Blagden

Specialty Chemicals

SAFETY DATA SHEET
Oxalic Acid

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name Oxalic Acid

Chemical name Oxalic acid dihydrated- CzOnH: 2HzO

Synonyms; trade names Ethanedioic acid

1.2. Relevant identified uses of the substance or mixture and uses advised against

1.3. Details of the supplier of the safety data sheet

Supplier

Blagden Specialty Chemicals Ltd
Osprey House, Black Eagle Square
Westerham, Kent UK
Tel: 01959 562000
Fax: 01959 565111
sales@blagden.co.uk

1.4. Emergency telephone number

Emergency telephone Daytime contact 01959 562000 (9-5).

National emergency telephone number National Chemical Emergency Centre 01865 407333 (Culham UK) 24 hours

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Not Classified

Health hazards Acute Tox. 4 - H302 Acute Tox. 4 - H312 Eye Dam. 1 - H318

Environmental hazards Not Classified

2.2. Label elements

Pictogram

Signal word Danger

Hazard statements H302+H312 Harmful if swallowed or in contact with skin.
H318 Causes serious eye damage.

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Precautionary statements	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 if you feel unwell. P302+P352 IF ON SKIN: Wash with plenty of 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/ doctor. P501 Dispose of contents/ container in accordance with national regulations.
Contains	Oxalic acid dihydrate
Supplementary precautionary statements	P264 Wash contaminated skin thoroughly after handling. P321 Specific treatment (see medical advice on this label). P330 Rinse mouth. P362+P364 Take off contaminated clothing and wash it before reuse.

2.3. Other hazards

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Oxalic acid dihydrate		**50 - 100%**
CAS number: 6153-56-6	EC number: 612-167-2	REACH registration number: 01-2119534576-33-XXXX

Classification
Acute Tox. 4 - H302
Acute Tox. 4 - H312
Eye Dam. 1 - H318

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

EINECS number

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Remove casualty from exposure ensuring one's own safety whilst doing so. If unconscious and breathing is OK, place in the recovery position. If conscious, ensure the casualty sits or lies down. If breathing becomes bubbly, have the casualty sit and provide oxygen if available. Transfer to hospital as soon as possible.
Ingestion	Wash out mouth with water. Do not induce vomiting. Give 1 cup of water to drink every 10 minutes. If unconscious, check for breathing and apply artificial respiration if necessary. If unconscious and breathing is OK, place in the recovery position. Transfer to hospital as soon as possible.
Skin contact	Remove all contaminated clothes and footwear immediately unless stuck to skin. Drench the affected skin with running water for 10 minutes or longer if substance is still on skin. Transfer to hospital if there are burns or symptoms of poisoning.
Eye contact	Continue to rinse for at least 15 minutes. Transfer to hospital for specialist examination.

4.2. Most important symptoms and effects, both acute and delayed

Inhalation	There may be shortness of breath with a burning sensation in the throat. Exposure may cause coughing or wheezing.
Ingestion	Corrosive burns may appear around the lips. Blood may be vomited. There may be bleeding from the mouth or nose.

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Skin contact Blistering may occur. Progressive ulceration will occur if treatment is not immediate.

Eye contact Corneal burns may occur. May cause permanent damage.

Delayed / immediate effects: Immediate effects can be expected after short-term exposure.

4.3. Indication of any immediate medical attention and special treatment needed

Immediate / special treatment: Eye bathing equipment should be available on the premises.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Water spray, foam, dry powder or carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Specific hazards Corrosive. In combustion emits toxic fumes.

Hazardous combustion products During fire, toxic gases (CO, CO2) are formed

5.3. Advice for firefighters

Protective actions during firefighting Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions If outside keep bystanders upwind and away from danger point. Mark out the contaminated area with signs and prevent access to unauthorised personnel. Do not attempt to take action without suitable protective clothing - see section 8 of SDS. Do not create dust.

6.2. Environmental precautions

Environmental precautions Do not discharge into drains or watercourses or onto the ground.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Clean-up should be dealt with only by qualified personnel familiar with the specific substance. Transfer to a closable, labelled salvage container for disposal by an appropriate method.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Avoid direct contact with the substance. Ensure there is sufficient ventilation of the area. Do not handle in a confined space. Avoid the formation or spread of dust in the air.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in a dry place. Store at room temperature in the original container Avoid contact with oxidising agents. Bases. Keep away from food, drink and animal feeding stuffs.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

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Occupational exposure limits

Ingredients with limit values that require monitoring at the workplace:
OEL (TWA): 1 mg/m3 (ACGIH 1990-1991).
OEL (como STEL): 2 mg/m3 (ACGIH 1990-1991).
DNEL for workers:
Local effects - acute: DNEL (derived not effect level) dermal: 0.69 mg / cm ²
Systemic effects - long term: DNEL (derived not effect level) dermal: 2.29 mg / kg bw / day
Systemic effects - long term: DNEL (derived not effect level) inhalation: 4.03 mg / m³
DNEL for the general population:
Local effects - acute: DNEL (derived not effect level) Dermal: 0.35 mg / cm ²
Systemic effects - long term: DNEL (derived not effect level) Dermal: 1.14 mg / kg bw / day
Systemic effects - long term: DNEL (derived not effect level) Oral: 1.14 mg / m³
PNEC
PNEC water (freshwater): 0.1622 mg / L
PNEC water (sea water): 0.01622
PNEC water (intermittent spills): 1.622 mg / L

DNEL	no DNEL s available.
PNEC	no PECs available.

8.2. Exposure controls

Appropriate engineering controls	Provide adequate ventilation.
Eye/face protection	Wear tight-fitting, chemical splash goggles or face shield. Ensure eye bath is to hand.
Hand protection	Rubber gloves Neoprene.
Other skin and body protection	Wear protective clothing.
Respiratory protection	Self-contained breathing apparatus must be available in case of emergency. Respiratory protective device with particle filter.

Protective Measures

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Crystals.
Odour	Odourless.
pH	~ 0.7 (50g/l)
Vapour pressure	0.0312 Pa @ 25°C
Relative density	0.813 (study result. EU A.3 method)
Solubility(ies)	108 g/l water @ 25°C
Partition coefficient	-1.7 at 230C (study results. OECD Guideline 107)
Decomposition Temperature	>160°C
Moisture	

9.2. Other information

Molecular weight	126.07 glmol

DMSO Extract

Oxalic Acid

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity On contact with hot surfaces or flames this substance decomposes forming formic acid and carbon monoxide. The
solution in water is a medium strong acid.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Reacts violently with strong oxidants causing fire and explosion hazard. Reacts with some silver compounds to form explosive
silver oxalate. Attacks some forms of plastic

10.4. Conditions to avoid

Conditions to avoid Minimise exposure to air and moisture to avoid degradation.

10.5. Incompatible materials

Materials to avoid Alkaline solutions. Ammonia. Halogenates. Oxidising agents. Metal, water, heat

10.6. Hazardous decomposition products

Hazardous decomposition products Formic acid. Carbon dioxide. Carbon monoxide

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD_{50}) Oxalic acid is classified as harmful by oral and dermal route and it entails a risk of serious damage to the eye.
Acute toxicity: Oxalic acid is Oral and Dermal Acutely toxic cat. 4.

ATE oral (mg/kg) 500.0

Acute toxicity - dermal

Notes (dermal LD_{50}) Classification for acute toxicity is category 4 for oral and dermal route.

ATE dermal (mg/kg) 1,100.0

Serious eye damage/irritation

Serious eye damage/irritation Oxalic acid entails a risk of serious damage to the eye (OECD 405, rabbit).

Ingestion Corrosive burns may appear around the lips. Blood may be vomited. There may be bleeding from the mouth or nose.

Skin contact Blistering may occur. Progressive ulceration will occur if treatment is not immediate.

Eye contact Corneal burns may occur. May cause permanent damage.

Toxicological information on ingredients.

Oxalic acid dihydrate

Acute toxicity - oral

ATE oral (mg/kg) 500.0

Acute toxicity - dermal

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ATE dermal (mg/kg) 1,100.0

SECTION 12: Ecological Information

Ecotoxicity The product may have adverse effects on organisms in soil and water.

12.1. Toxicity

Toxicity LC50 (96h) for freshwater fish: 160 mg/l (Deutsche Einheitsverfahren zur Wasser, Abwasser und Schlamm-
Untersuchung)
EC50 (48h) for freshwater invertebrates: 162.2mg/l (OECD 202, Daphnia)
Toxicity threshold (8 days) for freshwater algae: 80.0 mg/l
Chronic toxicity to aquatic organisms
The long-term aquatic toxicity study on aquatic invertebrates shall be considered if the substance is poorly water soluble
and oxalic acid is soluble in water. Also oxalic acid presents a low toxicity for the short term test.
Toxicity to soil dwelling organisms
The oxalic acid is not supposed to be directly applied to soil and an indirect exposure to soil via sewage sludge transfer
is unlikely since the substance is readily biodegradable. As oxalic acid is considered as “readily biodegradable“, it can
be assumed that it will be biodegraded within the STP process and as a consequence a transfer to the soil compartment is
not expected. Therefore, no tests on terrestrial organisms are provided.
Toxicity to terrestrial plants
EC50 (72 h) for terrestrial plants: 8 mM
General effect
Oxalic acid has a low log Kow and is readily biodegradable. The substance is not be classified as hazardous for the
environment.

12.2. Persistence and degradability

Persistence and degradability Oxalic acid is readily biodegradable, meeting the 10-d window. The biodegradation in seawater occurs at the same rate.
Also anaerobic biodegradation occurs rapidly.

12.3. Bioaccumulative potential

Partition coefficient -1.7 at 230C (study results. OECD Guideline 107)

12.4. Mobility in soil

Mobility Transport through the medium is rate-limiting. Degradation after 30 days at 20ºC is up to 73% (based on CO2
evolution). Oxalic acid is easily biodegradable in soil.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment The hazard assessment of oxalic acid reveals neither a need to classify the substance as dangerous to the environment,
nor is it a PBT or vPvB substance, nor are there any further indications that the substance may be hazardous to the
environment.

12.6. Other adverse effects

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Other adverse effects There may be harmful effects to aquatic organisms due to pH-shift. Neutralisation is normally necessary before waste water is discharged into water treatment plants. Do not flush into surface water or sanitary sewer system.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal methods Transfer to a suitable container and arrange for collection by specialized disposal company. Dispose of in a regulated landfill site or other method for hazardous or toxic wastes. Dispose of contents/container in accordance with regional regulations.

SECTION 14: Transport information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

14.1. UN number

Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

No transport warning sign required.

14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

SECTION 15: Regulatory information

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

EU legislation Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).
Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).

15.2. Chemical safety assessment

A chemical safety assessment has been carried out.

SECTION 16: Other information

Issued by Tony Sinnott

Oxalic Acid

Date:	30/03/2017
Revision date	15/08/2018
Revision	1
SDS number	4962
Hazard statements in full	H302 Harmful if swallowed. H312 Harmful in contact with skin. H318 Causes serious eye damage.
Other information	
Exposure Scenario	
Use for pulp and paper bleaching	
Use as an intermediate	
Repackaging	
Manufacture of pyrotechnic products	