1. Identification

GHS Product Identifier: OXALIC ACID Dihydrate
Company Name: CHEM-SUPPLY PTY LTD (ABN 19 008 264 211)
Address: 38 - 50 Bedford Street GILLMAN
SA 5013 Australia
Telephone/Fax Number: Tel: (08) 8440-2000
Fax: (08) 8440-2001

Recommended use of the chemical and restrictions on use:
Bleaching textiles, flameproofing, rust removal, printing, dyeing, metal and equipment cleaning,
anti-corrosion coating, chemical intermediate, catalyst, ceramics, photography, rubber, purifying agent,
automobile radiator cleanser, leather tanning, stripping agent for permanent-press resins, rare-earth
processing and laboratory reagent.

Other Names

Name | Product Code
---|---
OXALIC ACID Dihydrate LR | OL007
OXALIC ACID Dihydrate AR | OA007
Ethanedionic acid, Ethanedioic acid, Dicarboxylic acid

Other Information

EMERGENCY CONTACT NUMBER: +61 08 8440 2000
Business hours: 8:30am to 5:00pm, Monday to Friday.

Chem-Supply Pty Ltd does not warrant that this product is suitable for any use or purpose. The user
must ascertain the suitability of the product before use or application intended purpose. Preliminary
testing of the product before use or application is recommended. Any reliance or purported reliance
upon Chem-Supply Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of
this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by
any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded.
This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices
Act apply, the liability of Chem-Supply Pty Ltd is limited to the replacement of supply of equivalent goods
or payment of the cost of replacing the goods or acquiring equivalent goods.

2. Hazard Identification

GHS classification of the substance/mixture

Signal Word (s) | Hazard Statement (s) | Pictogram (s)
---|---|---
DANGER | H302 Harmful if swallowed. | Corrosion, Exclamation mark
H312 Harmful in contact with skin. | |
H318 Causes serious eye damage. | |

Precautionary statement – Prevention

P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P302+P303+P352 IF ON SKIN: Wash with plenty of soap and water.
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.
P330 Rinse mouth.
P363 Wash contaminated clothing before reuse.

Precautionary statement – Response

3. Composition/information on ingredients

Chemical Characterization | Ingredients
---|---
Solid | Name | CAS | Proportion | Hazard Symbol | Risk Phrase

Print Date: 23/03/2015 CS: 1.7.2
4. First-aid measures

Inhalation: If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

Ingestion: DO NOT INDUCE VOMITING. Wash out mouth with water. Seek immediate medical attention.

Skin: Wash affected areas with copious quantities of water immediately. Remove contaminated clothing and wash before re-use. Seek immediate medical advice.

Eye contact: Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. Seek immediate medical assistance.

First Aid Facilities: Maintain eyewash fountain and safety shower in work area.

Advice to Doctor: Consult Poisons Information Centre.

Other Information: If poisoning occurs, contact a Doctor or Poisons Information Centre. Phone 13 1126 from anywhere in Australia.

5. Fire-fighting measures

Hazardous combustion products: Carbon monoxide, carbon dioxide and formic acid.

Specific Methods: Small fire: Use dry chemical, CO2, water spray. Large fire: Use dry chemical, CO2, water spray or foam - Do not use water jets!

Specific hazards arising from the chemical: May burn but do not ignite readily.

Precautions in connection with fire: Wear SCBA and chemical splash suit. Fully-encapsulating, gas-tight suits should be worn for maximum protection. Structural firefighter's uniform is NOT effect for these materials.

6. Accidental release measures

Personal Precautions: Avoid substance contact. Avoid generation of dusts: do not inhale dusts. Ensure supply of fresh air in enclosed rooms.

Personal Protection: Wear protective clothing specified for normal operations (see Section 8).

Clean-up Methods - Small Spillages: Sweep up (avoid generating dust) and remove to a suitable, clearly labelled container for disposal in accordance with local regulations.

Environmental Precautions: Prevent from entering into drains, ditches, rivers or the sea.

7. Handling and storage

Precautions for Safe Handling: Avoid generation or accumulation of dusts. Wash hands and face thoroughly after working with material.

Conditions for safe storage, including any incompatibilities: Store in a cool, dry place. Store in well ventilated area. Store away from sources of heat or ignition. Store away from oxidizing agents. Keep containers closed at all times.

Corrosiveness: Dry oxalic acid is not corrosive to metals; oxalic acid in solution is corrosive to metals.

Storage Regulations: Refer Australian Standard AS 4452:1997 'The storage and handling of toxic substances'.

8. Exposure controls/personal protection

<table>
<thead>
<tr>
<th>Occupational exposure limit values</th>
<th>Name</th>
<th>STEL</th>
<th>mg/m3</th>
<th>ppm</th>
<th>TWA</th>
<th>mg/m3</th>
<th>ppm</th>
<th>Footnote</th>
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<tr>
<td>Oxalic Acid Dihydrate</td>
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Appropriate engineering controls: In industrial situations maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. Recommendation: Extraction hood.
Respiratory Protection: Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

Eye Protection: The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336. Recommendation: Goggles or face-shield.

Hand Protection: Hand protection should comply with AS 2161, Occupational protective gloves - Selection, use and maintenance. Recommendation: nitrile, butyl rubber, neoprene or PVC) are suitable. PVA gloves are not suitable for handling oxalic acid or its solutions.

Eye Protection: Final choice of personal protective equipment will depend on individual circumstances and/or according to risk assessments undertaken.

Footwear: Safety boots in industrial situations is advisory, foot protection should comply with AS 2210, Occupational protective footwear - Guide to selection, care and use.

Body Protection: Clean clothing or protective clothing should be worn, preferably with an apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Hygiene Measures: Always wash hands before smoking, eating or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

9. Physical and chemical properties

Form: Solid

Appearance: Transparent, colourless crystals.

Odour: Odourless.

Melting Point: 101.5 °C

Boiling Point: 149-160 °C

Solubility in Water: Soluble (102 g/L @ 20 °C)

Solubility in Organic Solvents: Soluble in alcohol, ether and glycerol. Practically insoluble in benzene, chloroform and petroleum ether.

Specific Gravity: 1.65 (@ 18.5°C/4°C)

pH: pH ~1 (100g/l H2O)

Vapour Pressure: <0.001 mm Hg @ 20 °C

Partition Coefficient: Log P (o/w): -0.81

n-octanol/water: Combustible.

Molecular Weight: 126.07

Other Information: ACIDITY: Strong acid; pK1 = 1.27, pK2 = 4.28.

10. Stability and reactivity

Chemical Stability: Normally stable. If heated to melting point, sublimation and decomposition occurs.

Conditions to Avoid: Heat, flames, ignition sources and incompatibles.

Incompatible Materials: Alkalis, ammonia, salts of oxyhalogenic acids, oxidizing agent, hypochlorates, furfuryl alcohol, silver compounds, metals and water/heat.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide and formic acid.

Possibility of hazardous reactions: In contact with bases, vigorous reaction may occur yielding heat and pressure. In contact with oxidizing agents, violent reaction or explosion may occur. In contact with iron and iron compounds, may react rapidly to form ferric oxalate. In contact with alkali metals, may react violently and produce flammable hydrogen gas. In contact with silver, may form explosive silver oxalate. In contact with acid chlorides, may react vigorously producing toxic fumes.

Hazardous Polymerization: Will not occur.
11. Toxicological Information

**Acute Toxicity - Oral**
- LD50 (female rat): 375 mg/kg.

**Ingestion**
Irritation of mucous membranes in the mouth, pharynx, oesophagus, and gastrointestinal tract. Rapid absorption. After absorption: nausea, vomiting, disturbed electrolyte balance, agitation, spasms, cardiovascular failure, collapse. Estimated fatal dose is 5 to 15 grams. May cause renal damage, due to bloody urine.

**Inhalation**
Irritation of the mucous membranes of the nose, throat and respiratory tract, coughing and dyspnoea.

**Skin**
Harmful in contact with skin. Irritant and caustic effects, tissue damage. Danger of skin absorption. Solutions of 5-10% acid are irritating to the skin after prolonged exposure and can cause corrosive injury. Excessive contact may produce a delayed localized pain, discoulouration of the skin with fingernails becoming brittle and blue-coloured, ulcers and gangrene.

**Eye**
Severe eye irritant. May cause redness, pain and damage to the cornea. If damage is restricted to the outer layer of the eye, recovery may occur within a few days. Prolonged contact with oxalic acid solutions can produce irreversible eye damage.

**Reproductive Toxicity**
Evidence of reproductive effects.

**Chronic Effects**
Long-term exposure to oxalic acid solutions, by ingestion, skin absorption and inhalation, is linked to stone formation (insoluble crystals of calcium oxalate salt or calculi) in the kidney and urinary tract. Painful abdominal spasms during the passing of the stone and painful and difficult urination may occur.

**Mutagenicity**
No evidence of mutagenic properties.

12. Ecological information

**Persistence and degradability**
Biodegradation: 40% / 5 d. Biodegradable.

**Mobility**
Water soluble, may spread in water systems and soil.

**Environmental Fate**
Behaviour in environmental compartments:
- Distribution: log P(o/w): -0.81 (water-free substance).
- No bioaccumulation is to be expected (log P(o/w < 1).

**Bioaccumulative Potential Information on Ecological Effects**
Highly toxic to aquatic life.

**Other Precautions**
Solutions with low pH should be neutralized prior to discharge to sewer.

**Acute Toxicity - Fish**
LC50 (Lidus): 160 mg/l / 48 h

**Acute Toxicity - Daphnia**
EC50 (Daphnia magna): 137 mg/l/48 h.

**Acute Toxicity - Other Organisms**
- COD: 0.18 g/g;
- TOD: 0.18 g/g;
- BOD5: 0.16 g/g.

Do not allow to enter waters, waste water, or soil!

13. Disposal considerations

**Disposal Considerations**
Whatever cannot be saved for recovery or recycling should be disposed of according to relevant local, state and federal government regulations.

14. Transport information

**Transport Information**
Class 8 Corrosives shall not be loaded in the same vehicle with: - Class 1 Explosives - Class 4. 3 Dangerous when wet substances - Class 5. 1 Oxidizing agents - Class 5. 2 Organic peroxides

**U.N. Number**
3261

**UN proper shipping name**
CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S.

**Transport hazard class(es)**
8

**Hazchem Code**
2X

**Packaging Method**
3.8.8

**Packing Group**
III

**IERG Number**
36
15. Regulatory information

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<tr>
<th>Regulatory Information</th>
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<td>Poisons Schedule</td>
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16. Other Information

<table>
<thead>
<tr>
<th>Literature References</th>
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<tbody>
<tr>
<td>'Standard for the Uniform Scheduling of Medicines and Poisons No. 4', Commonwealth of Australia, June 2013.</td>
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<td>Safe Work Australia, 'Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004)]'.</td>
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<td>Safe Work Australia, 'Hazardous Substances Information System, 2005'.</td>
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<td>Safe Work Australia, 'National Code of Practice for the Labelling of Safe Work Hazardous Substances (2011)'.</td>
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Contact Person/Point

Paul McCarthy Ph. (08) 8440 2000

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