analytichem

Safety Data Sheet

according to Regulation (EC) No 1907/2006

Oxalic acid dihydrate technical grade

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

1.1. Product identifier

Oxalic acid dihydrate technical grade

CAS No:	6153-56-6
Index No:	607-006-00-8
EC No:	205-634-3

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

Use of the substance/mixture

Reagents and laboratory chemicals
Only for laboratory and analysis purposes.

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet

Company name:	AnalytiChem GmbH ACD		
Street:	Stempelstraße 6		
Place:	D-47167 Duisburg		
Telephone:	0203/5194-0	Telefax:	0203/5194-290
E-mail:	info@analytichem.de		
Contact person:	Abteilung Produktsicherheit	Telephone:	0203/5194-107/117
E-mail:	produktsicherheit@analytichem.de		
Internet:	www.analytichem.de		
Responsible Department:	Abteilung Produktsicherheit		

1.4. Emergency telephone number:

For Hazardous Materials [or Dangerous Goods] Incidents Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300 Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

Further Information

A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

Acute Tox. 4; H312
Acute Tox. 4; H302
Eye Dam. 1; H318

Full text of hazard statements: see SECTION 16.

2.2. Label elements

Regulation (EC) No 1272/2008

Signal word: Danger

Pictograms:

Hazard statements

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

Precautionary statements

P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P302+P352	IF ON SKIN: Wash with plenty of water and soap.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P313	Get medical advice/attention.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Sum formula: (COOH)2 * 2 H2O

Molecular weight: 126,07 g/mol

Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (Regulation (EC) No 1272/2008)			
6153-56-6	Oxalic acid dihydrate			100 %
	205-634-3	607-006-00-8		
	Acute Tox. 4, Acute Tox. 4, Eye Dam. 1; H312 H302 H318			

Full text of H and EUH statements: see section 16.

Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
	Specific Conc. Limits, M-factors and ATE		
6153-56-6	205-634-3	Oxalic acid dihydrate	100 %
	dermal: LD50 = 20000 mg/kg; oral: ATE = 500 mg/kg		

Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

No data available

After inhalation

Provide fresh air.

Call a doctor if you feel unwell.

After contact with skin

After contact with skin, wash immediately with plenty of water and soap.

Take off immediately all contaminated clothing and wash it before reuse.

Call a physician immediately.

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids

apart and consult an ophthalmologist.
Remove contact lenses, if present and easy to do. Continue rinsing.

After ingestion

Rinse mouth immediately and drink plenty of water.
Call a physician immediately.

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

Irritant
Gastrointestinal complaints
Vomiting
Cough
Dyspnoea
Cardiac arrhythmias
Circulatory collapse
Agitation
Spasms
Risk of serious damage to eyes.

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

No data available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

no restriction

5.2. Special hazards arising from the substance or mixture

Combustible solids
Hazardous combustion products
In case of warming:
Vapours are heavier than air, spread along floors and form explosive mixtures with air.
Danger of dust explosion.
The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing.
Avoid contact with skin, eyes and clothes.

Additional information

Suppress gases/vapours/mists with water spray jet.
Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Provide adequate ventilation.
Use personal protection equipment.
Avoid contact with skin, eyes and clothes.
Remove persons to safety.
Emergency procedures
Consult an expert

Do not breathe dust/fume/gas/mist/vapours/spray.

For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

For containment

Cover drains.
Prevent spread over a wide area (e.g. by containment or oil barriers).
Collect in closed and suitable containers for disposal.
Take up carefully when dry. Take up dust-free and set down dust-free.

For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

Other information

Provide adequate ventilation.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wear breathing apparatus if exposed to vapours/dusts/aerosols.

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

If handled uncovered, arrangements with local exhaust ventilation have to be used.
Avoid dust formation.
Do not breathe dust.
Read label before use.

Advice on protection against fire and explosion

In case of warming:
Vapours are heavier than air, spread along floors and form explosive mixtures with air.
Danger of dust explosion.
The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

Further information on handling

Take off contaminated clothing.
Wash hands and face before breaks and after work and take a shower if necessary.
Take off immediately all contaminated clothing and wash it before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed.
Store in a dry place.

Hints on joint storage

national regulations

Further information on storage conditions

storage temperature +5°C - +30°C

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL/DMEL values

CAS No	Substance		
DNEL type	Exposure route	Effect	Value
6153-56-6	Oxalic acid dihydrate		
Worker DNEL, long-term	inhalation	systemic	3,11 mg/m³
Worker DNEL, long-term	dermal	systemic	0,882 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	0,466 mg/m³
Consumer DNEL, long-term	dermal	systemic	0,315 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	0,315 mg/kg bw/day

PNEC values

CAS No	Substance
Environmental compartment	Value
6153-56-6	Oxalic acid dihydrate
Freshwater	0,16 mg/l
Marine water	0,016 mg/l
Micro-organisms in sewage treatment plants (STP)	1550 mg/l

8.2. Exposure controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.

Provide adequate ventilation as well as local exhaustion at critical locations.

Individual protection measures, such as personal protective equipment

Eye/face protection

Suitable eye protection: goggles.

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Protective gloves are recommended Company KCL GmbH, D-36124 Eichenzell, email: vertrieb@kcl.de With specification (test according to EN374):

By long-term hand contact

Trade name/designation: KCL 741 Dermatril® L
Recommended material: NBR (Nitrile rubber) 0,11 mm
Wearing time with permanent contact: > 480 min

By short-term hand contact
Trade name/designation: KCL 741 Dermatril® L
Recommended material: NBR (Nitrile rubber) 0,11 mm
Wearing time with occasional contact (splashes): > 480 min

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. This recommendation applies only to the product stated in the safety data sheet<(>,<)> supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Skin protection

Wear suitable protective clothing.
The choice of body protection depends on the concentration and quantity of hazardous substances. The chemical resistance of protective agents must be clarified with their suppliers.

Respiratory protection

Respiratory protection necessary at: dust formation
Filtering device with filter or ventilator filtering device of type: P2
The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental exposure controls

Do not allow to enter into surface water or drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	solid
Colour:	white
Odour:	odourless
Odour threshold:	not determined
Melting point/freezing point:	98 -100 °C
Boiling point or initial boiling point and boiling range:	149 - 160 °C
Flammability:	not determined
Lower explosion limits:	not determined
Upper explosion limits:	not determined
Flash point:	157 °C
Auto-ignition temperature:	not determined
Decomposition temperature:	~110 °C
pH-Value:	~1,5 (10 g/l)
Viscosity / kinematic:	not determined
Water solubility: (at 25 °C)	>100 g/l
Solubility in other solvents not determined	
Dissolution rate:	not determined
Partition coefficient n-octanol/water:	log Pow: -1,7 (23 °C)
Dispersion stability:	not determined

Vapour pressure: (at 25 °C)	0,000312 hPa
Vapour pressure:	not determined
Density (at 20 °C):	1,65 g/cm³
Relative density:	not determined
Bulk density:	~813 kg/m³
Relative vapour density:	not determined
Particle characteristics:	not determined

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

In case of warming:

Vapours are heavier than air, spread along floors and form explosive mixtures with air.

Danger of dust explosion.

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

Sustained combustibility:	No data available

Self-ignition temperature

Solid:	> 400 °C
Gas:	not applicable

Oxidizing properties

Not oxidising.

Other safety characteristics

Evaporation rate:	not determined
Solvent separation test:	not determined
Solvent content:	not determined
Solid content:	100%
Sublimation point:	not determined
Softening point:	not determined
Pour point:	not determined

not determined:

Viscosity / dynamic:	not determined
Flow time:	not determined

Further Information

not determined

SECTION 10: Stability and reactivity

10.1. Reactivity

In case of warming:

Vapours are heavier than air, spread along floors and form explosive mixtures with air.

Danger of dust explosion.

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Potassium chlorate, Oxidising agent, strong

silver, Alkali (lye)

Ammonia (NH3), mercury (Hg).

sodium hypochlorite

10.4. Conditions to avoid

Heat

10.5. Incompatible materials

No data available

10.6. Hazardous decomposition products

No data available

Further information

No data available

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Toxicocinetics, metabolism and distribution

No data available

Acute toxicity

Harmful in contact with skin.

Harmful if swallowed.

Mucous membrane irritation in the mouth, throat, esophagus and gastrointestinal tract.

CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
6153-56-6	Oxalic acid dihydrate				
	oral	ATE 500 mg/kg			
	dermal	LD50 20000 mg/kg	Rabbit	EMEA/MRL/891/03 (2003)	No

Irritation and corrosivity

Serious eye damage/eye irritation: Causes serious eye damage.

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Risk of serious damage to eyes.

Sensitising effects

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

Carcinogenicity: Based on available data, the classification criteria are not met.

Reproductive toxicity: Based on available data, the classification criteria are not met.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.

Information on likely routes of exposure

No data available

Specific effects in experiment on an animal

No data available

Additional information on tests

No data available

Practical experience

No data available

11.2. Information on other hazards

Endocrine disrupting properties

No data available

Other information

May cause damage to organs.
(kidneys)

Further information

Irritant
Gastrointestinal complaints
Vomiting
Cough
Dyspnoea
Cardiac arrhythmias
Circulatory collapse
Agitation
Spasms
Risk of serious damage to eyes.

SECTION 12: Ecological information

12.1. Toxicity

Based on available data, the classification criteria are not met.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] | [d]	Species	Source	Method
6153-56-6	Oxalic acid dihydrate					
	Acute crustacea toxicity	EC50 162,2 mg/l	48 h	Daphnia magna	REACh Registration Dossier	OECD Guideline 202

12.2. Persistence and degradability

89 %; 20 d; aerob
Readily biodegradable (according to OECD criteria).

12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
6153-56-6	Oxalic acid dihydrate	-1,7

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, annex XIII.

12.6. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms.

12.7. Other adverse effects

Discharge into the environment must be avoided.

Further information

Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.
Send to a physico-chemical treatment facility under observation of official regulations.
Do not empty into drains.

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.
The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Inland waterways transport (ADN)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Marine transport (IMDG)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No dangerous good in sense of this transport regulation.

14.7. Maritime transport in bulk according to IMO instruments

not applicable

SECTION 15: Regulatory information

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

EU regulatory information

Information according to Directive 2012/18/EU (SEVESO III):	Not subject to 2012/18/EU (SEVESO III)

National regulatory information

Employment restrictions:	Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.
Water hazard class (D):	1 - slightly hazardous to water

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 9,12,14.

Abbreviations and acronyms

Acute Tox. 4: Acute toxicity, hazard category 4
Eye Dam. 1: Serious eye damage, hazard category 1
ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service
LC50: Lethal concentration, 50%
LD50: Lethal dose, 50%

Relevant H and EUH statements (number and full text)

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

Further Information

Provide appropriate information, instructions and training to users