have a deleterious effect on a developing fetus.
Reproductive toxicity:	Not known to adversely affect reproductive functions and organs.
Target organ effects:	None known.

12. ECOLOGICAL INFORMATION

Ecotoxicity

COMPONENT INFORMATION

Diammonium peroxidisulphate

Bioaccumulation:	Not applicable
Persistence and degradability:	Not applicable
Crustacean toxicity:	48h LC50= 21 mg/l (Acartia tonsa)
Freshwater Fish Species Data	LC50 96 h (Lepomis macrochirus) = 103 mg/L LC50 96 h (Oncorhynchus mykiss) = 76.3 mg/L LC50 96 h (Poecilia reticulata) = 323 mg/L
Water Flea Data	EC50 48 h (Daphnia magna) = 120 mg/L

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products:	Dispose of as special waste in compliance with local and national regulations
Contaminated packaging:	Send empty bags to sanitary landfill. Render other types of containers unuseable by puncturing or crushing and sanitary landfill unless prohibited by local regulations

14. TRANSPORT INFORMATION

UN number: UN 1444
Shipping name: AMMONIUM PERSULPHATE Mixture

ADR/RID

Class:	5.1
Classification Code:	O2
Packing Group:	III
ADR/RID-Labels	5.1
Hazard ID	50

IMDG/IMO

Class or Div.:	5.1
Label(s):	5.1
Packing Group:	III
EmS:	F-A, S-Q

ICAO/IATA

Class or Div.:	5.1	
Label(s):	5.1	
Packing group:	III	
Packing instruction (passenger aircraft):	559	**Max Net Qty/Pkg:** 25 kg
Packing instruction (cargo aircraft):	563	**Max Net Qty/Pkg:** 100 kg

15. REGULATORY INFORMATION

In accordance with the criteria of NOHSC

contains: Diammonium peroxidisulphate.

Indication of danger:
- Xn - Harmful
- O - Oxidizing

R-phrase(s):
- R 8 - Contact with combustible material may cause fire.
- R22 - Harmful if swallowed.
- R36/37/38 - Irritating to eyes, respiratory system and skin.
- R42/43 - May cause sensitization by inhalation and skin contact.

S-phrase(s):
- S17 - Keep away from combustible material.
- S22 - Do not breathe dust.
- S24 - Avoid contact with skin.
- S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S36 - Wear suitable protective clothing.
- S37 - Wear suitable gloves.

International Inventories

Australia (AICS):	All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

Text of R phrases mentioned in Section 3
- R 8 - Contact with combustible material may cause fire.
- R22 - Harmful if swallowed.
- R42/43 - May cause sensitization by inhalation and skin contact.
- R36/37/38 - Irritating to eyes, respiratory system and skin.

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End of Safety Data Sheet

Schlumberger

SAFETY DATA SHEET

(Australia)

According to the criteria of NOHSC:2011(2003)

Version: 1 *Revision date: 18 March 2011*

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product Name: **Water Gelling Agent J580**

Product Code: **J580**

Company Identification: Schlumberger Oilfield Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
256 St. Georges Terrace, Perth WA 6000

Emergency Telephone Number: 1-800-039-008 (24hr)

Use of the Substance/Preparation: Used as a gelling agent in oilfield applications.

2. HAZARDS IDENTIFICATION

Most important hazards

Health hazards: May be mildly irritating to eyes.

Environmental hazard: None.

Main physical hazards: Slick when wet. Dust.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	EC-No.	Weight % - Range	Classification
Carbohydrate polymer		Listed	60-100	-

For the full text of the R phrases mentioned in this Section, see Section 16

4. FIRST AID MEASURES

Inhalation: Move to fresh air. If not breathing, give artificial respiration. Call a physician immediately.

Skin contact: Rinse with water.

Eye contact: Rinse immediately with plenty of water, also under the eyelids. Consult a physician if necessary.

Ingestion: Rinse mouth. Consult a physician if necessary. Never give anything by mouth to an unconscious person.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Water Fog, Alcohol Foam, CO2, Dry Chemical.

Extinguishing media which must not be used for safety reasons: None known.

Special protective equipment for firefighters: Wear protective fire fighting clothing and avoid breathing vapors. Use self-contained breathing apparatus in closed areas.

Special exposure hazards arising from the substance or preparation itself, its combustion products, or released gases: Slick when wet.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Do not breathe dust.

Environmental precautions: Prevent product from entering drains. Should not be released into the environment.

Methods for cleaning up: Sweep up and shovel into suitable containers for disposal. Avoid dust formation. After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

Handling:

Technical measures/Precautions: Avoid dust formation.

Safe handling advice: Ensure adequate ventilation. Dust may form explosive mixture in air.

Storage:

Technical measures/Storage conditions: Keep material dry.

Packaging requirements: Bag with moisture barrier.

Incompatible products: Oxidizing agents

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures to reduce exposure: Ensure adequate ventilation

Respiratory protection: No personal respiratory protective equipment normally required.

Hand protection: Rubber gloves.

Eye protection: Safety glasses with side-shields.

Skin and body protection: Clean, body-covering clothing.

Environmental exposure controls

Exposure limit(s)

Component	Australia - Occupational Exposure Standards - TWAs	Australia - Occupational Exposure Standards - STELs
Carbohydrate polymer	None	None

9. PHYSICAL AND CHEMICAL PROPERTIES

General Information

Form: Powder
Odour: mild
Colour: Light yellow

Important Health, Safety and Environmental Information

pH: 5.5 - 7.5
pH concentration: 10 g/l
Boiling point/range: Not applicable.
Flash point: Not applicable.
Explosive properties:
Explosion data - sensitivity to mechanical impact: None
Explosion data - sensitivity to static discharge: None known
Flammability Limits in Air:
lower: not determined.
upper: not determined.
Oxidizing properties: None
Relative density: 0.7 (@ 25°C)
Bulk density: > 430 kg/m^3
Solubility:
Water solubility: Gels on contact with water.
Fat solubility: Insoluble.
Partition coefficient (n-octanol/water): Does not bioaccumulate.
Viscosity: Not applicable.
Vapour density: Not applicable.
Vapour pressure: Not applicable.
Evaporation rate: Not applicable.

Other information

Melting point/range: Decomposes

10. STABILITY AND REACTIVITY

Stability: Stable at normal conditions.

Conditions to avoid:	Avoid dust formation.
Materials to avoid:	Oxidizing agents
Hazardous decomposition products:	When heated strongly or burned, oxides of carbon and harmful organic chemical fumes are released.
Hazardous polymerization:	Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Local effects

Skin:	No effect expected.
Eyes:	May cause slight irritation.
Inhalation:	Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough.
Ingestion:	This is an unlikely route of exposure. No effect expected.
Sensitization - skin:	Not known to cause allergic reaction.
Sensitization - lung:	Not known to cause allergic reaction

Chronic Health Hazard

Carcinogenic effects:	None known.
Mutagenic effects:	Not known to cause heritable genetic damage.
Teratogenic effects:	Not known to cause birth defects or have a deleterious effect on a developing fetus.
Reproductive toxicity:	Not known to adversely affect reproductive functions and organs.
Target organ effects:	None known.

Component	**LD50 / LC50**
Carbohydrate polymer	- = 6770 mg/kg (Oral LD50; Rat)

12. ECOLOGICAL INFORMATION

Ecotoxicity

COMPONENT INFORMATION

Carbohydrate polymer

Bioaccumulation:	Does not bioaccumulate
Persistence and degradability:	Readily biodegradable
Other information:	Listed on PLONOR list of OSPAR

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products: Dispose of as special waste in compliance with local and national regulations

Contaminated packaging: Empty containers should be transported/delivered using a registered waste carrier for local recycling or waste disposal
Send empty bags to sanitary landfill. Render other types of containers unuseable by puncturing or crushing and sanitary landfill unless prohibited by local regulations

14. TRANSPORT INFORMATION

UN number: None
Shipping name: Not regulated.

ADR/RID
Class: Not regulated

IMDG/IMO
Class or Div.: Not regulated

ICAO/IATA
Class or Div.: Not regulated

15. REGULATORY INFORMATION

In accordance with the criteria of NOHSC

Indication of danger:
None

R-phrase(s):
None

S-phrase(s):
Exercise reasonable care and cleanliness

International Inventories

Australia (AICS): All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

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End of Safety Data Sheet

Schlumberger

SAFETY DATA SHEET

(Australia)

According to the criteria of NOHSC:2011(2003)

Version: 1 *Revision date: 29 March 2012*

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product Name: **Crosslinker J610**

Product Code: **J610**

Company Identification:
Schlumberger Oilfield Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
256 St. Georges Terrace, Perth WA 6000

Emergency Telephone Number: 1-800-039-008 (24hr)

Use of the Substance/Preparation: For industrial use only. Used as a fracturing additive in oilfield applications.

2. HAZARDS IDENTIFICATION

Indication of danger C - Corrosive.

Most important hazards
R-phrase(s): Causes burns.

S-phrase(s): S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Safety Combination Phrases: S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

Environmental hazard: According to the results of tests of biodegradability this product is not readily biodegradable.

Main physical hazards: Corrosive to metals.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	EC-No.	Weight % - Range	Classification (67/548)
Potassium hydroxide	1310-58-3	215-181-3	5- 15	Xn;R22 C;R35

For the full text of the R phrases mentioned in this Section, see Section 16

4. FIRST AID MEASURES

Inhalation: Move to fresh air in case of accidental inhalation of vapours. Consult a physician if necessary.

Skin contact: Take off contaminated clothing and shoes immediately. After contact with skin, wash immediately with plenty of soap and water for at least 30 minutes. Seek medical attention at once.

Eye contact: Immediately flush eyes with water for 30 minutes while holding eyelids open. Seek medical attention at once.

Ingestion: Do NOT induce vomiting. Drink large quantities of milk (preferred) or water. Call a physician immediately.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Water Fog, Alcohol Foam, CO2, Dry Chemical.

Extinguishing media which must not be used for safety reasons: None known.

Special protective equipment for firefighters: Wear protective fire fighting clothing and avoid breathing vapors. Use self-contained breathing apparatus in closed areas.

Special exposure hazards arising from the substance or preparation itself, its combustion products, or released gases: May release hydrogen gas (explosive) on contact with metals.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Do not get on skin or clothing. Wash thoroughly after handling. Use personal protective equipment. See also section 8.

Environmental precautions: Prevent further leakage or spillage.

Methods for cleaning up: Dam up. Soak up with inert absorbent material. After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

Handling:

Technical measures/Precautions: No special precautions required.
Safe handling advice: Avoid contact with skin and eyes. Wear suitable protective equipment. See also section 8.

Storage:

Technical measures/Storage conditions: Do not store in contact with aluminum. Store in well ventilated area out of direct sunlight. Keep containers tightly closed in a dry, cool and well-ventilated place. Store in a covered secondary containment chemical storage area.

Packaging requirements: High density polyethylene (HDPE) drum or can.

Incompatible products: Strong acids, Aluminium

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures to reduce exposure: No special technical protective measures required

Respiratory protection: No personal respiratory protective equipment normally required.

Hand protection: Impervious gloves made of: Neoprene

Eye protection: Tightly fitting safety goggles. Face-shield.

Skin and body protection: Chemical resistant suit. Chemical resistant boots.

Environmental exposure controls

Exposure limit(s)

Component	Australia - Occupational Exposure Standards - TWAs	Australia - Occupational Exposure Standards - STELs
Potassium hydroxide	None	None

9. PHYSICAL AND CHEMICAL PROPERTIES

General Information

Form: Liquid
Odour: No information available
Colour: Colorless

Important Health, Safety and Environmental Information

pH: > 13
Boiling point/range: No data available. °C
Flash point: Does not flash.
Explosive properties:
Explosion data - sensitivity to mechanical impact: None
Explosion data - sensitivity to static discharge: None
Flammability Limits in Air:
lower: Not applicable
upper: Not applicable
Oxidizing properties: None
Relative density: 1.35 - 1.45
Solubility:
Water solubility: Soluble
Fat solubility: No information available.

Partition coefficient (n-octanol/water):	See also section 12
Viscosity:	No information available.
Vapour density:	No information available.
Vapour pressure:	No information available.
Evaporation rate:	No information available.

Other information

Melting point/range:	< -40 °C

10. STABILITY AND REACTIVITY

Stability:	Stable under recommended storage conditions.
Conditions to avoid:	None reasonably foreseeable.
Materials to avoid:	Aluminium, Acids
Hazardous decomposition products:	When heated strongly or burned, oxides of carbon and harmful organic chemical fumes are released.
Hazardous polymerization:	Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Local effects

Skin:	Corrosive; rapidly causes pain, burns, redness, swelling and damage to tissue.
Eyes:	Corrosive. Rapidly causes pain, burns, corneal injury. May cause permanent damage and blindness.
Inhalation:	No effect expected.
Ingestion:	Corrosive. Causes pain and severe burns to mouth, throat and stomach.
Sensitization - skin:	Not known to cause allergic reaction.
Sensitization - lung:	Not known to cause allergic reaction

Chronic Health Hazard

Carcinogenic effects:	None known.
Mutagenic effects:	Not known to cause heritable genetic damage.
Teratogenic effects:	Not known to cause birth defects or have a deleterious effect on a developing fetus.
Reproductive toxicity:	Not known to adversely affect reproductive functions and organs.
Target organ effects:	See component information below.

Component	**LD50 / LC50**
Potassium hydroxide	- = 214 mg/kg (Oral LD50; Rat) mg/kg (oral-rat)

12. ECOLOGICAL INFORMATION

Ecotoxicity

COMPONENT INFORMATION

Potassium hydroxide

Bioaccumulation:	Not applicable
Persistence and degradability:	The methods for determining biodegradability are not applicable to inorganic substances
Freshwater Fish Species Data	LC50 96 h (Gambusia affinis) = 80 mg/L

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products:	Hazardous waste In accordance with local and national regulations
Contaminated packaging:	Empty containers should be transported/delivered using a registered waste carrier for local recycling or waste disposal

14. TRANSPORT INFORMATION

UN number:	UN 3266
Shipping name:	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (contains potassium hydroxide)

ADR/RID

Class:	8
Classification Code:	C5
Packing Group:	II
ADR/RID-Labels	8
Hazard ID	80

IMDG/IMO

Class or Div.:	8
Label(s):	8
Packing Group:	II
EmS:	F-A, S-B

ICAO/IATA

Class or Div.:	8
Label(s)	8
Packing group:	II

15. REGULATORY INFORMATION

In accordance with the criteria of NOHSC

contains: potassium hydroxide.

Indication of danger
- C - Corrosive

R-phrase(s):
- R34 - Causes burns.

S-phrase(s):
- S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

International Inventories

Australia (AICS):	All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

Text of R phrases mentioned in Section 3
- R35 - Causes severe burns.
- R22 - Harmful if swallowed.
- R36/38 - Irritating to eyes and skin.

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End of Safety Data Sheet

Schlumberger

SAFETY DATA SHEET

(Australia)

According to the criteria of NOHSC:2011(2003)

Version: 2 *Revision date: 30 April 2012*

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

Product Name: **L071 Temporary Clay Stabilizer**

Product Code: **L071**

Company Identification: Schlumberger Oilfield Australia Pty Ltd
ABN: 74 002 459 225
ACN: 002 459 225
256 St. Georges Terrace, Perth WA 6000

Emergency Telephone Number: 1-800-039-008 (24hr)

Use of the Substance/Preparation: For industrial use only. Additive in oilfield applications.

2. HAZARDS IDENTIFICATION

Indication of danger The product is non-dangerous in accordance with Directive 1999/45/EC.

Most important hazards
Health hazards: May be mildly irritating to eyes. May be mildly irritating to skin.

Environmental hazard: None known.

Main physical hazards: None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No	EC-No.	Weight % - Range	Classification (67/548)
Cholinium chloride	67-48-1	200-655-4	70-75	-

For the full text of the R phrases mentioned in this Section, see Section 16

4. FIRST AID MEASURES

Inhalation: Move to fresh air. Consult a physician if necessary.

Skin contact: Wash off immediately with soap and plenty of water. Consult a physician if necessary.

Eye contact: Immediately flush eye(s) with plenty of water. Seek medical attention if irritation occurs.

Ingestion: Do not induce vomiting without medical advice. Seek medical attention.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media:	Use extinguishing media appropriate for surrounding material.
Extinguishing media which must not be used for safety reasons:	None known.
Special protective equipment for firefighters:	Use self-contained breathing apparatus in closed areas. Wear protective fire fighting clothing and avoid breathing vapors.
Special exposure hazards arising from the substance or preparation itself, its combustion products, or released gases:	When heated strongly or burned, oxides of carbon, nitrogen oxides, ammonia and harmful organic chemical fumes are released. Chlorine, chlorine oxides, hydrogen chloride.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:	Avoid contact with the skin and the eyes. Use personal protective equipment.
Environmental precautions:	None known.
Methods for cleaning up:	Dam up. Put into suitable containers for disposal.

7. HANDLING AND STORAGE

Handling:

Technical measures/Precautions:	No special precautions required.
Safe handling advice:	Avoid contact with skin and eyes. Use personal protective equipment.

Storage:

Technical measures/Storage conditions:	Keep containers tightly closed in a dry, cool and well-ventilated place.
Packaging requirements:	High density polyethylene (HDPE) drum or can.
Incompatible products:	Strong acids, Strong bases, Oxidizing agents

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

Engineering measures to reduce exposure: Ensure adequate ventilation

Respiratory protection: No personal respiratory protective equipment normally required.

Hand protection: Impervious gloves made of: Rubber PVC disposable gloves

Eye protection: Tightly fitting safety goggles.

Skin and body protection: Clean, body-covering clothing.

Environmental exposure controls

Exposure limit(s)

Component	Australia - Occupational Exposure Standards - TWAs	Australia - Occupational Exposure Standards - STELs
Cholinium chloride	None	None

9. PHYSICAL AND CHEMICAL PROPERTIES

General Information

Form: Liquid
Odour: amine-like
Colour: Amber - blue

Important Health, Safety and Environmental Information

pH: 6.5 - 8.5
Boiling point/range: No data available.
Flash point: Does not flash.
Explosive properties:
Explosion data - sensitivity to mechanical impact: None
Explosion data - sensitivity to static discharge: None
Flammability Limits in Air:
lower: Not applicable
upper: Not applicable
Oxidizing properties: None known
Relative density: 1.1
Solubility:
Water solubility: Soluble
Fat solubility: No information available.
Partition coefficient (n-octanol/water): No information available.
Viscosity: No information available.

Vapour density:	No information available.
Vapour pressure:	No information available.
Evaporation rate:	No information available.

Other information

Melting point/range:	< 0 °C

10. STABILITY AND REACTIVITY

Stability:	Stable under recommended storage conditions.
Conditions to avoid:	None known.
Materials to avoid:	Strong acids and strong bases, Oxidizing agents
Hazardous decomposition products:	When heated strongly or burned, oxides of carbon, nitrogen oxides, ammonia and harmful organic chemical fumes are released. Chlorine, chlorine oxides, hydrogen chloride.
Hazardous polymerization:	Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Local effects

Skin:	May be mildly irritating.
Eyes:	May be mildly irritating.
Inhalation:	This is an unlikely route of exposure.
Ingestion:	May be mildly irritating.
Sensitization - skin:	Not known to cause allergic reaction.

Chronic Health Hazard

Carcinogenic effects:	None known.
Mutagenic effects:	Not known to cause heritable genetic damage.
Teratogenic effects:	Not known to cause birth defects or have a deleterious effect on a developing fetus.
Reproductive toxicity:	Not known to adversely affect reproductive functions and organs.

12. ECOLOGICAL INFORMATION

Ecotoxicity

COMPONENT INFORMATION

Cholinium chloride

Bioaccumulation:	No information available
Persistence and degradability:	No information available
Freshwater Fish Species Data	500 mg/L EC50 (Desmodesmus subspicatus) = 72 h
Freshwater Fish Species Data	10000 mg/L LC50 (Leuciscus idus) = 96 h
Water Flea Data	500 mg/L EC50 (Daphnia magna Straus) = 48 h 320 mg/L EC50 (Daphnia magna) = 48 h

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products: Dispose of as special waste in compliance with local and national regulations

Contaminated packaging: Empty containers should be transported/delivered using a registered waste carrier for local recycling or waste disposal

14. TRANSPORT INFORMATION

UN number: None
Shipping name: Not regulated.

ADR/RID
Class: Not regulated

IMDG/IMO
Class or Div.: Not regulated

ICAO/IATA
Class or Div.: Not regulated

15. REGULATORY INFORMATION

In accordance with the criteria of NOHSC

Indication of danger
- The product is non-dangerous in accordance with Directive 1999/45/EC

R-phrase(s):
None

S-phrase(s):
Exercise reasonable care and cleanliness

International Inventories

Australia (AICS): All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

Reason for revision:
9. PHYSICAL AND CHEMICAL PROPERTIES

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End of Safety Data Sheet

Material Safety Data Sheet

M275

1 . Identification of the material and supplier

Names

Product name	:	M275
Product code	:	M275
ADG	:	Corrosive solid, acidic, organic, n.o.s. (isothiazolones)
Supplier	:	Baker Hughes, Australia 5 Walker Street, Braeside, Victoria 3195, Australia Tel: +613 9580 9004 Fax: +613 9580 6004
Emergency telephone number	:	CHEMTREC Emergency Telephone Numbers (Australasia Geomarket): - Australia: (02) 9037 2994 - New Zealand: 9801 0034 - PNG: +(61) 2 9037 2994 ---------- - UK: +(44) 870-820-0418 - USA: +(1) 703-527-3887 (CHEMTREC International 24 hour)

Uses

Material uses	:	Biocide

2 . Hazards identification

Classification	:	Xn; R20/21/22 C; R34 R43 N; R51/53
Risk phrases	:	R20/21/22- Harmful by inhalation, in contact with skin and if swallowed. R34- Causes burns. R43- May cause sensitisation by skin contact. R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Safety phrases	:	S25- Avoid contact with eyes. S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S36/37/39- Wear suitable protective clothing, gloves and eye/face protection. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). S51- Use only in well-ventilated areas. S57- Use appropriate containment to avoid environmental contamination. S61- Avoid release to the environment. Refer to special instructions/safety data sheet.
Statement of hazardous/dangerous nature	:	HAZARDOUS SUBSTANCE. DANGEROUS GOODS.

3 . Composition/information on ingredients

Ingredient name	CAS number	Concentration
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)	55965-84-9	5 - 10

Other ingredients, determined not to be hazardous according to Safe Work Australia criteria, and not dangerous according to the ADG Code, make up the product concentration to 100%.

3 . Composition/information on ingredients

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4 . First-aid measures

Inhalation : Move exposed person to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Ingestion : Get medical attention immediately. Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Skin contact : Get medical attention immediately. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 15 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Eye contact : Get medical attention immediately. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 15 minutes. Chemical burns must be treated promptly by a physician.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Advice to doctor : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

5 . Fire-fighting measures

Suitable : Use dry chemical powder.

Not suitable : Do not use water jet.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. This material is toxic to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
sulfur oxides
halogenated compounds
metal oxide/oxides

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Hazchem code : 2X

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Small spill : Move containers from spill area. Vacuum or sweep up material and place in a designated, labelled waste container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.

Large spill : Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labelled waste container. Avoid creating dusty conditions and prevent wind dispersal. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7 . Handling and storage

Storage : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

8 . Exposure controls/personal protection

Occupational exposure limits : **No exposure standard allocated.**

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. Use explosion-proof ventilation equipment.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If operating conditions cause high dust concentrations to be produced, use dust goggles.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Respiratory : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

8 . Exposure controls/personal protection

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 . Physical and chemical properties

Physical state : Solid. [Powder.]

Colour : Tan. / Red.

Odour : Faint odour.

Relative density : 0.714 to 0.726 (16°C)

Flash point : Closed cup: >93°C (>199.4°F)

Solubility : Miscible with water.

10 . Stability and reactivity

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Prevent dust accumulation. Avoid release to the environment. Refer to special instructions/safety data sheet.

Materials to avoid : Reactive or incompatible with the following materials:
oxidizing materials

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 . Toxicological information

Potential acute health effects

Inhalation : Harmful by inhalation. May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion : Harmful if swallowed. May cause burns to mouth, throat and stomach.

Skin contact : Corrosive to the skin. Causes burns. Harmful in contact with skin. May cause sensitisation by skin contact.

Eye contact : Corrosive to eyes. Causes burns.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)	LD50 Oral	Rat	53 mg/kg	-

Conclusion/Summary : Not available.

Potential chronic health effects

Chronic toxicity

Conclusion/Summary : Not available.

Irritation/Corrosion

Conclusion/Summary : Not available.

Sensitiser

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Mutagenicity

11 . Toxicological information

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Chronic effects : Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Ingestion : Adverse symptoms may include the following: stomach pains Irritation to digestive system

Skin : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Eyes : Adverse symptoms may include the following:
pain
watering
redness

Target organs : Contains material which may cause damage to the following organs: upper respiratory tract, skin, eyes.

12 . Ecological information

Ecotoxicity : Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Aquatic ecotoxicity

Conclusion/Summary : Not available.

Other ecological information

Persistence/degradability

Conclusion/Summary : Not available.

Other adverse effects : No known significant effects or critical hazards.

13 . Disposal considerations

Methods of disposal : This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

14 . Transport information

Regulation	UN number	Proper shipping name	Classes	PG*	Label	Additional information

14 . Transport information

ADG	UN3261	Corrosive solid, acidic, organic, n.o.s. (isothiazolones)	8	II		**Hazchem code** 2X
ADR	UN3261	Corrosive solid, acidic, organic, n.o.s. (isothiazolones)	8	II		**UK Hazchem:** 2X
IMDG	UN3261	Corrosive solid, acidic, organic, n.o.s. (isothiazolones)	8	II		-
IATA	UN3261	Corrosive solid, acidic, organic, n.o.s. (isothiazolones)	8	II		-

PG* : Packing group

15 . Regulatory information

Standard for the Uniform Scheduling of Drugs and Poisons

Not regulated.

Control of Scheduled Carcinogenic Substances

Ingredient name	Schedule
No listed substance	

Australia inventory (AICS) : All components are listed or exempted.

EU Classification : Xn; R20/21/22
C; R34
R43
N; R51/53

Risk phrases : R20/21/22- Harmful by inhalation, in contact with skin and if swallowed.
R34- Causes burns.
R43- May cause sensitisation by skin contact.
R51/53- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases : S25- Avoid contact with eyes.
S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36/37/39- Wear suitable protective clothing, gloves and eye/face protection.
S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S51- Use only in well-ventilated areas.
S57- Use appropriate containment to avoid environmental contamination.
S61- Avoid release to the environment. Refer to special instructions/safety data sheet.

15 . Regulatory information

National regulations : **National Code of Practice for the Control of Workplace Hazardous Substances. National Code of Practice for the Labelling of Workplace Substances. National Code of Practice for the Preparation of Material Safety Data Sheets. Approved Criteria for Classifying Hazardous Substances.**

16 . Other information

Date of printing : 17 October 2012.

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Date of previous issue : 16 October 2012

Version : 1.01

Indicates information that has changed from previously issued version.

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