Conforms to Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals

SAFETY DATA SHEET

🌔 Agilent Technologies

OPA Reagent

Section 1. Identification

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| Product identifier | : ØPA Reagent |
|--|---|
| Part no. | : 5061-3335 |
| Relevant identified uses o | f the substance or mixture and uses advised against |
| Identified uses | : Reagents and Standards for Analytical Chemistry Laboratory Use 6 x 1 ml ampoule |
| Supplier/Manufacturer | : Agilent Technologies Australia Pty Ltd 679 Springvale Road Mulgrave Victoria 3170, Australia 1800 802 402 |
| Emergency telephone number (with hours of operation) | : CHEMTREC®: +(61)-290372994 |

Section 2. Hazard(s) identification

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Classification of the substance or mixture

| H290 | CORROSIVE TO METALS - Category 1 |
|------|---|
| H302 | ACUTE TOXICITY (oral) - Category 4 |
| H314 | SKIN CORROSION/IRRITATION - Category 1A |
| H318 | SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 |
| H317 | SKIN SENSITISATION - Category 1 |
| H360 | REPRODUCTIVE TOXICITY - Category 1 |
| H411 | LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2 |

GHS label elements

Hazard pictograms

| Signal word | : | DANGER |
|----------------------------|---|---|
| Hazard statements | : | M290 - May be corrosive to metals. H302 - Harmful if swallowed. H314 - Causes severe skin burns and eye damage. H317 - May cause an allergic skin reaction. H360 - May damage fertility or the unborn child. H411 - Toxic to aquatic life with long lasting effects. |
| Precautionary statements | | |
| Prevention | - | 201 - Obtain special instructions before use. P280 - Wear protective gloves, protective clothing and eye or face protection. P273 - Avoid release to the environment. |
| Response | 1 | ₱391 - Collect spillage. P308 + P313 - IF exposed or concerned: Get medical advice or attention. |
| Storage | 1 | Not applicable. |
| Disposal | 1 | P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. |
| Supplemental label element | • | |

Supplemental label elements

Section 2. Hazard(s) identification

Additional warning phrases

: Not applicable.

Other hazards which do not : Causes severe digestive tract burns.

result in classification

Section 3. Composition and ingredient information

Substance/mixture

: Mixture

CAS number/other identifiers

| Ingredient name | % (w/w) | CAS number |
|--------------------------|---------|------------|
| Potassium hydroxide | ≤10 | 1310-58-3 |
| boric acid | ≤5 | 10043-35-3 |
| 3-Mercaptopropionic acid | ≤3 | 107-96-0 |
| Methanol | <3 | 67-56-1 |
| Phthalaldehyde | <2.5 | 643-79-8 |
| Potassium thiocyanate | ≤3 | 333-20-0 |

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

The total concentration of ingredients in this product, reported or not in this section, is 100%.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

| Description of necessary fir | <u>st aid measures</u> |
|------------------------------|---|
| Eye contact | : Get medical attention immediately. Call a poison center or physician. 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 10 minutes. Chemical burns must be treated promptly by a physician. |
| Inhalation | : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. 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. |
| Skin contact | : Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 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. |

Section 4. First aid measures

| Section 4. First a | | |
|-----------------------------|---|---------------------------------|
| Ingestion | : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomitir unless directed to do so by medical personnel. If vomiting occurs, the head shou be kept low so that vomit does not enter the lungs. Chemical burns must be trea promptly by a physician. Never give anything by mouth to an unconscious person If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. | the ng uld ated on. |
| Most important symptoms/ | | |
| Potential acute health effe | <u>ts</u> | |
| Eye contact | : Causes serious eye damage. | |
| Inhalation | : No known significant effects or critical hazards. | |
| Skin contact | : Causes severe burns. May cause an allergic skin reaction. | |
| Ingestion | : Severely corrosive to the digestive tract. Causes severe burns. Harmful if swallowed. | |
| Over-exposure signs/sym | <u>toms</u> | |
| Eye contact | : Adverse symptoms may include the following: pain watering redness | |
| Inhalation | : Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations | |
| Skin contact | : Adverse symptoms may include the following: pain or irritation redness blistering may occur reduced foetal weight increase in foetal deaths skeletal malformations | |
| Ingestion | : Adverse symptoms may include the following: stomach pains reduced foetal weight increase in foetal deaths skeletal malformations | |
| Indication of immediate me | ical attention and special treatment needed, if necessary | |
| Notes to physician | : In case of inhalation of decomposition products in a fire, symptoms may be delay The exposed person may need to be kept under medical surveillance for 48 hour | |
| Specific treatments | : No specific treatment. | |
| Protection of first-aiders | : No action shall be taken involving any personal risk or without suitable training. I 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. | 9 |

See toxicological information (Section 11)

Section 5. Firefighting measures

| Extinguishing media | |
|--|--|
| Suitable extinguishing media | : Use an extinguishing agent suitable for the surrounding fire. |
| Unsuitable extinguishing media | : None known. |
| Specific hazards arising from the chemical | : In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life with long lasting effects. 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 metal oxide/oxides Formaldehyde. |
| Special protective actions for fire-fighters | : 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. |
| 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 | : 2R |
| | |

Section 6. Accidental release measures

| Personal precautions, protecti | ve equipment and emergency procedures |
|--------------------------------|--|
| For non-emergency personnel | : 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. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. |
| For emergency responders | If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel". |
| 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. Collect spillage. |
| Methods and material for cont | ainment and cleaning up |
| Methods for cleaning up | : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Absorb spillage to prevent material damage. Dispose of via a licensed waste disposal contractor. |

Section 7. Handling and storage

Precautions for safe handling

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Section 7. Handling and storage

| Protective measures | : | Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. Absorb spillage to prevent material damage. |
|--|---|---|
| Advice on general occupational hygiene | : | Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures. |
| Conditions for safe storage, including any incompatibilities | : | Store between the following temperatures: 2 to 8°C (35.6 to 46.4°F). Store in accordance with local regulations. 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. Store in corrosive resistant container with a resistant inner liner. Store locked up. Keep away from metals. 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. See Section 10 for incompatible materials before handling or use. |

Section 8. Exposure controls and personal protection

Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|-----------------------|---|
| Potassium hydroxide | Safe Work Australia (Australia, 10/2022). |
| | PEAK: 2 mg/m ³ |
| boric acid | ACGIH TLV (United States, 1/2023). |
| | [Borate compounds, Inorganic] |
| | TWA: 2 mg/m ³ 8 hours. Form: Inhalable |
| | fraction |
| | STEL: 6 mg/m ³ 15 minutes. Form: |
| | Inhalable fraction |
| Methanol | Safe Work Australia (Australia, 10/2022). |
| | Absorbed through skin. |
| | STEL: 328 mg/m ³ 15 minutes. |
| | STEL: 250 ppm 15 minutes. |
| | TWA: 262 mg/m ³ 8 hours. |
| | TWA: 200 ppm 8 hours. |
| Phthalaldehyde | ACGIH TLV (United States, 1/2023). |
| | Absorbed through skin. Skin sensitiser. |
| | Inhalation sensitiser. |
| | C: 0.1 ppb Form: Vapor fraction |
| | SL: 25 mg/100 cm ² |
| Potassium thiocyanate | Safe Work Australia (Australia, 10/2022). |
| | [Cyanides] Absorbed through skin. |
| | TWA: 5 mg/m³, (as CN) 8 hours. |

Biological exposure indices

No exposure indices known.

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Section 8. Exposure controls and personal protection

| Appropriate engineering controls | If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. |
|----------------------------------|---|
| 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. |
| Individual protection meas | <u>Ires</u> |
| 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. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location. |
| Eye/face protection | : 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, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead. |
| Skin protection | |
| Hand protection | : 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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. |
| Body protection | 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. |
| Other skin protection | Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. |
| Respiratory protection | : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. |
| | appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other importan |

Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

| Appearance | | |
|---|---|-----------------|
| Physical state | : | Liquid. |
| Colour | : | Yellow. [Light] |
| Odour | : | Slight |
| Odour threshold | : | Not available. |
| рН | : | 10.4 |
| Melting point/freezing point | : | Not available. |
| Boiling point, initial boiling point, and boiling range | : | Not available. |
| Flash point | : | |

Section 9. Physical and chemical properties and safety characteristics

| | | | | Closed cup | | | Open cup | | |
|--|----|-----------------------|-----------|------------|-----------------|----------|--------------|---------------------------------------|--|
| | | Ingredient name | °C | °F | Method | °C | °F | Method | |
| | | Methanol | 9.7 | 49.5 | Abel- Pensky | - | - | - | |
| | | Phthalaldehyde | >110 | >230 | Setaflash | - | - | - | |
| Evaporation rate | 1 | <1 (butyl acetate = 1 | 1) | | | | | | |
| Flammability | : | Not applicable. | | | | | | | |
| Lower and upper explosion limit/flammability limit | 1 | Not available. | | | | | | | |
| Vapour pressure | 1 | | Vapou | r Press | sure at 20°C | Vapo | our pres | sure at 50°C | |
| | | Ingredient name | mm Hg | kPa | Method | mm Hg | kPa | Method | |
| | | Methanol | 126.96329 | 16.9 | - | - | - | - | |
| | | water | 17.5 | 2.3 | - | 92.258 | 12.3 | - | |
| Relative vapour density | : | Not available. | | | | | | | |
| Relative density | : | 1.045 | | | | | | | |
| Density | 1 | 1.045 g/cm³ | | | | | | | |
| Solubility(ies) | 1 | Media Result | | | | | | | |
| | | water | | | Soluble | | | | |
| Miscible with water | : | Yes. | | | | | | | |
| Partition coefficient: n- octanol/water | : | Not applicable. | | | | | | | |
| Auto-ignition temperature | 1 | Ingredient name | | °C | °F | N | lethod | | |
| | | Methanol | | 455 | 851 | D | IN 5179 | 4 | |
| Decomposition temperature | : | Not available. | | 1 | I | I | | | |
| Viscosity | : | Not available. | | | | | | | |
| Particle characteristics | | | | | | | | | |
| Median particle size | 4 | Not applicable. | | | | | | | |
| Section 10. Stabili | ty | and reactivi | ty | | | | | | |
| Depetivity | | No enceific test date | walat-14 | | | | والمعالم الم | · · · · · · · · · · · · · · · · · · · | |

| Reactivity | : No specific test data related to reactivity available for this product or its ingredients. |
|------------------------------------|--|
| 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 | : No specific data. |
| Incompatible materials | : Reactive or incompatible with the following materials: metals Reactive or incompatible with the following materials: reducing materials. |
| Hazardous decomposition products | : Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

| Date of issue/Date of revision | :08/05/2024 | Date of previous issue | : 13/03/2023 | Version : 8 | 7/13 |
|--------------------------------|-------------|------------------------|--------------|-------------|------|
|--------------------------------|-------------|------------------------|--------------|-------------|------|

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|--------------------------|---------------------------------|----------------|--------------|----------|
| Potassium hydroxide | LD50 Oral | Rat | 273 mg/kg | - |
| boric acid | LC50 Inhalation Dusts and mists | Rat - Male, | >2.12 mg/l | 4 hours |
| | | Female | | |
| | LD50 Dermal | Rabbit - Male, | >2000 mg/kg | - |
| | | Female | | |
| 3-Mercaptopropionic acid | LC50 Inhalation Dusts and mists | Rat - Male, | 1818 mg/m³ | 4 hours |
| | | Female | | |
| | LD50 Oral | Rat | 96 mg/kg | - |
| Methanol | LC50 Inhalation Vapour | Rat | 189.95 mg/l | 1 hours |
| | LC50 Inhalation Vapour | Rat | 145000 ppm | 1 hours |
| | LC50 Inhalation Vapour | Rat | 83.84 mg/l | 4 hours |
| | LC50 Inhalation Vapour | Rat | 64000 ppm | 4 hours |
| | LD50 Dermal | Rabbit | 15800 mg/kg | - |
| | LD50 Oral | Rat | 5600 mg/kg | - |
| Phthalaldehyde | LD50 Dermal | Rat | >2000 mg/kg | - |
| | LD50 Oral | Rat | 238.12 mg/kg | - |
| Potassium thiocyanate | LD50 Oral | Rat | 854 mg/kg | - |

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|-------------------------|--------------------------|------------|-------|--------------------|-------------|
| Potassium hydroxide | Eyes - Moderate irritant | Rabbit | - | 24 hours 1 mg | - |
| | Skin - Severe irritant | Guinea pig | - | 24 hours 50 mg | - |
| | Skin - Severe irritant | Rabbit | - | 24 hours 50 mg | - |
| Methanol | Eyes - Moderate irritant | Rabbit | - | 24 hours 100 mg | - |
| | Eyes - Moderate irritant | Rabbit | - | 40 mg | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 20 mg | - |

Sensitisation

Not available.

<u>Mutagenicity</u>

| Conclusion/Summary | : Not available. |
|---------------------------|------------------|
| Carcinogenicity | |
| Conclusion/Summary | : Not available. |
| Reproductive toxicity | |
| Conclusion/Summary | : Not available. |
| Teratogenicity | |

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

| Name | Category | Route of exposure | Target organs |
|----------------|------------|-------------------|---|
| Methanol | Category 1 | - | central nervous system (CNS), optic nerve |
| Phthalaldehyde | Category 3 | - | Respiratory tract irritation |

Specific target organ toxicity (repeated exposure)

Not available.

Section 11. Toxicological information

Aspiration hazard

Not available.

| Information on likely routes of exposure | : | Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes. |
|--|------------|--|
| Potential acute health effects | | |
| Eye contact | 1 | Causes serious eye damage. |
| Inhalation | 1 | No known significant effects or critical hazards. |
| Skin contact | 1 | 🖉 auses severe burns. May cause an allergic skin reaction. |
| Ingestion | : | Severely corrosive to the digestive tract. Causes severe burns. Harmful if swallowed. |
| Symptoms related to the phy | <u>sic</u> | al, chemical and toxicological characteristics |
| Eye contact | : | Adverse symptoms may include the following: pain watering redness |
| Inhalation | : | Adverse symptoms may include the following: reduced foetal weight increase in foetal deaths skeletal malformations |
| Skin contact | : | Adverse symptoms may include the following: pain or irritation redness blistering may occur reduced foetal weight increase in foetal deaths skeletal malformations |
| Ingestion | : | Adverse symptoms may include the following: stomach pains reduced foetal weight increase in foetal deaths skeletal malformations |
| Delayed and immediate effec | <u>ts</u> | as well as chronic effects from short and long-term exposure |

| Short term exposure Potential immediate : Not available. effects : Not available. Potential delayed effects : Not available. Long term exposure : Not available. Potential immediate : Not available. effects : Not available. Potential delayed effects : Not available. effects : Not available. Potential delayed effects : Not available. Potential chronic health effects : 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. Reproductive toxicity : May damage fertility or the unborn child. | Delayeu anu inineulate enec | 13 | as well as chronic enects from short and long-term exposure |
|---|-------------------------------|-----|---|
| effects Potential delayed effects : Not available. Long term exposure Potential immediate : Not available. effects : Not available. Potential delayed effects : Not available. Potential delayed effects : Not available. Potential chronic health effects : 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. | <u>Short term exposure</u> | | |
| Long term exposure Potential immediate : Not available. effects Potential delayed effects : Not available. Potential chronic health effects General : 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. | | : | Not available. |
| Potential immediate effects: Not available.Potential delayed effects: Not available.Potential chronic health effectsGeneral: Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.Carcinogenicity Mutagenicity: No known significant effects or critical hazards.Wutagenicity: No known significant effects or critical hazards. | Potential delayed effects | : | Not available. |
| effects Potential delayed effects : Not available. Potential chronic health effects General : 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. | Long term exposure | | |
| Potential chronic health effects General : 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. | | : | Not available. |
| General: 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. | Potential delayed effects | : | Not available. |
| to very low levels.Carcinogenicity: No known significant effects or critical hazards.Mutagenicity: No known significant effects or critical hazards. | Potential chronic health effe | ect | <u>s</u> |
| Mutagenicity : No known significant effects or critical hazards. | General | : | |
| • | Carcinogenicity | 1 | No known significant effects or critical hazards. |
| Reproductive toxicity : May damage fertility or the unborn child. | Mutagenicity | 1 | No known significant effects or critical hazards. |
| | Reproductive toxicity | : | May damage fertility or the unborn child. |

Numerical measures of toxicity Acute toxicity estimates

Section 11. Toxicological information

| Product/ingredient name | Oral (mg/ kg) | Dermal (mg/kg) | Inhalation (gases) (ppm) | Inhalation (vapours) (mg/l) | Inhalation (dusts and mists) (mg/l) |
|--------------------------|------------------|-------------------|--------------------------------|-----------------------------------|--|
| ØPA Reagent | 1715.2 | 15000.0 | N/A | 150.0 | 90.9 |
| Potassium hydroxide | 500 | N/A | N/A | N/A | N/A |
| boric acid | 5100 | N/A | N/A | N/A | N/A |
| 3-Mercaptopropionic acid | 96 | N/A | N/A | N/A | 1.818 |
| Methanol | 100 | 300 | N/A | 3 | N/A |
| Phthalaldehyde | 238.12 | N/A | N/A | N/A | N/A |
| Potassium thiocyanate | 854 | N/A | N/A | N/A | N/A |

Other information

: Adverse symptoms may include the following: blurred or double vision, Eye contact can result in corneal damage or blindness. Repeated or prolonged exposure to the substance can produce liver damage. Narcotic effect. May cause nervous system disturbances.

Section 12. Ecological information

| <u>Toxicity</u> | | | |
|--------------------------|---|---|----------------------|
| Product/ingredient name | Result | Species | Exposure |
| Potassium hydroxide | Acute LC50 80 ppm Fresh water | Fish - Gambusia affinis - Adult | 96 hours |
| boric acid | Acute LC50 45.5 mg/l Fresh water | Crustaceans - Ceriodaphnia dubia | 48 hours |
| | Acute LC50 133000 μg/l Fresh water | Daphnia - <i>Daphnia magna</i> - Neonate | 48 hours |
| | Acute LC50 75 mg/l Marine water | Fish - Pagrus major | 96 hours |
| | Chronic NOEC 6000 µg/l Fresh water | Daphnia - Daphnia magna | 21 days |
| | Chronic NOEC 2100 µg/l Fresh water | Fish - Oncorhynchus mykiss | 87 days |
| 3-Mercaptopropionic acid | Acute EC50 26 mg/l Fresh water | Algae | 72 hours |
| | Acute EC50 9 mg/l Fresh water | Daphnia | 48 hours |
| | Acute LC50 98 mg/l Fresh water | Fish | 96 hours |
| | Acute NOEC 4.1 mg/l Fresh water | Algae | 72 hours |
| Methanol | Acute EC50 2736 mg/l Marine water | Algae - Ulva pertusa | 96 hours |
| | Acute LC50 2500000 µg/l Marine water | Crustaceans - Crangon crangon | 48 hours |
| | Acute LC50 3289 mg/l Fresh water | Daphnia - <i>Daphnia magna</i> - Neonate | 48 hours |
| | Acute LC50 290 mg/l Fresh water | Fish - <i>Danio rerio</i> - Egg | 96 hours |
| | Chronic NOEC 9.96 mg/l Marine water | Algae - Ulva pertusa | 96 hours |
| Phthalaldehyde | Acute EC50 90 ppb Fresh water | Daphnia - Daphnia magna | 48 hours |
| 2 | Acute LC50 20 ppb Fresh water | Fish - Oncorhynchus mykiss | 96 hours |
| Potassium thiocyanate | Acute LC50 11000 µg/l Fresh water Acute LC50 20.8 mg/l Fresh water | Daphnia - <i>Daphnia pulex</i> Fish - <i>Oncorhynchus mykiss</i> | 48 hours 96 hours |
| | Chronic NOEC 1100 µg/l Fresh water | Fish - <i>Lepomis macrochirus</i> - Juvenile (Fledgling, Hatchling, Weanling) | 124 days |

Persistence and degradability

| Product/ingredient name | Test | Result | Dose | Inoculum |
|-------------------------|--|--------------------------|------|----------|
| | 301A Ready Biodegradability - DOC Die-Away Test | 96 % - Readily - 28 days | - | - |

Section 12. Ecological information

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|--------------------------|-------------------|------------|------------------|
| boric acid | - | - | Not readily |
| 3-Mercaptopropionic acid | - | - | Readily |
| Methanol | - | - | Readily |

Bioaccumulative potential

| Product/ingredient name | LogPow | BCF | Potential |
|--------------------------|--------|-----|-----------|
| boric acid | -1.09 | - | Low |
| 3-Mercaptopropionic acid | -2.32 | - | Low |
| Methanol | -0.77 | <10 | Low |
| Phthalaldehyde | 0.99 | - | Low |
| Potassium thiocyanate | -2.52 | - | Low |

Mobility in soil

Soil/water partition coefficient (Koc)

: Not available.

Other adverse effects

: No known significant effects or critical hazards.

Section 13. Disposal considerations

| Disposal methods | : The generation of waste should be avoided or minimised wherever possible. 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. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. |
|------------------|---|
| | and contact min con, water ways, drame and coword. |

Section 14. Transport information

ADG / IMDG / IATA : Not regulated as Dangerous Goods according to the ADG Code .

Additional information

Remarks: De minimis quantities

Special precautions for user : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments

Proper shipping name Remarks

- : Potassium hydroxide solution
- : **Liquid bulk cargoes:** Ship type: 3 Pollution category: Y

Section 15. Regulatory information

Standard for the Uniform Scheduling of Medicines and Poisons 6, 5

Model Work Health and Safety Regulations - Scheduled Substances

Section 15. Regulatory information

| Ingredient name | <u>Schedule</u> | |
|-----------------|---|--|
| | Restricted hazardous chemical [For spray painting if the substance contains more than 1% by volume] | |

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC) Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

| Australia | 4 | All components are listed or exempted. |
|---------------|---|--|
| New Zealand | 1 | All components are listed or exempted. |
| United States | 1 | All components are active or exempted. |

Section 16. Any other relevant information

| <u>History</u> | |
|--------------------------------|---|
| Date of issue/Date of revision | : 08/05/2024 |
| Date of previous issue | : 13/03/2023 |
| Version | : 8 |
| Key to abbreviations | ADG = Australian Dangerous Goods ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Internediate Bulk Container IMDG = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coefficient MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution) N/A = Not available SUSMP = Standard Uniform Schedule of Medicine and Poisons UN = United Nations |

Procedure used to derive the classification

| Classification | Justification |
|---|--------------------|
| CORROSIVE TO METALS - Category 1 | Expert judgment |
| ACUTE TOXICITY (oral) - Category 4 | Calculation method |
| SKIN CORROSION/IRRITATION - Category 1A | Calculation method |
| SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 | Calculation method |
| SKIN SENSITISATION - Category 1 | Calculation method |
| REPRODUCTIVE TOXICITY - Category 1 | Calculation method |
| LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2 | Calculation method |

V Indicates information that has changed from previously issued version.

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Section 16. Any other relevant information

Notice to reader

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