

# SAFETY DATA SHEETS

According to the UN GHS revision 9

Version: 1.1  
Creation Date: July 15, 2019  
Revision Date: April 16, 2024

## SECTION 1: Identification

### 1.1 GHS Product identifier

Product name Magnesium oxide

### 1.2 Other means of identification

Product number CIM-105541

Other names Magnesiumoxalatedihydrate;Oxalic acid magnesium salt;magnesium monoxide

### 1.3 Recommended use of the chemical and restrictions on use

Identified uses For laboratory and Industrial use only.

Uses advised against no data available

### 1.4 Supplier's details

Company CATO Research Chemicals Inc.

Address 3/F,Building B,No.179 BASIGO, Guangpu Rd East,Huangpu Dist,Guangzhou

Telephone +86-20-81960175

### 1.5 Emergency phone number

Emergency phone number +86-20-81960175

Service hours 'Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

## SECTION 2: Hazard identification

### 2.1 Classification of the substance or mixture

Not classified.

### 2.2 GHS label elements, including precautionary statements

Pictogram(s) No symbol.

Signal word No signal word

Hazard statement(s) none

Precautionary statement(s)

Prevention none

Response none

Storage none

Disposal none

### 2.3 Other hazards which do not result in classification

no data available

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

| Chemical name   | Common names and synonyms | CAS number | EC number | Concentration |
|-----------------|---------------------------|------------|-----------|---------------|
| Magnesium oxide | Magnesium oxide           | 1309-48-4  | 215-171-9 | 100%          |

## SECTION 4: First-aid measures

### 4.1 Description of necessary first-aid measures

If inhaled

Fresh air, rest.

Following skin contact

Remove contaminated clothes. Rinse and then wash skin with water and soap.

Following eye contact

Rinse with plenty of water (remove contact lenses if easily possible).

**Following ingestion**

Rinse mouth.

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

Exposure Routes: inhalation, skin and/or eye contact Symptoms: Irritation eyes, nose; metal fume fever: cough, chest pain, flu-like fever  
Target Organs: Eyes, respiratory system (NIOSH, 2016)

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

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. Magnesium and Related Compounds

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**SECTION 5: Fire-fighting measures**

**5.1 Suitable extinguishing media**

In case of fire in the surroundings: all extinguishing agents allowed.

**5.2 Specific hazards arising from the chemical**

Not combustible.

**5.3 Special protective actions for fire-fighters**

In case of fire in the surroundings: all extinguishing agents allowed.

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**SECTION 6: Accidental release measures**

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

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting.

**6.2 Environmental precautions**

Personal protection: particulate filter respirator adapted to the airborne concentration of the substance. Sweep spilled substance into covered containers. If appropriate, moisten first to prevent dusting.

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

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

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**SECTION 7: Handling and storage**

**7.1 Precautions for safe handling**

NO contact with strong acids. Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

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

Separated from strong acids. Dry. Well closed.Store in tightly closed containers in a cool, well ventilated area away from moisture.

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**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

**Occupational Exposure limit values**

TLV: (inhalable fraction): 10 mg/m<sup>3</sup>, as TWA; A4 (not classifiable as a human carcinogen).MAK: (inhalable fraction): 4 mg/m<sup>3</sup>; pregnancy risk group: C.MAK: (respirable fraction): 0.3 mg/m<sup>3</sup>; peak limitation category: II(8); pregnancy risk group: C

**Biological limit values**

no data available

**8.2 Appropriate engineering controls**

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

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

**Eye/face protection**

Wear safety goggles or eye protection in combination with breathing protection.

**Skin protection**

Protective gloves.

**Respiratory protection**

Use local exhaust or breathing protection.

**Thermal hazards**

no data available

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## SECTION 9: Physical and chemical properties and safety characteristics

|                                                                 |                                                                                                                                                                                                                                                                      |
|-----------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Physical state</b>                                           | Magnesium oxide is a white solid, often found as a powder. When fine particles of magnesium oxide are dispersed in air, whether directly or when generated by the burning or cutting of magnesium metal, the resulting magnesium oxide fume is an inhalation hazard. |
| <b>Colour</b>                                                   | White, very fine powder                                                                                                                                                                                                                                              |
| <b>Odour</b>                                                    | Odorless                                                                                                                                                                                                                                                             |
| <b>Melting point/freezing point</b>                             | 2852°C                                                                                                                                                                                                                                                               |
| <b>Boiling point or initial boiling point and boiling range</b> | 3600°C                                                                                                                                                                                                                                                               |
| <b>Flammability</b>                                             | Noncombustible Solid                                                                                                                                                                                                                                                 |
| <b>Lower and upper explosion limit/flammability limit</b>       | no data available                                                                                                                                                                                                                                                    |
| <b>Flash point</b>                                              | 3600°C                                                                                                                                                                                                                                                               |
| <b>Auto-ignition temperature</b>                                | no data available                                                                                                                                                                                                                                                    |
| <b>Decomposition temperature</b>                                | no data available                                                                                                                                                                                                                                                    |
| <b>pH</b>                                                       | pH = 10.3 (saturated aqueous solution)                                                                                                                                                                                                                               |
| <b>Kinematic viscosity</b>                                      | no data available                                                                                                                                                                                                                                                    |
| <b>Solubility</b>                                               | 0.009 % at 86° F (NIOSH, 2016)                                                                                                                                                                                                                                       |
| <b>Partition coefficient n-octanol/water</b>                    | no data available                                                                                                                                                                                                                                                    |
| <b>Vapour pressure</b>                                          | 0 mm Hg (approx) (NIOSH, 2016)                                                                                                                                                                                                                                       |
| <b>Density and/or relative density</b>                          | 3.58                                                                                                                                                                                                                                                                 |
| <b>Relative vapour density</b>                                  | no data available                                                                                                                                                                                                                                                    |
| <b>Particle characteristics</b>                                 | no data available                                                                                                                                                                                                                                                    |

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Reacts violently with strong acids.

### 10.2 Chemical stability

no data available

### 10.3 Possibility of hazardous reactions

Phosphorus pentachloride and magnesium oxide react with brilliant incandescence [Mellor 8:1016. 1946-1947]. The oxide is incompatible with interhalogens such as bromine pentafluoride, etc.

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

Violent reaction with halogens, chlorine trifluoride, bromine pentafluoride, phosphorous pentachloride, strong acids. May ignite and explode when heated with sublimed sulfur, magnesium powder, or aluminum powder.

### 10.6 Hazardous decomposition products

no data available

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## SECTION 11: Toxicological information

### Acute toxicity

- Oral: LD50 Rat female oral 3990 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**

A4: Not classifiable as a human carcinogen.

**Reproductive toxicity**

no data available

**STOT-single exposure**

May cause mechanical irritation.

**STOT-repeated exposure**

Lungs may be affected by repeated or prolonged exposure to dust particles.

**Aspiration hazard**

A nuisance-causing concentration of airborne particles can be reached quickly when dispersed.

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## SECTION 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

no data available

### 12.3 Bioaccumulative potential

no data available

### 12.4 Mobility in soil

no data available

### 12.5 Other adverse effects

no data available

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## SECTION 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.

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## SECTION 14: Transport information

### 14.1 UN Number

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

### 14.2 UN Proper Shipping Name

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

### 14.3 Transport hazard class(es)

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

### 14.4 Packing group, if applicable

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

#### 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 IMO instruments

no data available

### SECTION 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   |
|--------------------------------------------------------------------------|---------------------------|------------|-------------|
| Magnesium oxide                                                          | Magnesium oxide           | 1309-48-4  | 215-171-9   |
| 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.     |
| Korea Existing Chemicals List (KECL)                                     |                           |            | Listed.     |

### SECTION 16: Other information

#### Information on revision

Creation Date July 15, 2019  
Revision Date April 16, 2024

#### Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

#### References

- IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: [http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)
- CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

Any questions regarding this SDS, Please send your inquiry to [info@cato-chem.com](mailto:info@cato-chem.com)

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