

## Magnesium Oxide

Version number: 1.0

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### SECTION 1: Identification

#### 1.1 Product identifier

<b>Identification of the substance</b>	magnesium oxide
<b>Trade name</b>	<b><u>Magnesium Oxide</u></b>
<b>CAS number</b>	1309-48-4

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

<b>Relevant identified uses</b>	Raw material for the chemical-pharmaceutical industry Chemicals for various applications For the production of: Food or feeding stuff Pharmaceuticals
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#### 1.3 Details of the supplier of the safety data sheet

Valudor Products, LLC 179 Calle Magdalena Suite 100 Encinitas, California CA 92024 United States	Telephone: +1 (760) 635 8500 e-mail: info@valudor.com Website: www.valudor.com
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#### 1.4 Emergency telephone number

<b>Emergency information</b>	800-535-5053 (Infotrac)
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As above or nearest toxicological information centre.

### SECTION 2: Hazard(s) identification

#### 2.1 Classification of the substance or mixture

**Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)**

This substance does not meet the criteria for classification.

#### 2.2 Label elements

**Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)**

Not required.

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## 2.3 Other hazards

### Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

<b>Name of substance</b>	magnesium oxide
<b>Identifiers</b>	
CAS No	1309-48-4
<b>Molecular formula</b>	MgO
<b>Molar mass</b>	40.3 g/mol
<b>Purity</b>	90 - 99.99 %

## SECTION 4: First-aid measures

### 4.1 Description of first-aid measures

#### General notes

Self-protection of the first aider.

In all cases of doubt, or when symptoms persist, seek medical advice.

#### Following inhalation

Provide fresh air.

In case of respiratory tract irritation, consult a physician.

#### Following skin contact

Wash with plenty of soap and water.

Take off contaminated clothing and wash it before reuse.

#### Following eye contact

Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/attention.

#### Following ingestion

Rinse mouth. Do not induce vomiting.

Get medical advice/attention if you feel unwell.

#### Notes for the doctor

None.

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

Gastrointestinal complaints.

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

None.

## SECTION 5: Fire-fighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

coordinate firefighting measures to the fire surroundings

#### Unsuitable extinguishing media

none

### 5.2 Special hazards arising from the substance or mixture

Hazardous decomposition products: Section 10.

### 5.3 Advice for firefighters

Non-combustible.

In case of fire and/or explosion do not breathe fumes.

Coordinate firefighting measures to the fire surroundings.

Do not allow firefighting water to enter drains or water courses.

Collect contaminated firefighting water separately.

Fight fire with normal precautions from a reasonable distance.

#### Special protective equipment for firefighters

Wear self-contained breathing apparatus

## SECTION 6: Accidental release measures

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

#### For non-emergency personnel

Ventilate affected area.

Control of dust.

Do not breathe dust.

Avoid contact with skin and eyes.

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing.

#### For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water.

Retain contaminated washing water and dispose of it.

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

#### Advice on how to contain a spill

Take up mechanically.

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## **Advice on how to clean up a spill**

Collect spillage.

## **Other information relating to spills and releases**

Place in appropriate containers for disposal.

Ventilate affected area.

## **6.4 Reference to other sections**

Personal protective equipment: see section 8.

Incompatible materials: see section 10.

Disposal considerations: see section 13.

## **SECTION 7: Handling and storage**

### **7.1 Precautions for safe handling**

#### **Measures to prevent fire as well as aerosol and dust generation**

Use local and general ventilation.

Removal of dust deposits.

#### **Specific notes/details**

Dust deposits may accumulate on all deposition surfaces in a technical room.

#### **Handling of incompatible substances or mixtures**

Do not mix with acids, Metal powder, Sulfur, Halogen compounds,

#### **Measures to protect the environment**

Avoid release to the environment.

#### **Advice on general occupational hygiene**

Do not eat, drink and smoke in work areas.

Remove contaminated clothing and protective equipment before entering eating areas.

Do not breathe dust.

Avoid contact with skin and eyes.

Wash hands after use.

Preventive skin protection (barrier creams/ointments) is recommended.

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

#### **Flammability hazards**

None.

#### **Incompatible substances or mixtures**

Incompatible materials: see section 10.

#### **Protect against external exposure, such as**

heat, humidity

#### **Consideration of other advice**

These information are not available.

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## Ventilation requirements

Provision of sufficient ventilation.

## Specific designs for storage rooms or vessels

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

Store in a dry place.

## Packaging compatibilities

Keep only in original container.

## 7.3 Specific end use(s)

No information available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

The following constituents are the only constituents of the product which have a PEL, a TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

Occupational exposure limit values (Workplace Exposure Limits)							
Country	Name of agent	CAS No	Identifier	TWA [mg/m <sup>3</sup> ]	STEL [mg/m <sup>3</sup> ]	Notation	Source
US	Particulates not otherwise regulated	-	PEL (CA)	10	-	dust	Cal/OSHA PEL
US	Particulates not otherwise regulated	-	PEL (CA)	5	-	r	Cal/OSHA PEL
US	particulates not otherwise classified	-	REL	-	-	appx-D	NIOSH REL
US	particulates not otherwise classified (PNOC)	-	PEL	15	-	partml, i, dust	29 CFR 1910.1000
US	particulates not otherwise classified (PNOC)	-	PEL	5	-	partml, r, dust	29 CFR 1910.1000
US	magnesium oxide	1309-48-4	PEL	15	-	fume	29 CFR 1910.1000
US	magnesium oxide	1309-48-4	REL	-	-	fume, appx-D	NIOSH REL
US	magnesium oxide	1309-48-4	PEL (CA)	10	-	fume, Mg	Cal/OSHA PEL
US	magnesium oxide	1309-48-4	TLV®	10	-	i	ACGIH® 2023

#### Notation

appx-D see Appendix D - Substances with No Established RELs

dust as dust

fume as fume

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## Notation

i	inhalable fraction
Mg	calculated as Mg (magnesium)
part/ml	particles/ml
r	respirable fraction
STEL	short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA	time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

## 8.2 Exposure controls

### Appropriate engineering controls

Use local and general ventilation.

### Individual protection measures (personal protective equipment)

#### Eye/face protection

Wear eye/face protection.

#### Hand protection

Protective gloves		
Material	Material thickness	Breakthrough times of the glove material
NBR: acrylonitrile-butadiene rubber	≥ 0,11 mm	>480 minutes (permeation: level 6)

Wear suitable gloves.

Chemical protection gloves are suitable, which are tested according to EN 374.

Check leak-tightness/impermeability prior to use.

In the case of wanting to use the gloves again, clean them before taking off and air them well.

#### Body protection

Protective clothing for use against solid particulates.

#### Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Particulate filter device (EN 143).

P1 (filters at least 80 % of airborne particles, color code: White).

#### Environmental exposure controls

Use appropriate container to avoid environmental contamination.

Keep away from drains, surface and ground water.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

##### Physical state

solid  
(powder)

##### Color

white to brownish

##### Odor

odorless

##### Odor threshold

not determined

#### Other safety parameters

##### pH (value)

10.3 (in aqueous solution: 6 mg/l, 20 °C)

##### Melting point/freezing point

~2,800 °C

##### Boiling point or initial boiling point and boiling range

~3,600 °C

##### Flash point

not applicable

##### Evaporation rate

not determined

##### Flammability (solid, gas)

non-combustible

##### Explosive limits

not determined

##### Explosion limits of dust clouds

not determined

##### Vapor pressure

not determined

##### Density

3.58 g/cm<sup>3</sup> at 25 °C

##### Relative density

3.58 (water = 1)

##### Relative vapour density

not applicable

#### Solubility(ies)

##### Water solubility

6 mg/l at 20 °C  
not miscible in any proportion

#### Partition coefficient

##### n-octanol/water (log KOW)

not relevant  
(inorganic)

##### Auto-ignition temperature

not determined

#### Decomposition temperature

not relevant

#### Viscosity

not relevant  
(solid)

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<b>Explosive properties</b>	none
<b>Oxidizing properties</b>	none
<b>Information for relevant hazard classes according to GHS</b>	hazard classes acc. to GHS (physical hazards): not relevant
<b>9.2 Other information</b>	there is no additional information

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

This material is not reactive under normal ambient conditions.

### 10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

See below "Conditions to avoid".

### 10.3 Possibility of hazardous reactions

No known hazardous reactions.

### 10.4 Conditions to avoid

Protect from moisture.

### 10.5 Incompatible materials

acids, powdered metals, sulfur, halogen compounds

### 10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

If not otherwise specified the classification is based on:

Animal studies; Evidence from any other toxicity tests; Expert judgment (weight of evidence determination).

#### **Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)**

This substance does not meet the criteria for classification.

#### **Acute toxicity**

Classification could not be established because:

Data are lacking, inconclusive, or conclusive but not sufficient for classification.

#### **Skin corrosion/irritation**

Shall not be classified as corrosive/irritant to skin.

#### **Serious eye damage/eye irritation**

Shall not be classified as seriously damaging to the eye or eye irritant.



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## **Respiratory or skin sensitization**

### **Skin sensitization**

Classification could not be established because:  
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

### **Respiratory sensitization**

Classification could not be established because:  
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

### **Germ cell mutagenicity**

Classification could not be established because:  
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

### **Carcinogenicity**

#### **IARC Monographs**

not listed

#### **National Toxicology Program (United States)**

not listed

#### **OSHA Carcinogens**

Not listed.

### **Reproductive toxicity**

Classification could not be established because:  
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

### **Specific target organ toxicity - single exposure**

Classification could not be established because:  
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

### **Specific target organ toxicity - repeated exposure**

Classification could not be established because:  
Data are lacking, inconclusive, or conclusive but not sufficient for classification.

### **Aspiration hazard**

Shall not be classified as presenting an aspiration hazard.

## **11.2 Other information**

There is no additional information.

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## SECTION 12: Ecological information

### 12.1 Toxicity

#### Aquatic toxicity (acute)

No data available.

#### Aquatic toxicity (chronic)

No data available.

### 12.2 Persistence and degradability

#### Biodegradation

The study does not need to be conducted because the substance is inorganic.

#### Persistence

The study does not need to be conducted because the substance is inorganic.

### 12.3 Bioaccumulative potential

No data available.

#### n-octanol/water (log KOW)

not relevant  
(inorganic)

### 12.4 Mobility in soil

No data available.

### 12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

### 12.6 Other adverse effects

Data are not available.

#### Remarks

None.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Sewage disposal-relevant information

Do not empty into drains.

#### Waste treatment of containers/packages

Completely emptied packages can be recycled.

Handle contaminated packages in the same way as the substance itself.

#### Remarks

Please consider the relevant national or regional provisions.

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## SECTION 14: Transport information

- 14.1 UN number not assigned
- 14.2 UN proper shipping name -
- 14.3 Transport hazard class(es) -
- 14.4 Packing group -
- 14.5 Environmental hazards -
- 14.6 Special precautions for user -
- 14.7 Transport in bulk according to IMO instruments -
- 14.8 Information for each of the UN Model Regulations  
**Transport of dangerous goods by road or rail (49 CFR US DOT) Additional information**  
Not subject to transport regulations.

## SECTION 15: Regulatory information

- 15.1 **Safety, health and environmental regulations specific for the product in question**
- National regulations (United States)**
- Toxic Substance Control Act (TSCA)** Substance is listed (ACTIVE)
- Superfund Amendment and Reauthorization Act (SARA TITLE III )**
- The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)**  
Not listed
- Specific Toxic Chemical Listings (EPCRA Section 313)**  
Not listed
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)**
- List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)**  
Not listed
- Clean Air Act**  
Not listed
- Right to Know Hazardous Substance List**
- Toxic or Hazardous Substance List (MA-TURA)**  
Not listed

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## Hazardous Substances List (MN-ERTK)

Name of substance	Name acc. to inventory	CAS No	References	Remarks
magnesium oxide	Magnesium oxide	1309-48-4	A, O	fume

### Legend

- A American Conference of Governmental Industrial Hygienists (ACGIH), "Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices for 1992-93", available from ACGIH
- fume Small solid particles formed by the condensation of vapors of solid materials.
- O Occupational Safety and Health Administration (OSHA), Safety and Health Standards, Code of Federal Regulations, title 29, part 1910, subpart Z, "Toxic and Hazardous Substances, 1990." General information: Minnesota Department of Labor and Industry, Occupational Safety and Health Division

## Hazardous Substance List (NJ-RTK)

Name of substance	Name acc. to inventory	CAS No	Remarks	Classifications	Listed in	Substance number	DOT number
magnesium oxide	magnesium oxide	1309-48-4	-		1 2 4	1144	-

### Legend

- 1 Occupational Safety and Health Administration, 29 CFR 1910-Occupational Safety and Health Standards, Subpart Z-Toxic and Hazardous Substances, July 1, 2008.
- 2 "2009 TLVs® and BEIs®, Threshold Limit Values and Biological Exposure Indices," American Conference of Governmental Industrial Hygienists (ACGIH), 2009.
- 4 "NIOSH Pocket Guide to Chemical Hazards," National Institute for Occupational Safety and Health (NIOSH), U.S. Department of Health and Human Services, No. 2005-149, September 2005.

## Hazardous Substance List (Chapter 323) (PA-RTK)

Name acc. to inventory	CAS No	Classification
MAGNESIUM OXIDE (MGO)	1309-48-4	-

## Hazardous Substance List (RI-RTK)

Name of substance	Name acc. to inventory	CAS No	References
magnesium oxide	Magnesium oxide fume	1309-48-4	T

### Legend

- T Toxicity (ACGIH®)

## California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

Not listed

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## Drug precursors, Chemicals designated within the Controlled Substances Act, 21 U.S.C. § 802, paragraphs 34 (list I) and 35 (list II)

Not listed

### SECTION 16: Other information, including date of preparation or last revision

Date of preparation: 2023-08-08

#### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
29 CFR 1910.1000	29 CFR 1910.1000, Tables Z-1, Z-2, Z-3 - Occupational Safety and Health Standards: Toxic and Hazardous Substances (permissible exposure limits)
49 CFR US DOT	49 CFR U.S. Department of Transportation
ACGIH®	American Conference of Governmental Industrial Hygienists
ACGIH® 2023	From ACGIH®, 2023 TLVs® and BEIs® Book. Copyright 2023. Reprinted with permission. Information on the proper use of the TLVs® and BEIs®: <a href="http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presentations/tlv-bei-position-statement">http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presentations/tlv-bei-position-statement</a>
Cal/OSHA PEL	California Division of Occupational Safety and Health (Cal/OSHA): Permissible Exposure Limits (PELs)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
DGR	Dangerous Goods Regulations (see IATA/DGR)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IARC	International Agency for Research on Cancer
IARC Monographs	IARC Monographs on the Evaluation of Carcinogenic Risks to Humans
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
IMDG	International Maritime Dangerous Goods Code
NIOSH REL	National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs)
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic
PEL	Permissible exposure limit
STEL	Short-term exposure limit
TLV®	Threshold Limit Values
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative

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## Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.  
Transport of dangerous goods by road or rail (49 CFR US DOT).  
International Maritime Dangerous Goods Code (IMDG).  
Dangerous Goods Regulations (DGR) for the air transport (IATA).

## Responsible for the safety data sheet

Chemical Regulatory Compliance Com- Telephone: +1 (630) 410-1660  
pany e-Mail: GHS@crc-us.com  
Jasper, GA Website: www.crc-us.com  
USA

## Disclaimer

This information is based upon the present state of our knowledge.  
This SDS has been compiled and is solely intended for this product.