Safety Data Sheet OXALIC ACID Dihydrate

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SECTION 1: Identification

GHS Product identifier

Product name	OXALIC ACID Dihydrate

Other means of identification

Product	Product Code
OXALIC ACID Dihydrate LR	OL007
OXALIC ACID Dihydrate AR	OA007

Ethanedionic acid, Ethanedioic acid, Dicarboxylic acid

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.

Supplier's details

Name	ChemSupply Australia Pty Ltd
Address	38-50 Bedford Street 5013 Gillman South Australia Australia
Telephone	08 8440 2000
email	www.chemsupply.com.au

Emergency phone number

CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

SECTION 2: Hazard identification

General hazard statement

Classified as dangerous goods according to the Australian Dangerous Goods Code (ADG).

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

Classification of the substance or mixture

GHS classification in accordance with: UN GHS revision 7

- Acute toxicity, dermal, Cat. 4
- Acute toxicity, oral, Cat. 4
- Serious eye damage/eye irritation, Cat. 1
- Skin corrosion/irritation, Cat. 1B
- Specific target organ toxicity following repeated exposure, Cat. 2

GHS label elements, including precautionary statements

Pictograms

Signal word	**Danger**

Hazard statement(s)

H302	Harmful if swallowed
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H373	May cause damage to organs through prolonged or repeated exposure [route]

Precautionary statement(s)

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P264	Wash hands 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/doctor/physcian if you feel unwell,
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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/doctor/physcian
P362+P364	Take off contaminated clothing and wash it before reuse.
P405	Store locked up.
P501	Dispose of contents/container to an approved waste disposal facility

SECTION 3: Composition/information on ingredients

Mixtures

Molecular weight: 126.07

Components

Component	CAS no.	Concentration
Oxalic acid dihydrate	**6153-56-6**	**<= 100 % (weight)**
CLASSIFICATIONS: Acute toxicity, dermal, Cat. 4; Acute toxicity, oral, Cat. 4; Skin corrosion/irritation, Cat. 1B; Specific target organ toxicity following repeated exposure, Cat. 2. HAZARDS: H302 - Harmful if swallowed; H312 - Harmful in contact with skin; H314 - Causes severe skin burns and eye damage; H373 - May cause damage to organs [organs] through prolonged or repeated exposure [route].		

SECTION 4: First-aid measures

Description of necessary first-aid measures

General advice	First Aid Facilities: Maintain eyewash fountain in work area.
If inhaled	If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Consult a physician.
In case of skin contact	Immediately remove contaminated clothing and wash affected area with water for at least 15 minutes. Ensure contaminated clothing is washed before re-use. Seek medical advice /attention depending on the severity.
In case of eye contact	Immediately irrigate with copious quantity of water for at least 15 minutes. Eyelids to be held open. Seek immediate medical assistance.
If swallowed	Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek immediate medical advice.

Most important symptoms/effects, acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of immediate medical attention and special treatment needed, if necessary
For advice, contact the National Poisons Information Centre (Phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

SECTION 5: Fire-fighting measures

Suitable extinguishing media
Small fire: Use dry chemical, CO2, water spray.
Large fire: Use dry chemical, CO2, water spray or foam - Do not use water jets!
If safe to do so, move undamaged containers from the fire area. Cool containers with flooding quantities of water until well after fire is out. Avoid getting water inside containers.

Specific hazards arising from the chemical
Hazards from Combustion Products: Carbon monoxide, carbon dioxide and formic acid.
May burn but do not ignite readily.

Special protective actions for fire-fighters
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.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures
Avoid substance contact. Avoid generation of dusts: do not inhale dusts. Ensure supply of fresh air in enclosed rooms. Evacuate the area of all non-essential personnel.
Wear protective clothing specified for normal operations (see Section 8)

Methods and materials for containment and cleaning up
Sweep up (avoid generating dust) and using clean non-sparking tools transfer to a clean, suitable, clearly labelled container for disposal in accordance with local regulations.
Prevent from entering into drains, ditches, rivers or the sea.

SECTION 7: Handling and storage

Precautions for safe handling
Avoid generation or accumulation of dusts. Wash hands and face thoroughly after working with material.
Work under hood.

Conditions for safe storage, including any incompatibilities
Corrosiveness: Dry oxalic acid is not corrosive to metals; oxalic acid in solution is corrosive to metals.

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.

SECTION 8: Exposure controls/personal protection

Appropriate engineering controls
Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face 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.

Skin protection
Clean impervious clothing should be worn. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Body protection
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 and apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

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.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Solid
Appearance	Transparent, colourless crystals.
Color	No data available.
Odor	Odourless.
Odor threshold	No data available.
Melting point/freezing point	101.5 °C
Boiling point or initial boiling point and boiling range	149-160 °C
Flammability	No data available.
Lower and upper explosion limit/flammability limit	No data available.
Flash point	No data available.
Explosive properties	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Oxidizing properties	No data available.
pH	pH ~1 (100g/l H2O)
Kinematic viscosity	No data available.
Solubility	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.
Partition coefficient n-octanol/water (log value)	Log P (o/w): -0.81
Vapor pressure	<0.001 mm Hg @ 20 °C
Evaporation rate	No data available.
Density and/or relative density	Specific Gravity: 1.65 (@ 18.5°C/4°C)
Relative vapor density	No data available.
Particle characteristics	No data available.

Supplemental information regarding physical hazard classes
No data available.

Further safety characteristics (supplemental)
Other Information: ACIDITY: Strong acid; pK1 = 1.27, pK2 = 4.28.

SECTION 10: Stability and reactivity

Reactivity
Stable under normal conditions of storage and handling.

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

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.

Conditions to avoid
Avoid storing in direct sunlight and avoid extremes of temperature.

Incompatible materials

Alkalis, ammonia, salts of oxyhalogenic acids, oxidizing agent, hypochlorates, furfuyl alcohol, silver compounds, metals and water/heat.

Hazardous decomposition products
Carbon monoxide, carbon dioxide and formic acid.

SECTION 11: Toxicological information

Information on toxicological effects

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

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

Inhalation: AUH071 Corrosive to the respiratory tract. Irritation of the mucous membrances of the nose, throat and respiratory tract, coughing and dyspnoea.

// ----- From the Suggestion report (07/04/2025, 11:49 AM) ----- //
The ATE (dermal) of the mixture is: 1100 mg/kg bw

// ----- From the Suggestion report (07/04/2025, 11:49 AM) ----- //
The ATE (oral) of the mixture is: 500 mg/kg bw

Skin corrosion/irritation
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, discolouration of the skin with fingernails becoming brittle and blue-coloured, ulcers and gangrene.

Serious eye damage/irritation
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.

Respiratory or skin sensitization
Not classified based on available information.

Germ cell mutagenicity
Not classified based on available information.

Carcinogenicity
Not classified based on available information.

Reproductive toxicity
Evidence of reproductive effects.

Specific target organ toxicity (STOT) - single exposure
Not classified based on available information.

Specific target organ toxicity (STOT) - repeated exposure
Specific Target Organ Toxicity - Repeated Exposure Category 2
H373 May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard
Not classified based on available information.

Additional information
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.

SECTION 12: Ecological information

Toxicity
Solutions with low pH should be neutralized prior to discharge to sewer.

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

Bioaccumulative potential
No bioaccumulation is to be expected (log P(o/w < 1).

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

Other adverse effects
Environmental Fate: Behaviour in environmental compartments:
Distribution: log P(o/w): -0.81 (water-free substance).

SECTION 13: Disposal considerations

Disposal methods

Product disposal
Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers.

Sewage disposal
No bioaccumulation is to be expected (log P(o/w < 1).

Other disposal recommendations
Do not discharge this material into waterways, drains and sewers.

SECTION 14: Transport information

ADG (Road and Rail)
UN Number: 3261
Class: 8
Packing Group: III
Proper Shipping Name: CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (OXALIC ACID, dihydrate)

Hazchem emergency action code (EAC)
2X

IMDG
UN Number: 3261

Class: 8
Packing Group: III
Proper Shipping Name: CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (OXALIC ACID, dihydrate)

IATA
UN Number: 3261
Class: 8
Packing Group: III
Proper Shipping Name: CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (OXALIC ACID, dihydrate)

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

Australia SUSMP
Poison Schedule: S6

SECTION 16: Other information

Further information/disclaimer
ChemSupply Australia 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 ChemSupply Australia 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 ChemSupply Australia 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.

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Standard for the Uniform Scheduling of Medicines and Poisons, Commonwealth of Australia
National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.'
Safe Work Australia, 'National Code of Practice fot the Preparation of Safety Data Sheets for Hazardous Chemicals', July 2020.
Safe Work Australia, 'National Guide for Classifying Hazardous Chemicals', July 2020.
Safe Work Australia, Workplace Exposure Standards for Airbourne Contaminants, December 2019
Safe Work Australia, Hazardous Chemical Information System (HCIS), hcis.safeworkaustralia.gov.au
IATA, Dangerous Goods Regulations (DGR)
IMO, International Maritime Dangerous Goods Code (IMDG)