

# Specialty™ Magnesium Oxide

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878  
Issue date: 4/18/2014 Revision date: 11/16/2023 Supersedes: 3/31/2021 Version: 1.3

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

#### 1.1. Product identifier

Product form : Substance  
Trade name : Elastomag™ 100  
Elastomag™ 170  
Elastomag™ 170 Special  
Elastomag™ 170 FE  
MagChem™ 20 SC  
MagChem™ 50 SC  
MagChem™ 200 AD  
MagChem™ 200 D  
Chemical name : Magnesium oxide  
EC-No. : 215-171-9  
CAS-No. : 1309-48-4  
REACH registration No : Exempt  
Formula : MgO  
Other means of identification : calcined brucite magnesia, calcined magnesia, calcined magnesite, magnesite burnt deadburned / refractory, periclase, sea-water magnesia, oxomagnesia

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

##### 1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial  
For professional use only  
Use of the substance/mixture : For use in industrial applications such as rubber, plastics, steel coating and other specialty applications.

##### 1.2.2. Uses advised against

No data available

#### 1.3. Details of the supplier of the safety data sheet

##### Supplier

Martin Marietta Magnesia Specialties  
1800 Eastlake Road  
Manistee, Michigan 49660 - USA  
T +1 231-723-2577

##### Importer

M.A.F. Magnesite  
Nieuwe Uitleg 10  
2514BP Den Haag  
The Netherlands  
Tel: +31 70 3105900  
www.magnesiumoxide.com

#### 1.4. Emergency telephone number

Emergency number : CHEMTREC, U.S.: 1-800-424-9300 INTERNATIONAL: +1-703-527-3887 Available 24/7

Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Birmingham Centre) City Hospital	Dudley Road B18 7QH	0344 892 0111	Only for healthcare professionals
United Kingdom	National Poisons Information Service (Cardiff Centre) University Hospital Llandough	Penlan Road CF64 2XX	0344 892 0111	Only for healthcare professionals
United Kingdom	National Poisons Information Service (Edinburgh Centre) Royal Infirmary of Edinburgh	Little France Crescent EH16 4SA	0344 892 0111	Only for healthcare professionals
United Kingdom	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER	+44 20 7188 7188	

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Country	Organisation/Company	Address	Emergency number	Comment
United Kingdom	National Poisons Information Service (Newcastle Centre) Regional Drugs and Therapeutics Centre	16/17 Framlington Place Newcastle-upon-Tyne NE2 4AB	0344 892 0111	Only for healthcare professionals
United Kingdom	National Poisons Information Service (Belfast Centre) Royal Victoria Hospital	Grosvenor Road BT12 6BA	0344 892 0111	Only for healthcare professionals

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

#### Adverse physicochemical, human health and environmental effects

No adverse health or environmental effects are expected to occur as a result of normal conditions of use.

### 2.2. Label elements

#### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

No labelling applicable

### 2.3. Other hazards

Other hazards not contributing to the classification : No additional hazards have been identified.

Contains no PBT/vPvB substances  $\geq 0.1\%$  assessed in accordance with REACH Annex XIII

The substance is not included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Substance type : Mono-constituent  
Name : Specialty™ Magnesium Oxide  
CAS-No. : 1309-48-4  
EC-No. : 215-171-9

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Magnesium oxide	CAS-No.: 1309-48-4 EC-No.: 215-171-9	98	Not classified
Oxides of silicon, iron, aluminum, and calcium	CAS-No.: mixture	2	Not classified

### 3.2. Mixtures

Not applicable

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### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
First-aid measures after skin contact	: Not expected to be an irritant. Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.
First-aid measures after eye contact	: Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting.

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

Symptoms/effects	: Not expected to present a significant hazard under anticipated conditions of normal use. Do not breathe dust.
Symptoms/effects after inhalation	: Inhalation may cause: irritation, coughing, shortness of breath.
Symptoms/effects after skin contact	: None under normal conditions.
Symptoms/effects after eye contact	: May cause eye irritation.
Symptoms/effects after ingestion	: Ingestion generally causes purging of the bowels. Swallowing large amounts may cause bowel obstruction.

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

No additional medical information found. If you feel unwell, seek medical advice.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media	: Not combustible. If there is a fire close by, use suitable extinguishing agents. Water fog. Carbon dioxide. Dry powder. Foam.
Unsuitable extinguishing media	: None known.

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

Fire hazard	: If heated to decomposition (>1700 °C), magnesium oxide fumes may be generated.
Explosion hazard	: Product is not explosive.

#### 5.3. Advice for firefighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Do not allow run-off from fire fighting to enter drains or water courses.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.
Other information	: No additional risk management measures required.

### SECTION 6: Accidental release measures

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

General measures	: Avoid creating or spreading dust. Dust deposited may be vacuum cleaned.
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##### 6.1.1. For non-emergency personnel

Protective equipment	: Where excessive dust may result, use approved respiratory protection equipment.
Emergency procedures	: Evacuate unnecessary personnel.

##### 6.1.2. For emergency responders

Protective equipment	: Where excessive dust may result, use approved respiratory protection equipment.
Emergency procedures	: Sweep spilled substance into containers; if appropriate, moisten first to prevent dusting.

#### 6.2. Environmental precautions

Prevent entry to sewers and public waters.

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

- For containment : Contain and collect as any solid.  
Methods for cleaning up : Sweep up spilled material without making dust.

### 6.4. Reference to other sections

See Section 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Precautions for safe handling : Provide good ventilation in process area to prevent formation of dust.  
Hygiene measures : Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

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

- Storage conditions : Keep container closed when not in use.  
Incompatible materials : ACID (Strong) - vigorous reaction, heat generated; Chlorine Trifluoride reacts violently, producing flame; Phosphorous Pentachloride - incandesces brilliantly. NOTE: Exposure to water may cause this product to slowly hydrate, during which heat may be generated (exothermic reaction).  
Prohibitions on mixed storage : Keep away from incompatible materials.

### 7.3. Specific end use(s)

No data available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### 8.1.1 National occupational exposure and biological limit values

##### Magnesium oxide (1309-48-4)

##### United Kingdom - Occupational Exposure Limits

WEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> (inhalable dust) 4 mg/m <sup>3</sup> (fume and respirable dust)
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#### 8.1.2. Recommended monitoring procedures

No data available

#### 8.1.3. Air contaminants formed

No data available

#### 8.1.4. DNEL and PNEC

No data available

#### 8.1.5. Control banding

No data available

### 8.2. Exposure controls

#### 8.2.1. Appropriate engineering controls

##### Appropriate engineering controls:

Provide local exhaust or general room ventilation to minimize exposure to dust. Use engineering controls to eliminate or reduce exposures below exposure limits.

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### 8.2.2. Personal protection equipment

#### 8.2.2.1. Eye and face protection

##### Eye protection:

Safety glasses with side guards should be worn to prevent injury from airborne particles and/or other eye contact with this product. Where excessive dust may result, wear goggles. EN166

#### 8.2.2.2. Skin protection

##### Hand protection:

None under normal use.

#### 8.2.2.3. Respiratory protection

##### Respiratory protection:

In case of inadequate ventilation wear respiratory protection. Use an N95 respirator. Dust production: dust mask with filter type P2. EN 143

#### 8.2.2.4. Thermal hazards

No data available

### 8.2.3. Environmental exposure controls

##### Other information:

Do not eat, drink or smoke when using this product.

## SECTION 9: Physical and chemical properties

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

Physical state	: Solid
Colour	: White
Appearance	: Powder
Molecular mass	: 40.3 g/mol
Odour	: Odourless
Odour threshold	: Not available
Melting point	: 2827 (2797 – 2857) °C
Freezing point	: Not available
Boiling point	: 3600 °C
Flammability (solid, gas)	: Non flammable.
Explosive properties	: Product is not explosive
Explosive limits	: Not applicable
Lower explosion limit	: Not applicable
Upper explosive limit (UEL)	: Not applicable
Flash point	: Product does not sustain combustion
Auto-ignition temperature	: Not applicable
Decomposition temperature	: > 1700 °C
pH	: Not available
pH solution	: 10.3 saturated aqueous solution
Viscosity, kinematic	: Not applicable
Solubility	: In water, material is partially soluble
Log Kow	: Not available
Vapour pressure	: Not available
Vapour pressure at 50°C	: 0 hPa
Density	: 3.58 g/cm <sup>3</sup> (theoretical density of MgO)
Relative density	: Not available
Relative vapour density at 20°C	: 0
Particle size	: Not available

### 9.2. Other information

#### 9.2.1. Information with regard to physical hazard classes

No data available

#### 9.2.2. Other safety characteristics

No data available

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### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

Reacts with : Incompatible materials.

#### 10.2. Chemical stability

Stable at ambient temperature and under normal conditions of use.

#### 10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

#### 10.4. Conditions to avoid

Keep/Store away from incompatible materials.

#### 10.5. Incompatible materials

ACID (Strong) - vigorous reaction, heat generated; Chlorine Trifluoride reacts violently, producing flame; Phosphorous Pentachloride - incandesces brilliantly. NOTE: Exposure to water may cause this product to slowly hydrate, during which heat may be generated (exothermic reaction).

#### 10.6. Hazardous decomposition products

If magnesium oxide is heated to the point of volatilization (i.e. >1700 C), magnesium oxide fumes may be generated.

### SECTION 11: Toxicological information

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

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

#### Magnesium oxide (1309-48-4)

LD50 Oral rat	3870 – 3990 mg/kg
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Skin corrosion/irritation : Not classified  
Additional information : Based on available data, the classification criteria are not met

#### Magnesium oxide (1309-48-4)

pH	10.3
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Serious eye damage/irritation : Not classified  
Additional information : Based on available data, the classification criteria are not met

#### Magnesium oxide (1309-48-4)

pH	10.3
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Respiratory or skin sensitisation : Not classified  
Additional information : Based on available data, the classification criteria are not met  
Germ cell mutagenicity : Not classified  
Additional information : Based on available data, the classification criteria are not met  
Carcinogenicity : Not classified  
Additional information : Based on available data, the classification criteria are not met  
Reproductive toxicity : Not classified  
Additional information : Based on available data, the classification criteria are not met  
STOT-single exposure : Not classified  
Additional information : Based on available data, the classification criteria are not met  
STOT-repeated exposure : Not classified  
Additional information : Based on available data, the classification criteria are not met  
Aspiration hazard : Not classified  
Additional information : Based on available data, the classification criteria are not met

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### 11.2. Information on other hazards

#### 11.2.1. Endocrine disrupting properties

Adverse health effects caused by endocrine disrupting properties

: The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

#### 11.2.2. Other information

Potential adverse human health effects and symptoms

: None under normal conditions.

## SECTION 12: Ecological information

### 12.1. Toxicity

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

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

#### Magnesium oxide (1309-48-4)

LC50 fish 1	1355 mg/l
EC50 crustacea	190 mg/l

### 12.2. Persistence and degradability

#### Specialty™ Magnesium Oxide

Persistence and degradability : Not established.

### 12.3. Bioaccumulative potential

#### Specialty™ Magnesium Oxide

Bioaccumulative potential : Not established.

### 12.4. Mobility in soil

No data available

### 12.5. Results of PBT and vPvB assessment

No data available

### 12.6. Endocrine disrupting properties

Adverse effects on the environment caused by endocrine disrupting properties

: The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %.

### 12.7. Other adverse effects

Additional information

: Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations

: Dispose in a safe manner in accordance with local/national regulations.

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Ecology - waste materials : Avoid release to the environment.

### SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

#### 14.1. UN number or ID number

UN-No. (ADR) : Not regulated  
UN-No. (IMDG) : Not regulated  
UN-No. (IATA) : Not regulated  
UN-No. (ADN) : Not regulated  
UN-No. (RID) : Not regulated

#### 14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not regulated  
Proper Shipping Name (IMDG) : Not regulated  
Proper Shipping Name (IATA) : Not regulated  
Proper Shipping Name (ADN) : Not regulated  
Proper Shipping Name (RID) : Not regulated

#### 14.3. Transport hazard class(es)

**ADR**  
Transport hazard class(es) (ADR) : Not regulated

**IMDG**  
Transport hazard class(es) (IMDG) : Not regulated

**IATA**  
Transport hazard class(es) (IATA) : Not regulated

**ADN**  
Transport hazard class(es) (ADN) : Not regulated

**RID**  
Transport hazard class(es) (RID) : Not regulated

#### 14.4. Packing group

Packing group (ADR) : Not regulated  
Packing group (IMDG) : Not regulated  
Packing group (IATA) : Not regulated  
Packing group (ADN) : Not regulated  
Packing group (RID) : Not regulated

#### 14.5. Environmental hazards

Dangerous for the environment : No  
Marine pollutant : No  
Other information : No supplementary information available

#### 14.6. Special precautions for user

**Overland transport**  
Not regulated

**Transport by sea**  
Not regulated

**Air transport**  
Not regulated



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### Inland waterway transport

Not regulated

### Rail transport

Not regulated

### 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

#### 15.1.1. EU-Regulations

##### REACH Annex XVII (Restriction List)

Not listed on REACH Annex XVII

##### REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

##### REACH Candidate List (SVHC)

Not listed on the REACH Candidate List

##### PIC Regulation (Prior Informed Consent)

Not listed on the PIC list (Regulation EU 649/2012)

##### POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

##### Ozone Regulation (1005/2009)

Not listed on the Ozone Depletion list (Regulation EU 1005/2009)

##### VOC Directive (2004/42)

VOC content : 0 %

##### Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

##### Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

#### 15.1.2. National regulations

Magnesium oxide (1309-48-4)		
Jurisdiction	List	Comment
Asia Pacific	Asia - PAC	
Australia	Australian Inventory of Chemical Substances (AICS)	
	National Pollutant Inventory	magnesium oxide fume
	Priority Existing Chemicals	
China	Inventory of Existing Chemical Substances (IECSC)	
Japan	Existing and New Chemical Substances (ENCS)	# 1-465; inorganic compounds
Korea	KECI (Chemical Inventory of Korea)	KE-22728
New Zealand	Inventory of Chemicals (NZIoC)	HSNO approval
Phillippines	Inventory of Chemicals and Chemical Substances (PICCS)	
Europe	EEC International Cosmetics Ingredients Inventory (INCI)	absorbant/ buffering/ opacifying / additives
	EU REACH pre-registered	
	EU Inventory of Existing Commercial Chemical Substances (EINECS)	215-171-9

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Magnesium oxide (1309-48-4)		
	German Water Hazard Class Substance List	5208 Classification: VwVwS
	Switzerland Giftliste 1 (List of Toxic Substances)	G-2368
Canada	Canadian Domesticated Substances List (DSL)	
	WHMIS Ingredient List	
United States	ACGIH Threshold Limit Values (TLV)	
	EPA Pesticide Inert Ingredients	
	FDA Priority-based Assessment of Food Additives (PAFA)	
	FDA Regulations	Use as colorant.
	High Production Volume Chemicals (HPV)	
	National Toxicology Program Technical Reports List	
	NIOSH Hazard, Toxicology, and Use Information	
	NIOSH Health Hazards	
	NIOSH Recommended Exposure Limits	10 mg/m3
	OSHA Permissible Exposure Limits	8 hour TWA: total particulates 15 mg/ m3
	Toxic Substances Control Act (TSCA) Inventory	
	Toxic Inventory Update Rule	
	TSCA Section 8A-Preliminary Assessment Information Rule (PAIR)	
Other	Health Hazards	RTECS: OM3850000
	High Production Volume Chemicals: ICCA	
	High Production Volume Chemicals: OECD	

### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

## SECTION 16: Other information

### Indication of changes:

Indication of changes			
Section	Changed item	Change	Comments
	Revision date	Modified	
	Regulatory reference	Modified	
11.2	Adverse health effects caused by endocrine disrupting properties	Added	
12.6	Adverse effects on the environment caused by endocrine disrupting properties	Added	

### Abbreviations and acronyms:

	ACGIH (American Conference of Government Industrial Hygienists)
	ATE: Acute Toxicity Estimate
	CAS (Chemical Abstracts Service) number
	EC50: Environmental Concentration associated with a response by 50% of the test population.
	GHS: Globally Harmonized System (of Classification and Labeling of Chemicals)
	LD50: Lethal Dose for 50% of the test population
	OSHA: Occupational Safety & Health Administration

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### Abbreviations and acronyms:

	TSCA: Toxic Substances Control Act
	TWA: Time Weighted Average

### Data sources

: ACGIH 2000. Chemical Inspection & Regulation Service; accessed at: [http://www.cirs-reach.com/Inventory/Global\\_Chemical\\_Inventories.html](http://www.cirs-reach.com/Inventory/Global_Chemical_Inventories.html). Ind. Exposure & Control Techn. for OSHA Regulated Substances - MgO (fume), March, 1989, pp. 1181-1184. Krister Forsberg and S.Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing", Fifth Edition. NIOSH Occupational Health Guide for chemical Substances - Vol. II, September, 1978. REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006. RTECS, June 1998. Sax - 8th Ed. TSCA Chemical Substance Inventory. Accessed at <http://www.epa.gov/oppt/existingchemicals/pubs/tscainventory/howto.html>. US National Library of Medicine National Institutes of Health Haz-Map. Accessed at <http://hazmap.nlm.nih.gov>. Australia Worksafe "Preparation of Safety Data Sheets for Hazardous Chemicals". Brazil ABNT NBR 147.

### Other information

: None.

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.