

### SECTION 1: Identification

#### 1.1. Product identifier

Trade name : MAGNESIUM OXIDE  
 Type of product : Hygroscopic substance. Preventive measures apply to the substance in dry state only  
 EC-No. : 215-171-9  
 CAS-No. : 1309-48-4  
 Product code : 113040xxx  
 Formula : MgO

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

Recommended uses and restrictions : For laboratory use only

#### 1.3. Supplier's details

Labchem (Pty)Ltd  
 6 Wakefield Road  
 Founders Hill  
 1609 Johannesburg - South Africa  
 T +27 11 452 1116 - F +27 86 588 0293  
[techlab@labchem.co.za](mailto:techlab@labchem.co.za) - [www.labchem.co.za](http://www.labchem.co.za)

#### 1.4. Emergency telephone number

Emergency number : +27 11 452 1116

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to the United Nations GHS

Not classified

#### 2.2. Label elements

##### Labelling according to the United Nations GHS

No labelling applicable

#### 2.3. Other hazards

Adverse physicochemical, human health and environmental effects : To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Substance identification codes: See section 1.1

Name	Product identifier	%	Classification according to the United Nations GHS
magnesium oxide (Main constituent)	(CAS-No.) 1309-48-4	≥ 96	Not classified

#### 3.2. Mixtures

Not applicable

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

First-aid measures general : If you feel unwell, seek medical advice.  
 First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.  
 First-aid measures after skin contact : Rinse with water. Wash with water and soap. Take victim to a doctor if irritation persists. Wash skin with plenty of water.  
 First-aid measures after eye contact : Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing. Take victim to an ophthalmologist if irritation persists. Rinse eyes with water as a precaution.  
 First-aid measures after ingestion : Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Call Poison Information Centre ([www.big.be/antigif.html](http://www.big.be/antigif.html)). Consult a doctor/medical service if you feel unwell. Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects after inhalation : AFTER INHALATION OF DUST: Dry/sore throat. ON HEATING: Metal fume fever. FOLLOWING SYMPTOMS MAY APPEAR LATER: Body temperature rise. Feeling of weakness. Damp/clammy skin. Headache. Irritation of the respiratory tract. Vomiting. Nausea. Muscular pain.

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According to SANS 10234:2019 and SANS 11014:2010

Symptoms/effects after skin contact	: Not irritating.
Symptoms/effects after eye contact	: Slight irritation.
Symptoms/effects after ingestion	: AFTER INGESTION OF HIGH QUANTITIES: Gastrointestinal complaints. Diarrhoea.
Chronic symptoms	: No effects known.
Potential adverse human health effects and symptoms	: Non-toxic if swallowed (LD50 oral, rat > 5000 mg/kg). Practically non-toxic in contact with skin (LD50 skin > 2000 mg/kg). Slightly harmful in contact with skin.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media	: Adapt extinguishing media to the environment for surrounding fires. Water spray. Dry powder. Foam.
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### 5.2. Special hazards arising from the substance or mixture

Fire hazard	: DIRECT FIRE HAZARD: Non combustible.
Reactivity in case of fire	: On burning: release of harmful gases/vapours and formation of metallic fumes.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

### 5.3. Advice for firefighters

Precautionary measures fire	: Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.
Firefighting instructions	: No specific fire-fighting instructions required.
Protection during firefighting	: Heat/fire exposure: compressed air apparatus (EN 136 + EN 137). Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

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

No additional information available

#### 6.1.1. For non-emergency personnel

Protective equipment	: Gloves (EN 374). Protective clothing (EN 14605 or EN 13034). Dust cloud production: compressed air apparatus (EN 136 + EN 137).
Emergency procedures	: Ventilate spillage area. Mark the danger area. Prevent dust cloud formation, e.g. by wetting. No naked flames. Wash contaminated clothes.

#### 6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
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### 6.2. Environmental precautions

Avoid release to the environment.

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

For containment	: Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Knock down/dilute dust cloud with water spray.
Methods for cleaning up	: Mechanically recover the product. Stop dust cloud by humidifying. Scoop solid spill into closing containers or synthetic bags. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling.
Other information	: Dispose of materials or solid residues at an authorized site.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling	: Ensure good ventilation of the work station. Wear personal protective equipment. Avoid raising dust. Keep away from naked flames/heat. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Keep container tightly closed.
Hygiene measures	: Observe strict hygiene. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

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

Storage conditions	: Store in a well-ventilated place. Keep cool.
Storage area	: Store in a dry area. Store at room temperature. May be stored under nitrogen. Meet the legal requirements.
Heat and ignition sources	: KEEP SUBSTANCE AWAY FROM: heat sources.

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Information on mixed storage	: KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids. halogens. water/moisture.
Special rules on packaging	: SPECIAL REQUIREMENTS: hermetical. watertight. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
Packaging materials	: SUITABLE MATERIAL: paper. wood. glass. synthetic material. MATERIAL TO AVOID: aluminium.
Storage temperature	: 20 °C

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

MAGNESIUM OXIDE (1309-48-4)	
South Africa - Occupational Exposure Limits (Recommended Limits)	
Local name	Magnesium oxide - as Mg
OEL TWA (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> fume and respirable dust 10 mg/m <sup>3</sup> respirable dust
OEL STEL (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> fume and respirable dust
Regulatory reference	Government Notice. R: 1179

#### 8.2. Appropriate engineering controls

Appropriate engineering controls	: Ensure good ventilation of the work station.
Environmental exposure controls	: Avoid release to the environment.

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

Materials for protective clothing	: GIVE GOOD RESISTANCE: rubber
Hand protection	: Protective gloves against chemicals (EN 374)
Eye protection	: Protective goggles (EN 166). In case of dust production: protective goggles (EN 166). Safety glasses
Skin and body protection	: Protective clothing (EN 14605 or EN 13034)
Respiratory protection	: Dust production: dust mask with filter type P2

#### Personal protective equipment symbol(s):



#### 8.4. Exposure limit values for the other components

No additional information available

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Solid. Powder.
Molecular mass	: 40.31 g/mol
Colour	: Colourless or white.
Odour	: Odourless.
Odour threshold	: No data available
pH	: 11 (10 %)
pH solution	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Relative evaporation rate (ether=1)	: No data available
Melting point	: 2800 °C
Freezing point	: Not applicable
Boiling point	: 3600 °C
Flash point	: Not applicable (solid)
Auto-ignition temperature	: Not applicable (solid)
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: < 0.1 hPa (20 °C)

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Vapour pressure at 50 °C	: No data available
Relative vapour density at 20 °C	: Not applicable
Relative density	: 3.6 (25 °C)
Relative density of saturated gas/air mixture	: No data available
Density	: 3580 kg/m <sup>3</sup>
Relative gas density	: No data available
Solubility	: Insoluble in water. Substance sinks in water. Soluble in acids. Water: < 0.1 g/100ml
Partition coefficient n-octanol/water (Log Pow)	: No data available
Partition coefficient n-octanol/water (Log Kow)	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: Not applicable
Lower explosive limit (LEL)	: No data available
Upper explosive limit (UEL)	: No data available

### 9.2. Other information

VOC content	: Not applicable (inorganic)
Other properties	: Hygroscopic. Basic reaction.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Absorbs the atmospheric CO<sub>2</sub>. Violent exothermic reaction with (some) acids. Violent exothermic reaction with (some) halogens: (increased) risk of fire. Reacts exothermically with water (moisture).

### 10.2. Chemical stability

Unstable on exposure to moisture. Unstable on exposure to air.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

#### MAGNESIUM OXIDE (1309-48-4)

LD50 oral rat	> 5000 mg/kg (Rat, Literature study, Oral)
LD50 dermal rabbit	> 2000 mg/kg bodyweight (Rabbit, Literature study, Dermal)
Skin corrosion/irritation	: Not classified pH: 11 (10 %)
Serious eye damage/irritation	: Not classified pH: 11 (10 %)
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

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Potential adverse human health effects and symptoms : Non-toxic if swallowed (LD50 oral, rat > 5000 mg/kg). Practically non-toxic in contact with skin (LD50 skin > 2000 mg/kg). Slightly harmful in contact with skin.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general : Not classified as dangerous for the environment according to the criteria of Directive 67/548/EEC. Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008.

Ecology - air : Not included in the list of substances which may contribute to the greenhouse effect (IPCC). Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).

Ecology - water : Not harmful to fishes. Slightly harmful to crustacea. pH shift.

Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Not classified

#### 12.2. Persistence and degradability

MAGNESIUM OXIDE (1309-48-4)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

#### 12.3. Bioaccumulative potential

MAGNESIUM OXIDE (1309-48-4)	
Bioaccumulative potential	Bioaccumulation: not applicable.

#### 12.4. Mobility in soil

MAGNESIUM OXIDE (1309-48-4)	
Mobility in soil	No additional information available
Ecology - soil	No (test)data on mobility of the substance available.

#### 12.5. Other adverse effects

Ozone : Not classified

Other adverse effects : No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Product/Packaging disposal recommendations : Do not discharge into the sewer. Do not discharge into surface water. Remove waste in accordance with local and/or national regulations. Recycle/reuse. Remove to an authorized dump.

Additional information : Can be considered as non hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

### SECTION 14: Transport information

In accordance with SANS / IMDG / IATA

SANS	IMDG	IATA
<b>14.1. UN number</b>		
Not regulated for transport		
<b>14.2. Proper Shipping Name</b>		
Not applicable	Not applicable	Not applicable
<b>14.3. Transport hazard class(es)</b>		
Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable
<b>14.4. Packing group</b>		
Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>		
Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
: No supplementary information available		

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According to SANS 10234:2019 and SANS 11014:2010

### 14.6. Special precautions for user

#### - SANS

Transport regulations (UN) : Not subject

#### - IMDG

Transport regulations (IMDG) : Not subject

#### - IATA

Transport regulations (IATA) : Not subject

### 14.7. 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 national regulations specific for the product

Regulatory reference : SANS 10234:2008; SANS 11014:2010; SANS 10228:2012; SANS 10229:2010; SANS 10232(1,2,4), SANS 10231:2018; Occupational Health and Safety Act 85 of 1993; National Road Traffic Act 93 of 1996.

## SECTION 16: Other information

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SDS South Africa

*The data provided in this Safety Data Sheet (SDS) is correct to the best of our knowledge. The data relates to the specific product as named and is intended as a guide to the safe handling of the product in all its facets. The data may no longer be valid if the product is used in any process or in combination with other products. This SDS is not a quality specification nor any form of guarantee.*