

Safety Data Sheet

According to the Australian Work Health and Safety Regulations

Initial preparation date: 03.16.2017

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Revision date: 05.27.2020

Clear Epoxy Resin - Part A

SECTION 1: Identification

Product identifier

Product name: Clear Epoxy Resin - Part A

Product code: 50101AUS, 50112AUS, 50114AUS, 50132AUS



Recommended use of the product and restriction on use

Relevant identified uses: Adhesive Part A

Uses advised against: Not determined or not applicable.

Reasons why uses advised against: Not determined or not applicable.

Manufacturer or supplier details

Manufacturer:

United States

J-B Weld Company, LLC

400 CMH Road

Sulphur Springs, TX 75482

903-885-7696

Supplier:

Australia

HPP Lunds

1/195 Jackson Rd

Sunnybank Hills, Qld 4109

1300-306-781

Emergency telephone number:

Australia

InfoTrac

1300-366-961 (24 hours)

SECTION 2: Hazard(s) identification

GHS classification:

Skin irritation, category 2

Eye irritation, category 2A

Skin sensitization, category 1

Label elements

Hazard pictograms:



Signal word: Warning

Hazard statements:

H315 Causes skin irritation

H319 Causes serious eye irritation

H317 May cause an allergic skin reaction

Precautionary statements:

P264 Wash skin thoroughly after handling

P280 Wear face protection

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray

P272 Contaminated work clothing should not be allowed out of the workplace

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P302+P352 IF ON SKIN: Wash with plenty of soap and water
P321 Specific treatment (see supplemental first aid instruction on this label)
P362 Take off contaminated clothing and wash before reuse
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337+P313 If eye irritation persists: Get medical advice/attention
P333+P313 If skin irritation or rash occurs: Get medical advice/attention
P501 Dispose of contents/container in accordance with local regulation.

Hazards not otherwise classified:

None

SECTION 3: Composition and information on ingredients

| Identification | Name | Weight % |
|---------------------------|--|----------|
| CAS number: 25068-38-6 | Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxiran | >60 |
| CAS number: 3101-60-8 | P-tert-butylphenyl 1-(2,3-epoxy)propyl ether | <10 |

Additional Information: None

SECTION 4: First aid measures

Description of first aid measures

General notes:

Show this Safety Data Sheet to the doctor in attendance.

After inhalation:

If inhaled, remove person to fresh air and place in a position comfortable for breathing. Keep person at rest. If breathing is difficult, administer oxygen. If breathing has stopped, provide artificial respiration. If experiencing respiratory symptoms, seek medical advice/attention.

After skin contact:

Remove contaminated clothing and shoes. Rinse skin with copious amounts of water [shower] for several minutes. Launder contaminated clothing before reuse. If symptoms develop or persist, seek medical advice/attention.

After eye contact:

Rinse eyes with plenty of gently flowing lukewarm water for 15 minutes. Remove contact lenses if present and easy to do so. Protect unexposed eye. If symptoms develop or persist, seek medical advice/attention.

After swallowing:

If swallowed, DO NOT induce vomiting unless told to do so by a physician or poison control center. Rinse mouth with water. Never give anything by mouth to an unconscious person. If spontaneous vomiting occurs, place on the left side with head down to prevent aspiration of liquid into the lungs. If symptoms develop or persist, seek medical advice/attention.

Most important symptoms and effects, both acute and delayed

Acute symptoms and effects:

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Skin contact may result in redness, pain, burning and inflammation.

Eye contact may result in irritation, redness, pain, inflammation, itching, burning and tearing.

Dermal exposure may cause an allergic skin reaction. Symptoms may include irritation, redness, pain, rash, inflammation, itching, burning and dermatitis.

Delayed symptoms and effects:

Effects are dependent on exposure (dose, concentration, contact time).

Immediate medical attention and special treatment

Specific treatment:

Not determined or not applicable.

Notes for the doctor:

Treat symptomatically.

SECTION 5: Fire fighting measures

Extinguishing media

Suitable extinguishing media:

Water mist/fog, carbon dioxide, dry chemical or alcohol resistant foam.

Unsuitable extinguishing media:

Do not use water jet.

Specific hazards during fire-fighting:

Thermal decomposition may produce irritating/toxic fumes/gases.

Special protective equipment for firefighters:

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

Special precautions:

Avoid contact with skin, eyes, hair and clothing. Do not breathe fumes/gas/mists/aerosols/vapors/dusts.

Move containers from fire area if safe to do so. Use water spray/fog for cooling fire exposed containers.

Avoid unnecessary run-off of extinguishing media which may cause pollution.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Evacuate unnecessary personnel. Ventilate area. Extinguish any sources of ignition. Wear recommended personal protective equipment (see Section 8). Avoid contact with skin, eyes and clothing. Avoid breathing mist, vapor, dust, fume and spray. Do not walk through spilled material. Wash thoroughly after handling.

Environmental precautions:

Prevent further leakage or spillage if safe to do so. Prevent from reaching drains, sewers and waterways.

Discharge into the environment must be avoided.

Methods and material for containment and cleaning up:

Do not touch damaged containers or spilled material unless wearing appropriate personal protective clothing. Stop leak if you can do it without risk. Contain and collect spillage and place in suitable container for future disposal. Dispose of in accordance with all applicable regulations (see Section 13).

Reference to other sections:

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For personal protective equipment see Section 8. For disposal see Section 13.

SECTION 7: Handling and storage precautions

Precautions for safe handling:

Use appropriate personal protective equipment (see Section 8). Use only with adequate ventilation. Avoid breathing mist/vapor/spray/dust. Do not eat, drink, smoke, or use personal products when handling chemical substances. Avoid contact with skin, eyes and clothing. Wash affected areas thoroughly after handling. Keep away from incompatible materials (See Section 10). Keep containers tightly closed when not in use.

Conditions for safe storage, including any incompatibilities:

Store in cool, dry, well-ventilated location out of direct sunlight. Keep away from food and beverages. Protect from freezing and physical damage. Store away from heat, open flames and other sources of ignition. Keep container tightly sealed. Store away from incompatible materials (See Section 10).

SECTION 8: Exposure controls and personal protection

Only those substances with limit values have been included below.

Occupational Exposure limit values:

No occupational exposure limits noted for the ingredient(s).

Biological limit values:

No biological exposure limits noted for the ingredient(s).

Information on monitoring procedures:

Not determined or not applicable.

Appropriate engineering controls:

Emergency eye wash stations and safety showers should be available in the immediate vicinity of use or handling. Provide adequate ventilation to maintain the airborne concentrations of vapor, mists, and/or dusts below the applicable workplace exposure limits, while observing recognized national standards (or equivalent).

Personal protection equipment

Eye and face protection:

Safety glasses or goggles. Use eye protection equipment that has been tested and approved by recognized national standards (or equivalent).

Skin and body protection:

Chemical resistant, impervious gloves approved by the appropriate standards. Gloves must be inspected prior to use. Avoid skin contact with used gloves. Appropriate techniques should be used to remove used gloves and contaminated clothing. 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. Ensure that all personal protective equipment is approved by recognized national standards (or equivalent).

Respiratory protection:

If engineering controls do not maintain airborne concentrations below the applicable workplace exposure limits, or to an acceptable level (if exposure limits have not been established), a respirator approved by recognized national standards (or equivalent) must be worn.

General hygienic measures:

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When handling chemical products, do not eat, drink or smoke. Wash hands after handling, before breaks, and at the end of the workday. Avoid contact with skin, eyes and clothing. Wash contaminated clothing before reuse. Perform routine housekeeping.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

| | |
|--|----------------------------------|
| Appearance | Clear Liquid |
| Odor | Not determined or not available. |
| Odor threshold | Not determined or not available. |
| pH | Not determined or not available. |
| Melting point/freezing point | Not determined or not available. |
| Initial boiling point/range | Not determined or not available. |
| Flash point (closed cup) | 135°C (275°F) |
| Evaporation rate | Not determined or not available. |
| Flammability (solid, gas) | Not determined or not available. |
| Upper flammability/explosive limit | Not determined or not available. |
| Lower flammability/explosive limit | Not determined or not available. |
| Vapor pressure | Not determined or not available. |
| Vapor density | Not determined or not available. |
| Density | 1.15 g/cm ³ |
| Relative density | Not determined or not available. |
| Solubilities | Not determined or not available. |
| Partition coefficient (n-octanol/water) | Not determined or not available. |
| Auto/Self-ignition temperature | Not determined or not available. |
| Decomposition temperature | Not determined or not available. |
| Dynamic viscosity | Not determined or not available. |
| Kinematic viscosity | Not determined or not available. |
| Explosive properties | Not determined or not available. |
| Oxidizing properties | Not determined or not available. |

Other information

SECTION 10: Stability and reactivity

Reactivity:

Not reactive under recommended handling and storage conditions.

Chemical stability:

Stable under recommended handling and storage conditions.

Possibility of hazardous reactions:

Hazardous reactions are not anticipated under recommended conditions of handling and storage.

Conditions to avoid:

Extreme heat, open flames, hot surfaces, sparks, ignition sources and incompatible materials.

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Incompatible materials:

None known.

Hazardous decomposition products:

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

SECTION 11: Hazard information

Acute toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data:

| Name | Route | Result |
|--|--------|------------------------|
| P-tert-butylphenyl 1-(2,3-epoxy)propyl ether | oral | LD50 Rat: > 2000 mg/kg |
| | dermal | LD50 Rat: > 2000 mg/kg |

Skin corrosion/irritation

Assessment:

Causes skin irritation.

Product data:

No data available.

Substance data:

| Name | Result |
|--|-------------------------|
| Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxiran | Causes skin irritation. |
| P-tert-butylphenyl 1-(2,3-epoxy)propyl ether | Causes skin irritation. |

Serious eye damage/irritation

Assessment:

Causes serious eye irritation.

Product data:

No data available.

Substance data:

| Name | Result |
|--|--------------------------------|
| Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxiran | Causes serious eye irritation. |
| P-tert-butylphenyl 1-(2,3-epoxy)propyl ether | Causes serious eye irritation. |

Respiratory or skin sensitization

Assessment:

May cause an allergic skin reaction.

Product data:

No data available.

Substance data:

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| Name | Result |
|--|--------------------------------------|
| Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxiran | May cause an allergic skin reaction. |
| P-tert-butylphenyl 1-(2,3-epoxy)propyl ether | May cause an allergic skin reaction. |

Carcinogenicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

International Agency for Research on Cancer (IARC): None of the ingredients are listed.

National Toxicology Program (NTP): None of the ingredients are listed.

Germ cell mutagenicity

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Reproductive toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Specific target organ toxicity (single exposure)

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Specific target organ toxicity (repeated exposure)

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Aspiration toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Information on likely routes of exposure:

No data available.

Symptoms related to the physical, chemical and toxicological characteristics:

Refer to Section 4 of this SDS.

Other information:

No data available.

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SECTION 12: Ecological information

Acute (short-term) toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data:

| Name | Result |
|--|---|
| Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxiran | EC50 Scenedesmus capricornutum: 9 mg/L (48 H) |

Chronic (long-term) toxicity

Assessment:

Toxic to aquatic life with long lasting effects.

Product data: No data available.

Substance data: No data available.

Persistence and degradability

Product data: No data available.

Substance data:

| Name | Result |
|--|--|
| P-tert-butylphenyl 1-(2,3-epoxy)propyl ether | Under test conditions, no biodegradation was observed (11% degradation after 28 days). |

Bioaccumulative potential

Product data: No data available.

Substance data: No data available.

Mobility in soil

Product data: No data available.

Substance data:

| Name | Result |
|--|------------------------------------|
| P-tert-butylphenyl 1-(2,3-epoxy)propyl ether | Moderately mobile (log Koc: 2.88). |

Results of PBT and vPvB assessment

Product data:

PBT assessment: This product does not contain any substances that are assessed to be a PBT.

vPvB assessment: This product does not contain any substances that are assessed to be a vPvB.

Substance data:

PBT assessment:

| | |
|--|----------------------------|
| P-tert-butylphenyl 1-(2,3-epoxy)propyl ether | This substance is not PBT. |
|--|----------------------------|

vPvB assessment:

| | |
|--|-----------------------------|
| P-tert-butylphenyl 1-(2,3-epoxy)propyl ether | This substance is not vPvB. |
|--|-----------------------------|

Other adverse effects: No data available.

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SECTION 13: Disposal considerations

Disposal methods:

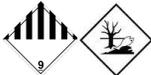
It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities

Contaminated packages:

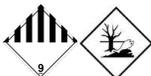
Not determined or not applicable.

SECTION 14: Transport information

Australian Dangerous Goods (ADG)

| | |
|--------------------------------------|---|
| UN number | UN3082 |
| UN proper shipping name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxiran and P-tert-butylphenyl 1-(2,3-epoxy)propyl ether) |
| UN transport hazard class(es) | 9  |
| Packing group | III |
| Environmental hazards | Marine Pollutant (Contains Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxiran and P-tert-butylphenyl 1-(2,3-epoxy)propyl ether) |
| Special precautions for user | None |
| Hazchem/Emergency Action Code | 3Z |
| Additional Information | This product is being shipped as a limited quantity, packaged in quantities below 5 L, in accordance with the ADG Code. |

International Maritime Dangerous Goods (IMDG)

| | |
|--------------------------------------|---|
| UN number | UN3082 |
| UN proper shipping name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxiran and P-tert-butylphenyl 1-(2,3-epoxy)propyl ether) |
| UN transport hazard class(es) | 9  |
| Packing group | III |
| Environmental hazards | Marine Pollutant (Contains Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxiran and P-tert-butylphenyl 1-(2,3-epoxy)propyl ether) |
| Special precautions for user | None |
| EmS number | F-A, S-F |
| Stowage category | A |

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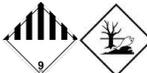
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Clear Epoxy Resin - Part A

| | |
|-------------------------------|--|
| Excepted quantities | E1 |
| Limited quantity | 5 L |
| Additional Information | This product is being shipped as a limited quantity, packaged in quantities below 5 L, in accordance with the IMDG Code. |

International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

| | |
|--------------------------------------|---|
| UN number | UN3082 |
| UN proper shipping name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxiran and P-tert-butylphenyl 1-(2,3-epoxy)propyl ether) |
| UN transport hazard class(es) | 9  |
| Packing group | III |
| Environmental hazards | Marine Pollutant (Contains Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2-(chloromethyl)oxiran and P-tert-butylphenyl 1-(2,3-epoxy)propyl ether) |
| Special precautions for user | None |
| ERG code | 9L |
| Excepted quantities | E1 |
| Passenger and cargo | 450 L |
| Cargo aircraft only | 450 L |
| Limited quantity | 30 Kg G |
| Additional Information | This product is being shipped as a limited quantity, packaged in quantities below 30 Kg G, in accordance with the IATA Dangerous Goods Regulations. |

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

| | |
|---------------------------|------|
| Bulk Name | None |
| Ship type | None |
| Pollution category | None |

SECTION 15: Regulatory information

Australia regulations

Australian Inventory of Chemical Substances (AICS): All ingredients are listed or exempt.

Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP): None of the ingredients are listed.

SECTION 16: Other information

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Clear Epoxy Resin - Part A

Abbreviations and Acronyms: None

Disclaimer:

This SDS was authored in accordance with the Australian Work Health and Safety Regulations and supplemented by the Australian Code of Practice on the Preparation of Safety Data Sheets for Hazardous Chemicals. The information provided in this SDS is correct, to the best of our knowledge, based on information available. The information given is designed only as a guidance for safe handling, use, storage, transportation and disposal 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, unless specified in the text. The responsibility to provide a safe workplace remains with the user.

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Revision Notes:

| Revision Date | Notes |
|---------------|---|
| 2020-05-27 | Composition change; Aquatic hazard not communicated in Section 2. |

Additional information:

Version 2

End of Safety Data Sheet

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Clear Epoxy Hardener - Part B

SECTION 1: Identification

Product identifier

Product name: Clear Epoxy Hardener - Part B

Product code: 50112AUS, 50114AUS, 50132AUS



Recommended use of the product and restriction on use

Relevant identified uses: Adhesive Part B

Uses advised against: Not determined or not applicable.

Reasons why uses advised against: Not determined or not applicable.

Manufacturer or supplier details

Manufacturer:

United States

J-B Weld Company, LLC
400 CMH Road
Sulphur Springs, TX 75482
903-885-7696

Supplier:

Australia

HPP Lunds
1/195 Jackson Rd
Sunnybank Hills, Qld 4109
1300-306-781

Emergency telephone number:

Australia

InfoTrac

1300-366-961 (24 hours)

SECTION 2: Hazard(s) identification

GHS classification:

Serious eye damage, category 1

Flammable liquids, category 4

Skin sensitization, category 1

Skin irritation, category 2

Label elements

Hazard pictograms:



Signal word: Danger

Hazard statements:

H227 Combustible liquid

H318 Causes serious eye damage

H317 May cause an allergic skin reaction

H315 Causes skin irritation

Precautionary statements:

P280 Wear face protection

P210 Keep away from heat/ sparks/ open flames/ hot surfaces - No smoking

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Clear Epoxy Hardener - Part B

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray
P272 Contaminated work clothing should not be allowed out of the workplace
P264 Wash skin thoroughly after handling
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 Immediately call a POISON CENTER or doctor/physician
P370+P378 In case of fire: Use agents recommended in Section 5 for extinction.
P302+P352 IF ON SKIN: Wash with plenty of soap and water
P333+P313 If skin irritation or rash occurs: Get medical advice/attention
P321 Specific treatment (see supplemental first aid instruction on this label)
P362 Take off contaminated clothing and wash before reuse
P403+P235 Store in a well-ventilated place. Keep cool
P501 Dispose of contents/container in accordance to local regulations.

Hazards not otherwise classified:

None

SECTION 3: Composition and information on ingredients

| Identification | Name | Weight % |
|---------------------------|---|----------|
| CAS number: 72244-98-5 | Poly(oxy(methyl-1,2-ethanediyl)), alpha-hydro-omega-hydroxy-, ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1), 2-hydroxy-3-mercaptopropyl ether | >60 |
| CAS number: 100-51-6 | Benzyl Alcohol | 1-5 |
| CAS number: 140-31-8 | 1-Piperazineethanamine | 1-5 |
| CAS number: 25620-58-0 | 1,6-Hexanediamine, C,C,C-trimethyl- | 1-5 |
| CAS number: 112-24-3 | Triethylenetetramine | 1-5 |
| CAS number: 39423-51-3 | Propylidynetrimethanol, propoxylated, reaction products with ammonia | 1-5 |
| CAS number: 3033-62-3 | N,N,N',N'-tetramethyl-2,2'-oxybis(ethylamine) | <1 |
| CAS number: 919-30-2 | 3-aminopropyltriethoxysilane | 1-5 |

Additional Information: None

SECTION 4: First aid measures

Description of first aid measures

General notes:

Show this Safety Data Sheet to the doctor in attendance.

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After inhalation:

If inhaled, remove person to fresh air and place in a position comfortable for breathing. Keep person at rest. If breathing is difficult, administer oxygen. If breathing has stopped, provide artificial respiration. If experiencing respiratory symptoms, seek medical advice/attention.

After skin contact:

Remove contaminated clothing and shoes. Rinse skin with copious amounts of water [shower] for several minutes. Launder contaminated clothing before reuse. If symptoms develop or persist, seek medical advice/attention.

After eye contact:

Immediately rinse eyes with plenty of gently flowing lukewarm water for 15 minutes. Remove contact lenses if present and easy to do so. Protect unexposed eye. Seek immediate medical attention, preferably from an ophthalmologist.

After swallowing:

If swallowed, DO NOT induce vomiting unless told to do so by a physician or poison control center. Rinse mouth with water. Never give anything by mouth to an unconscious person. If spontaneous vomiting occurs, place on the left side with head down to prevent aspiration of liquid into the lungs. If symptoms develop or persist, seek medical advice/attention.

Most important symptoms and effects, both acute and delayed

Acute symptoms and effects:

Eye contact may result in irritation, redness, pain, inflammation, itching, burning, tearing, corneal damage and loss of vision.

Product is highly flammable. Exposure to sources of ignition may cause physical injury.

Dermal exposure may cause an allergic skin reaction. Symptoms may include irritation, redness, pain, rash, inflammation, itching, burning and dermatitis.

Skin contact may result in redness, pain, burning and inflammation.

Delayed symptoms and effects:

Effects are dependent on exposure (dose, concentration, contact time).

Immediate medical attention and special treatment

Specific treatment:

In case of eye contact, seek prompt medical attention while rinsing is continued.

Notes for the doctor:

Treat symptomatically.

SECTION 5: Fire fighting measures

Extinguishing media

Suitable extinguishing media:

Water mist/fog, carbon dioxide, dry chemical or alcohol resistant foam.

Unsuitable extinguishing media:

Do not use water jet.

Specific hazards during fire-fighting:

Combustible liquid. Will be easily ignitable by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard. Containers may

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explode when heated. Inhalation or contact with material may irritate or burn skin and eyes. Fire may produce irritating, corrosive and/or toxic gases. Vapors may cause dizziness or suffocation.

Special protective equipment for firefighters:

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

Special precautions:

Evacuate non-essential personnel. Ventilate closed spaces before entering. Consider initial evacuation for 300 meters in all directions. If tank/rail car is involved in the fire, ISOLATE for 800 meters in all directions. Fight fire from a maximum distance. Move containers from fire area if you can do it without risk. Use water spray/fog for cooling fire exposed containers. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. Always stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles. If this is impossible, withdraw from area and let fire burn. Stand by, at a safe distance, with extinguisher ready for possible re-ignition. A vapor-suppressing foam may be used to reduce vapors. Avoid unnecessary run-off of extinguishing media which may cause pollution. Do not handle damaged containers unless specialized to do so.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Evacuate unnecessary personnel. Ventilate area. Extinguish any sources of ignition. All equipment used when handling the product must be grounded. Wear recommended personal protective equipment (see Section 8). Avoid contact with skin, eyes and clothing. Avoid breathing mist, vapor, dust, fume and spray. Do not walk through spilled material. Wash thoroughly after handling.

Environmental precautions:

Prevent further leakage or spillage if safe to do so. Prevent from reaching drains, sewers and waterways. Discharge into the environment must be avoided.

Methods and material for containment and cleaning up:

Do not touch damaged containers or spilled material unless wearing appropriate personal protective clothing. Stop leak if you can do it without risk. A vapor-suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers for future disposal. Dispose of in accordance with all applicable regulations (see Section 13).

Reference to other sections:

For personal protective equipment see Section 8. For disposal see Section 13.

SECTION 7: Handling and storage precautions

Precautions for safe handling:

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical, ventilating and lighting equipment. Take action to prevent static discharges. Handle containers with caution. Use appropriate personal protective equipment (see Section 8). Use only with adequate ventilation. Avoid breathing mist/vapor/spray/dust. Do not eat, drink, smoke, or use personal products when handling chemical substances. Avoid contact with skin, eyes and clothing. Wash affected areas thoroughly after handling. Keep away from incompatible materials (See Section 10). Keep containers tightly closed when not in use.

Conditions for safe storage, including any incompatibilities:

Store in cool, dry, well-ventilated location out of direct sunlight. Keep away from food and beverages. Protect from freezing and physical damage. Store away from heat, open flames and other sources of

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ignition. Keep container tightly sealed. Store away from incompatible materials (See Section 10).

SECTION 8: Exposure controls and personal protection

Only those substances with limit values have been included below.

Occupational Exposure limit values:

No occupational exposure limits noted for the ingredient(s).

Biological limit values:

No biological exposure limits noted for the ingredient(s).

Information on monitoring procedures:

Not determined or not applicable.

Appropriate engineering controls:

Emergency eye wash stations and safety showers should be available in the immediate vicinity of use or handling. Provide adequate ventilation to maintain the airborne concentrations of vapor, mists, and/or dusts below the applicable workplace exposure limits, while observing recognized national standards (or equivalent).

Personal protection equipment

Eye and face protection:

Use safety glasses with side shields or goggles. Consider the use of a face shield for splash protection. Use eye protection equipment that has been tested and approved by recognized national standards (or equivalent).

Skin and body protection:

Chemical resistant, impervious gloves approved by the appropriate standards. Gloves must be inspected prior to use. Avoid skin contact with used gloves. Appropriate techniques should be used to remove used gloves and contaminated clothing. 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. Ensure that all personal protective equipment is approved by recognized national standards (or equivalent).

Respiratory protection:

If engineering controls do not maintain airborne concentrations below the applicable workplace exposure limits, or to an acceptable level (if exposure limits have not been established), a respirator approved by recognized national standards (or equivalent) must be worn.

General hygienic measures:

When handling chemical products, do not eat, drink or smoke. Wash hands after handling, before breaks, and at the end of the workday. Avoid contact with skin, eyes and clothing. Wash contaminated clothing before reuse. Perform routine housekeeping.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

| | |
|----------------|----------------------------------|
| Appearance | Clear Liquid |
| Odor | Not determined or not available. |
| Odor threshold | Not determined or not available. |

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| | |
|--|----------------------------------|
| pH | Not determined or not available. |
| Melting point/freezing point | Not determined or not available. |
| Initial boiling point/range | Not determined or not available. |
| Flash point (closed cup) | 67°C (153°F) |
| Evaporation rate | Not determined or not available. |
| Flammability (solid, gas) | Not determined or not available. |
| Upper flammability/explosive limit | Not determined or not available. |
| Lower flammability/explosive limit | Not determined or not available. |
| Vapor pressure | Not determined or not available. |
| Vapor density | Not determined or not available. |
| Density | 1.127 g/cm ³ |
| Relative density | Not determined or not available. |
| Solubilities | Not determined or not available. |
| Partition coefficient (n-octanol/water) | Not determined or not available. |
| Auto/Self-ignition temperature | Not determined or not available. |
| Decomposition temperature | Not determined or not available. |
| Dynamic viscosity | Not determined or not available. |
| Kinematic viscosity | Not determined or not available. |
| Explosive properties | Not determined or not available. |
| Oxidizing properties | Not determined or not available. |

Other information

SECTION 10: Stability and reactivity

Reactivity:

Not reactive under recommended handling and storage conditions.

Chemical stability:

Stable under recommended handling and storage conditions.

Possibility of hazardous reactions:

Hazardous reactions are not anticipated under recommended conditions of handling and storage.

Conditions to avoid:

Extreme heat, open flames, hot surfaces, sparks, ignition sources, static electricity and incompatible materials. Vapor accumulation in low or confined areas.

Incompatible materials:

None known.

Hazardous decomposition products:

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

SECTION 11: Hazard information

Acute toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

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Substance data:

| Name | Route | Result |
|--|------------|----------------------------------|
| Benzyl Alcohol | oral | LD50 Rabbit: 1040 mg/kg |
| | inhalation | LC50 Rat: 4.178 mg/L (4hr) |
| 1-Piperazineethanamine | oral | LD50 Chicken: 1500 mg/kg |
| | dermal | LD50 Rabbit: 867 mg/kg |
| Triethylenetetramine | oral | LD50 Rat: 2500 to 4340 mg/kg |
| | dermal | LD50 Rabbit: 550 to 805 mg/kg |
| Propylidynetrimethanol, propoxylated, reaction products with ammonia | oral | LD50 Rat: 550 mg/kg |
| | dermal | LD50 Rat: > 1000 mg/kg |
| N,N,N',N'-tetramethyl-2,2'-oxybis(ethylamine) | oral | LD50 Rat: 571 mg/kg |
| | inhalation | LC50 Rat: 4.0 mg/kg (4h aerosol) |
| | dermal | LD50 Rabbit: 750 mg/kg |
| 3-aminopropyltriethoxysilane | oral | LD50 rat: 1780 mg/kg |
| | inhalation | LC50 Rat: >5 ppmV (6 hours) |
| | dermal | LD50 Rabbit: >4000 mg/kg |

Skin corrosion/irritation

Assessment:

Causes skin irritation.

Product data:

Skin testing was performed per the OECD 435 methods using the Corrositex testing process, indicating the product is non-corrosive to skin.

Substance data:

| Name | Result |
|---|--|
| 1-Piperazineethanamine | Causes severe skin burns and eye damage. |
| 1,6-Hexanediamine, C,C,C-trimethyl- | Causes severe skin burns. |
| Triethylenetetramine | Corrosive to the skin. |
| N,N,N',N'-tetramethyl-2,2'-oxybis(ethylamine) | Causes severe skin burns. |
| 3-aminopropyltriethoxysilane | Causes severe skin burns. |

Serious eye damage/irritation

Assessment:

Causes serious eye damage.

Product data:

No data available.

Substance data:

| Name | Result |
|-------------------------------------|----------------------------|
| 1,6-Hexanediamine, C,C,C-trimethyl- | Causes serious eye damage. |

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| Name | Result |
|--|----------------------------|
| Propylidynetrimethanol, propoxylated, reaction products with ammonia | Causes serious eye damage |
| N,N,N',N'-tetramethyl-2,2'-oxybis(ethylamine) | Causes serious eye damage. |
| 3-aminopropyltriethoxysilane | Causes serious eye damage. |

Respiratory or skin sensitization

Assessment:

May cause an allergic skin reaction.

Product data:

No data available.

Substance data:

| Name | Result |
|---|--------------------------------------|
| Poly(oxy(methyl-1,2-ethanediyl)), alpha-hydro-omega-hydroxy-, ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1), 2-hydroxy-3-mercaptopropyl ether | May cause an allergic skin reaction. |
| 1,6-Hexanediamine, C,C,C-trimethyl- | May cause an allergic skin reaction. |
| Triethylenetetramine | May cause an allergic skin reaction. |

Carcinogenicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

International Agency for Research on Cancer (IARC): None of the ingredients are listed.

National Toxicology Program (NTP): None of the ingredients are listed.

Germ cell mutagenicity

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Reproductive toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Specific target organ toxicity (single exposure)

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data:

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| Name | Result |
|------------------------|--------------------------------------|
| 1-Piperazineethanamine | May cause an allergic skin reaction. |

Specific target organ toxicity (repeated exposure)

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Aspiration toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data:

No data available.

Substance data: No data available.

Information on likely routes of exposure:

No data available.

Symptoms related to the physical, chemical and toxicological characteristics:

Refer to Section 4 of this SDS.

Other information:

No data available.

SECTION 12: Ecological information

Acute (short-term) toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data:

| Name | Result |
|--|--|
| Propylidynetrimethanol, propoxylated, reaction products with ammonia | ErC50 Pseudokirchnerella subcapitata: 4.4 mg/L (72 hr) |
| | EC50 Daphnia magna: 13 mg/L (48 hr) |
| | LC50 Oncorhynchus mykiss: 100 mg/L (96 hr) |
| 3-aminopropyltriethoxysilane | LC50 Brachydanio rerio: >934 mg/L (96 hours) |
| | EC50 Daphnia magna: 331 mg/L (48 hours) |

Chronic (long-term) toxicity

Assessment:

Harmful to aquatic life with long lasting effects.

Product data: No data available.

Substance data:

| Name | Result |
|---|--|
| Poly(oxy(methyl-1,2-ethanediyl)), alpha-hydro-omega-hydroxy-, ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1), 2-hydroxy-3-mercaptopropyl ether | NOEC Daphnia magna (Water flea): 3.5 mg/L (21 d) |
| 1-Piperazineethanamine | EC50 Daphnia magna: 58 mg/L (48 hr) |

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Persistence and degradability

Product data: No data available.

Substance data:

| Name | Result |
|--|--|
| Benzyl Alcohol | Readily biodegradable in water (92-96% degradation after 14 days). |
| Propylidynetrimethanol, propoxylated, reaction products with ammonia | Not readily biodegradable (<5% degradation after 28 days). |
| N,N,N',N'-tetramethyl-2,2'-oxybis(ethylamine) | Not readily biodegradable (<10% degradation after 28 days). |

Bioaccumulative potential

Product data: No data available.

Substance data:

| Name | Result |
|--|--|
| 1-Piperazineethanamine | BCF: 2.8 - 6.3 |
| Propylidynetrimethanol, propoxylated, reaction products with ammonia | Due to the low log Pow bioaccumulation in organisms is not to be expected. |
| 3-aminopropyltriethoxysilane | BCF: 3.4 |

Mobility in soil

Product data: No data available.

Substance data:

| Name | Result |
|--|-------------------------------|
| 1-Piperazineethanamine | Hardly Mobile (Log Koc: 4.57) |
| Propylidynetrimethanol, propoxylated, reaction products with ammonia | Mobile (Koc: 15 L/kg). |
| 3-aminopropyltriethoxysilane | Low potential for adsorption. |

Results of PBT and vPvB assessment

Product data:

PBT assessment: This product does not contain any substances that are assessed to be a PBT.

vPvB assessment: This product does not contain any substances that are assessed to be a vPvB.

Substance data:

PBT assessment:

| | |
|--|----------------------------|
| Propylidynetrimethanol, propoxylated, reaction products with ammonia | This substance is not PBT. |
| N,N,N',N'-tetramethyl-2,2'-oxybis(ethylamine) | This substance is not PBT. |
| 3-aminopropyltriethoxysilane | The substance is not PBT. |

vPvB assessment:

| | |
|--|-----------------------------|
| Propylidynetrimethanol, propoxylated, reaction products with ammonia | This substance is not vPvB. |
|--|-----------------------------|

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| | |
|---|-----------------------------|
| N,N,N',N'-tetramethyl-2,2'-oxybis(ethylamine) | This substance is not vPvB. |
| 3-aminopropyltriethoxysilane | The substance is not vPvB. |

Other adverse effects: No data available.

SECTION 13: Disposal considerations

Disposal methods:

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities

Contaminated packages:

Not determined or not applicable.

SECTION 14: Transport information

Australian Dangerous Goods (ADG)

| | |
|-------------------------------|---------------|
| UN number | Not regulated |
| UN proper shipping name | Not regulated |
| UN transport hazard class(es) | None |
| Packing group | None |
| Environmental hazards | None |
| Special precautions for user | None |

International Maritime Dangerous Goods (IMDG)

| | |
|-------------------------------|---------------|
| UN number | Not regulated |
| UN proper shipping name | Not regulated |
| UN transport hazard class(es) | None |
| Packing group | None |
| Environmental hazards | None |
| Special precautions for user | None |

International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

| | |
|-------------------------------|---------------|
| UN number | Not regulated |
| UN proper shipping name | Not regulated |
| UN transport hazard class(es) | None |
| Packing group | None |
| Environmental hazards | None |
| Special precautions for user | None |

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

| | |
|-----------|------|
| Bulk Name | None |
|-----------|------|

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| | |
|--------------------|------|
| Ship type | None |
| Pollution category | None |

SECTION 15: Regulatory information

Australia regulations

Australian Inventory of Chemical Substances (AICS): All ingredients are listed or exempt.

Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP): None of the ingredients are listed.

SECTION 16: Other information

Abbreviations and Acronyms: None

Disclaimer:

This SDS was authored in accordance with the Australian Work Health and Safety Regulations and supplemented by the Australian Code of Practice on the Preparation of Safety Data Sheets for Hazardous Chemicals. The information provided in this SDS is correct, to the best of our knowledge, based on information available. The information given is designed only as a guidance for safe handling, use, storage, transportation and disposal 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, unless specified in the text. The responsibility to provide a safe workplace remains with the user.

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Revision Notes:

| Revision Date | Notes |
|---------------|---|
| 2020-05-27 | Composition change; Aquatic hazard not communicated in Section 2. |

Additional information:

Version 2

End of Safety Data Sheet