

 <p>CHEMLABS Quality Our Forte</p>	<p>LEONID CHEMICALS PVT. LTD., BANGALORE</p> <p>An ISO-9001:2008 Certified Company</p> <p>Quality Assurance Department</p>	<p>(CODE) DOCUMENT : WI (CODE) SECTION : W/SM (DATE) : 01.04.2011</p>	 <p>Issue : 02 Rev.: 00</p>
<p>Title: MATERIAL SAFETY DATA SHEET (MSDS): OXALIC ACID DIHYDRATE</p>			<p>1 Page of 1</p>

Product name:
Oxalic acid dihydrate

Cat No:
0002

Synonyms:
Ethanedioic acid

CAS-No. :
6156-56-6

Company Information:

LEONID CHEMICALS Pvt Ltd,
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2. HAZARDS IDENTIFICATION

Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]
Acute toxicity, Dermal (Category 4)
Acute toxicity, Oral (Category 4)
Classification according to EU Directives 67/548/EEC or 1999/45/EC
Harmful in contact with skin and if swallowed.

Label elements

Labelling according Regulation (EC) No 1272/2008 [CLP]

Pictogram

Signal word Warning

Hazard statement(s)

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

Precautionary statement(s)

P280 Wear protective gloves/ protective clothing.

Supplemental Hazard

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<p>Title: MATERIAL SAFETY DATA SHEET (MSDS): OXALIC ACID DIHYDRATE</p>			<p>2 Page of 1</p>

Statements

none

According to European Directive 67/548/EEC as amended.

Hazard symbol(s)

R-phrase(s)

R21/22 Harmful in contact with skin and if swallowed.

S-phrase(s)

S24/25 Avoid contact with skin and eyes.

Other hazards - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula: $C_2H_2O_4 \cdot 2H_2O$

Molecular Weight: 126.07 g/mol

CAS-No.: 6156-56-6

4. FIRST AID MEASURES

Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Most important symptoms and effects, both acute and delayed burning sensation, Cough, wheezing, laryngitis, Shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

Indication of any immediate medical attention and special treatment needed

no data available

5. FIREFIGHTING MEASURES

Extinguishing media

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<p>Title: MATERIAL SAFETY DATA SHEET (MSDS): OXALIC ACID DIHYDRATE</p>			<p>3 Page of 1</p>

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special hazards arising from the substance or mixture

Carbon oxides

Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

Further information

no data available

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

6.2 Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed.

Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

hygroscopic

Specific end uses

no data available

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components with workplace control parameters

Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

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<p>Title: MATERIAL SAFETY DATA SHEET (MSDS): OXALIC ACID DIHYDRATE</p>			<p>4 Page of 1</p>

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique

(without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body Protection

Complete suit protecting against chemicals, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

- a) Appearance Form: crystalline
- Colour: colourless
- b) Odour: no data available
- c) Odour Threshold: no data available
- d) pH: 1 at 126.1 g/l at 25 °C
- e) Melting point/freezing point
Melting point/range: 100 - 102 °C - lit.
- f) Initial boiling point and boiling range: no data available
- g) Flash point: no data available
- h) Evaporation rate: no data available
- i) Flammability (solid, gas): no data available
- j) Upper/lower flammability or explosive limits: no data available
- k) Vapour pressure: < 0.01 hPa at 20 °C
- l) Vapour density: no data available
- m) Relative density: no data available
- n) Water solubility ca.126.1 g/l at 20 °C

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<p>Title: MATERIAL SAFETY DATA SHEET (MSDS): OXALIC ACID DIHYDRATE</p>			<p>5 Page of 1</p>

- o) Partition coefficient: noctanol/waterlog Pow: -0.81
- p) Autoignition temperature: no data available
- q) Decomposition temperature: no data available
- r) Viscosity: no data available
- s) Explosive properties: no data available
- t) Oxidizing properties: no data available

Other safety information

Bulk density: 0.90 g/l

10. STABILITY AND REACTIVITY

Reactivity

no data available

Chemical stability

no data available

Possibility of hazardous reactions

no data available

Conditions to avoid

Avoid moisture.

Incompatible materials

Bases, Metals, Acid chlorides, Alkali metals

Hazardous decomposition products

Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity

Skin corrosion/irritation

Skin - rabbit - Mild skin irritation

Serious eye damage/eye irritation

Eyes - rabbit - Severe eye irritation

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

Genotoxicity in vitro - Not mutagenic in Ames Test.

Histidine reversion (Ames)

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

Possible risk of congenital malformation in the fetus.

Specific target organ toxicity - single exposure

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<p>Title: MATERIAL SAFETY DATA SHEET (MSDS): OXALIC ACID DIHYDRATE</p>			<p>6 Page of 1</p>

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Potential health effects

Inhalation May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Ingestion Harmful if swallowed. Causes burns.

Skin Harmful if absorbed through skin. Causes skin burns.

Eyes Causes eye burns.

Signs and Symptoms of Exposure

burning sensation, Cough, wheezing, laryngitis, Shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

Additional Information

RTECS: Not available

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish LC50 - *Leuciscus idus* (Golden orfe) - 160 mg/l - 48 h

Toxicity to daphnia and other aquatic invertebrates

EC50 - *Daphnia magna* (Water flea) - 137 mg/l - 48 h

Persistence and degradability

Biodegradability

Bioaccumulative potential

no data available

Mobility in soil

no data available

Results of PBT and vPvB assessment

no data available

Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

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Title: MATERIAL SAFETY DATA SHEET (MSDS): OXALIC ACID DIHYDRATE		7 Page of 1	

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

UN number

ADR/RID: 3261 IMDG: 3261 IATA: 3261

UN proper shipping name

ADR/RID: CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (Oxalic acid dihydrate)

IMDG: CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (Oxalic acid dihydrate)

IATA: Corrosive solid, acidic, organic, n.o.s. (Oxalic acid dihydrate)

Transport hazard class(es)

ADR/RID: 8 IMDG: 8 IATA: 8

Packaging group

ADR/RID: III IMDG: III IATA: III

Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

Special precautions for user

no data available

15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

Safety, health and environmental regulations/legislation specific for the substance or mixture

no data available

Chemical Safety Assessment

no data available

16. OTHER INFORMATION

Further information

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Leonid Chemicals Pvt. Ltd. be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Leonid Chemicals Pvt. Ltd. has been advised of the possibility of such damages.

	LEONID CHEMICALS PVT. LTD., BANGALORE An ISO-9001:2008 Certified Company Quality Assurance Department	(CODE) DOCUMENT : R/QPM/8.2.4/06	
		(CODE) SECTION : O002	
Title: SPECIFICATION MANUAL - OXALIC ACID DIHYDRATE		(DATE) : 01.04.2011	Rev.: 00
			1 Page of 2

Specification manual - Oxalic acid dihydrate

C₂H₂O₄.2H₂O

MW: 126.07

Product : Oxalic acid dihydrate LR
Description : Colourless crystals free from efflorescence
Cat No : O002
Cas No : 6156-56-6
Prepared Date : 07.03.2005
Approved Date : 07.03.2005

REVISION HISTORY			
Issue/Rev	Description of Change	Author	Effective Date
01/00	Initial Release	S. Paul Joshua	07.03.2005
02/00	Reviewed no changes	S. Paul Joshua	01.04.2011
Next Review Due :	02.04.2015		
To be reviewed by :	Head-QC/QA		

Sl. No.	Tests	Specification
		LR
1	Assay	Min 99.5%
2	Chloride (Cl)	0.005%
3	Melting point	100°C - 102°C

Approved By: S.Paul Joshua, Head Quality Control and Quality Assurance