

# OTTO CHEMIE PVT LTD

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ISO 9001: 2015

## MATERIAL SAFETY DATA SHEET

### 1. Identification

1.1 GHS Product identifier  
Oxalic acid, anhydrous, 99%+  
Code O 1370

### 2. Hazard identification

2.1 Classification of the substance or mixture  
Acute toxicity - Oral, Category 4  
Acute toxicity - Dermal, Category 4  
2.2 GHS label elements, including precautionary statements  
Pictogram(s)



Signal word

Warning

Hazard statement(s)

H302 Harmful if swallowed  
H312 Harmful in contact with skin

Precautionary statement(s)

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.

Response

P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.  
P330 Rinse mouth.  
P302+P352 IF ON SKIN: Wash with plenty of water/...  
P312 Call a POISON CENTER/doctor if you feel unwell.  
P321 Specific treatment (see ... on this label).  
P362+P364 Take off contaminated clothing and wash it before reuse.

Storage

none

Disposal

P501 Dispose of contents/container to ...

2.3 Other hazards which do not result in classification

none

### 3. Composition/information on ingredients

#### 3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
oxalic acid	oxalic acid	144-62-7	none	100%

### 4. First-aid measures

#### 4.1 Description of necessary first-aid measures

General advice

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

If inhaled

Fresh air, rest. Half-upright position. Refer immediately for medical attention.

In case of skin contact

Remove contaminated clothes. Rinse skin with plenty of water or shower for at least 15 minutes. Refer for medical attention.

In case of eye contact

Rinse with plenty of water (remove contact lenses if easily possible). Refer immediately for medical attention.

If swallowed

Rinse mouth. Do NOT induce vomiting. Refer immediately for medical attention.

#### 4.2 Most important symptoms/effects, acute and delayed

As dust or as a solution, can cause severe burns of eyes, skin, or mucous membranes. Ingestion of 5 grams has caused death with symptoms of nausea, shock, collapse, and convulsions coming on rapidly. Repeated or prolonged skin exposure can cause dermatitis and slow-healing ulcers. (USCG, 1999)

#### 4.3 Indication of immediate medical attention and special treatment needed, if necessary

Treatment should be rapidly instituted by giving a dilute solution of calcium lactate, lime water, finely pulverized chalk, plaster, and/or milk to supply large amounts of calcium to inactivate oxalate by forming an insoluble calcium salt in the stomach. Gastric lavage is controversial, since this may compound an already severe corrosive lesion in the esophagus or stomach. However, if used, gastric lavage should be done with limewater (calcium hydroxide). Intravenous gluconate or calcium chloride solutions should be given to prevent hypocalcemic tetany; in severe cases parathyroid extract also has been given. ... Additionally, acute renal failure should be anticipated, and careful fluid management is necessary. /Oxalates/

## 5. Fire-fighting measures

### 5.1 Extinguishing media

Suitable extinguishing media

USE WATER SPRAY, DRY CHEM, "ALC RESISTANT" FOAM, OR CARBON DIOXIDE. DUST MAY BE REDUCED WITH WATER SPRAY. AQUEOUS SOLUTION MUST BE CONTAINED FOR DISPOSAL. USE WATER TO KEEP FIRE-EXPOSED CONTAINERS COOL. WATER MAY CAUSE FOAMING OF MOLTEN MATERIAL. /OXALIC ACID DIHYDRATE/

### 5.2 Specific hazards arising from the chemical

Special Hazards of Combustion Products: Generates poisonous gases (USCG, 1999)

### 5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

## 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

### 6.2 Environmental precautions

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance, protective gloves and safety goggles. Sweep spilled substance into covered plastic containers. If appropriate, moisten first to prevent dusting. Wash away remainder with plenty of water.

### 6.3 Methods and materials for containment and cleaning up

Cover with soda ash or sodium bicarbonate. Mix and add water. Neutralize and drain into a drain with sufficient water.

## 7. Handling and storage

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

Separated from strong oxidants and food and feedstuffs. Dry. Well closed. STORE IN COOL, DRY, WELL-VENTILATED LOCATION. /OXALIC ACID DIHYDRATE/

## 8. Exposure controls/personal protection

### 8.1 Control parameters

Occupational Exposure limit values

Recommended Exposure Limit: 10 Hr Time-Weighted Avg: 1 mg/cu m.

Recommended Exposure Limit: 15 Min Short-Term Exposure Limit: 2 mg/cu m.

Biological limit values

no data available

### 8.2 Appropriate engineering controls

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

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

Eye/face protection

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. 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.

Respiratory protection

Wear dust mask when handling large quantities.

Thermal hazards

no data available

## 9. Physical and chemical properties

Physical state

Odorless white solid

Colour

ANHYDROUS OXALIC ACID, CRYSTALLIZED FROM GLACIAL ACETIC ACID IS ORTHORHOMBIC, CRYSTALS BEING PYRAMIDAL OR ELONGATED OCTAHEDRA

Odour

Odorless.

Melting point/ freezing point 189-191°C

Boiling point or initial boiling point and boiling range Sublimes (NIOSH, 2016)

Flammability	Combustible Solid Combustible. Gives off irritating or toxic fumes (or gases) in a fire.
Lower and upper explosion limit / flammability limit	no data available
Flash point	101-157 °C
Auto-ignition temperature	Not flammable (USCG, 1999)
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	no data available
Solubility	In water: 90 g/L (20 °C)
Partition coefficient n-octanol/water (log value)	-0.81
Vapour pressure	<0.01 mm Hg (20 °C)
Density and/or relative density	1.9
Relative vapour density	4.4 (vs air)
Particle characteristics	no data available

## 10. Stability and reactivity

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

OXALIC ACID CAN BE DEHYDRATED BY CAREFUL DRYING @ 100 DEG C, BUT LOSSES OCCUR THROUGH SUBLIMATION /OXALIC ACID DIHYDRATE/

### 10.3 Possibility of hazardous reactions

OXALIC ACID is hygroscopic and sensitive to heat. This compound may react violently with furfuryl alcohol, silver, sodium, perchlorate, sodium hypochlorite, strong oxidizers, sodium chlorite, acid chlorides, metals and alkali metals. . The heating of mixtures of Oxalic acid and urea has led to explosions. This is due to the rapid generation of the gases CO<sub>2</sub>, CO, and NH<sub>3</sub> [Praxis Naturwiss. Chem., 1987, 36(8), 41-42]. Oxalic acid and urea react at high temperatures to form toxic and flammable ammonia and carbon monoxide gases, and inert CO<sub>2</sub> gas [Von Bentzinger, R. et al., Praxis Naturwiss. Chem., 1987, 36(8), 41-42].

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

Reacts with strong alkalis, strong oxidizing materials, chlorites, and hypochlorites. /Oxalic acid dihydrate/

### 10.6 Hazardous decomposition products

... DECOMP PRODUCTS INCL CARBON MONOXIDE & FORMIC ACID.

## 11. Toxicological information

### Acute toxicity

Oral: LDLo Dog oral 1000 mg/kg

Inhalation: no data available

Dermal: no data available

### Skin corrosion/irritation

no data available

### Serious eye damage/irritation

no data available

### Respiratory or skin sensitization

no data available

### Germ cell mutagenicity

no data available

### Carcinogenicity

no data available

### Reproductive toxicity

no data available

### STOT-single exposure

no data available

### STOT-repeated exposure

no data available

### Aspiration hazard

no data available

## 12. Ecological information

### 12.1 Toxicity

Toxicity to fish: no data available

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

### 12.2 Persistence and degradability

Six tests at oxalic acid initial concns of 3.3 to 10 ppm exhibited 75 to 202 %BODT over an incubation period of 5 days in an aerobic screening study using sewage inoculum(1). A 78 and 55.5 %BODT for oxalic acid was measured under aerobic conditions over a

period of 5 days in screening tests at 20°C using sewage inoculum(2). Oxalic acid at initial concns of 0.00375, 0.0375, and 0.375 ppm exhibited 95, 99, and 100% degradation, respectively, in an aerobic screening study at 25°C using sewage inoculum(3). In another screening study using sewage inoculum, 68 and 64 %BODT were measured for oxalic acid at initial concns of 10 and 20 ppm, respectively, over a 5 day incubation period(4). An 89 %BODT was measured for oxalic acid (10 ppm initial concn) in an aerobic screening study using sewage inoculum at 19.5-20.5°C over an incubation period of 5 days(5).

#### 12.3 Bioaccumulative potential

Based on an average experimental water solubility of 220,000 mg/L at 25°C(1) and a regression derived equation(2), the BCF for oxalic acid can be estimated to be approximately 0.6(SRC) and therefore should not be expected to bioconcentrate in aquatic organisms(SRC).

#### 12.4 Mobility in soil

Based on an average experimental water solubility of 220,000 mg/L at 25°C(1) and a regression derived equation(2), the Koc for undissociated oxalic acid can be estimated to be approximately 5. This Koc value indicates that oxalic acid will have very high mobility in soil(3); therefore, adsorption to soil and sediment may not be an important fate process. Based on pKa1 and pKa2 values of 1.25 and 4.28(4) respectively, oxalic acid will exist primarily as the oxalate ion under environmental conditions (pH 5-9). No experimental data are available to determine whether the oxalate ion will adsorb to sediment or soil more strongly than its estimated Koc value indicates(SRC).

#### 12.5 Other adverse effects

no data available

### 13. Disposal considerations

#### 13.1 Disposal methods

##### Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

##### Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

### 14. Transport information

#### 14.1 UN Number

ADR/RID: Not dangerous goods. IMDG: Not dangerous goods. IATA: Not dangerous goods.

#### 14.2 UN Proper Shipping Name

ADR/RID: unknown

IMDG: unknown

IATA: unknown

#### 14.3 Transport hazard class(es)

ADR/RID: Not dangerous goods. IMDG: Not dangerous goods. IATA: Not dangerous goods.

#### 14.4 Packing group, if applicable

ADR/RID: Not dangerous goods. IMDG: Not dangerous goods. IATA: Not dangerous goods.

#### 14.5 Environmental hazards

ADR/RID: no

IMDG: no

IATA: no

#### 14.6 Special precautions for user

no data available

#### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

no data available

### 15. Regulatory information

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

Chemical name	Common names and synonyms	CAS number	EC number
oxalic acid	oxalic acid	144-62-7	none
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Not Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.

### Section 16: Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.