Specialty Magnesium Oxide

Safety Data Sheet

Safe Work Australia

Date of issue: 10/03/2016 Revision Date: 08/03/2021 Version: 1.1

SECTION 1: Identification

1.1. Identification

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
CAS No	:	1309-48-4
Formula	:	MgO
Synonyms	:	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

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

1.3. Details of the supplier of the safety data sheet

Martin Marietta Magnesia Specialties

1800 Eastlake Road

Manistee, Michigan 49660 - USA

T +001 410 780 5500

1.4. Emergency telephone number

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

CHEMTREC Australia (Sydney) +(61)-290372994 English

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS classification

Not classified

2.2. Label elements

GHS labelling

No labelling applicable

2.3. Other hazards

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

2.4. Unknown acute toxicity (GHS)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type	:	Mono-constituent
Name	:	Specialty Magnesium Oxide
CAS No	:	1309-48-4

Name	Product identifier	%	GHS classification
Magnesium oxide	(CAS No) 1309-48-4	98	Not classified
Oxides of silicon, iron, aluminum, and calcium	(CAS No) mixture	2	Not classified

3.2. Mixtures

Not applicable

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	:	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. Obtain emergency medical attention.

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

Symptoms/injuries	:	Not expected to present a significant hazard under anticipated conditions of normal use. Do not breathe dust.
Symptoms/injuries after inhalation	:	Inhalation may cause: irritation, coughing, shortness of breath.
Symptoms/injuries after skin contact	:	Effects of skin contact may include: skin irritation.
Symptoms/injuries after eye contact	:	May cause eye irritation.
Symptoms/injuries 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, magnesium oxide fumes may be generated.
Explosion hazard	:	Product is not explosive.
Reactivity	:	Reacts with : Incompatible materials.

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.

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	:	Ventilate area. If a major spill occurs, all personnel should be immediately evacuated and the area ventilated.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment	:	Do not allow minor leaks or spills to accumulate on walking surfaces. Contain and collect as any solid.
Methods for cleaning up	:	On land, sweep or shovel into suitable containers. Minimize generation of dust.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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

Hygiene measures : Smoking, eating and drinking should be prohibited in areas of storage and use. Always wash your hands immediately after handling this product, and once again before leaving the workplace.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Incompatible materials. 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.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Magnesium oxide (1309-48-4)		
Australia	TWA (mg/m³)	10 (fume)

Iron oxide (as Fe)		
Australia	TWA (mg/m³)	5 (fume)

Aluminum oxide		
Australia	TWA (mg/m³)	10
Australia	Notes	(a)

Calcium oxide		
Australia	TWA (mg/m³)	2

8.2. Exposure 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.

Hand protection : Wear protective gloves.

Eye protection : Chemical goggles or safety glasses.

Respiratory protection : In case of insufficient ventilation, wear suitable respiratory equipment. Use air-purifying respirator equipped with particulate filtering cartridges.

Other information : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid

Appearance : Powder.

Colour : white

Odour : odourless

Odour threshold : No data available

pH : No data available

pH solution : 10.3 saturated aqueous solution

Melting point : 2827 (2797 - 2857) °C

Freezing point : No data available

Boiling point : 3600 °C

Flash point : Product does not sustain combustion

Relative evaporation rate (butylacetate=1) : No data available

Flammability (solid, gas) : Non flammable.

Vapour pressure : No data available

Vapour pressure at 50 °C	:	0 hPa
Relative vapour density at 20 °C	:	0
Relative density	:	No data available
Density	:	3.58 g/cm³
Molecular mass	:	40.3 g/mol
Solubility	:	In water, material is partially soluble.
Log Pow	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	> 1700 °C
Viscosity, kinematic	:	No data available
Viscosity, dynamic	:	No data available
Explosive limits	:	No data available
Explosive properties	:	Product is not explosive.
Oxidising properties	:	No data available

9.2. Other information

No additional information available

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

Avoid contact with incompatible materials, excessive heat or cold. Moisture.

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 toxicological effects

Likely routes of exposure : dermal; Inhalation

Acute toxicity : Not classified

(Based on available data, the classification criteria are not met)

Specialty Magnesium Oxide (1309-48-4)	
LD50 oral rat	3990 mg/kg
ATE US (oral)	3990.000 mg/kg bodyweight
Magnesium oxide (1309-48-4)	
LD50 oral rat	3870 - 3990 mg/kg
ATE US (oral)	3870.000 mg/kg bodyweight

Skin corrosion/irritation : Not classified

(Based on available data, the classification criteria are not met)

Serious eye damage/irritation : Not classified

(Based on available data, the classification criteria are not met)

Respiratory or skin sensitisation : Not classified

(Based on available data, the classification criteria are not met)

Germ cell mutagenicity : Not classified

(Based on available data, the classification criteria are not met)Based on available data, the classification criteria are not met

Carcinogenicity	:	Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	:	Not classified (Based on available data, the classification criteria are not met)Based on available data, the classification criteria are not met
Specific target organ toxicity (single exposure)	:	Not classified (Based on available data, the classification criteria are not met)
Specific target organ toxicity (repeated exposure)	:	Not classified (Based on available data, the classification criteria are not met)
Aspiration hazard	:	Not classified (Based on available data, the classification criteria are not met)
Symptoms/injuries after inhalation	:	Inhalation may cause: irritation, coughing, shortness of breath.
Symptoms/injuries after skin contact	:	Effects of skin contact may include: skin irritation.
Symptoms/injuries after eye contact	:	May cause eye irritation.
Symptoms/injuries after ingestion	:	Ingestion generally causes purging of the bowels. Swallowing large amounts may cause bowel obstruction.

SECTION 12: Ecological information

12.1. Toxicity

Magnesium oxide (1309-48-4)	
LC50 fish 1	1355 mg/l
EC50 Daphnia 1	190 mg/l

12.2. Persistence and degradability

Specialty Magnesium Oxide (1309-48-4)	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Specialty Magnesium Oxide (1309-48-4)	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods	:	Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems. Dispose in a safe manner in accordance with local/national regulations.
Waste disposal recommendations	:	Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials	:	Avoid release to the environment.

SECTION 14: Transport information

Australia Code for the Transport of Dangerous Goods

In accordance with ADG

Not regulated.

Transport by sea

Not regulated.

Air transport

Not regulated.

SECTION 15: Regulatory information

National regulations

Magnesium oxide (1309-48-4)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on KECI (Korean Existing Chemicals Inventory)
Listed on Taiwan National Chemical Inventory
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on NZIoC (New Zealand Inventory of Chemicals)

SECTION 16: Other information

Data sources : Chemical Inspection & Regulation Service; accessed at: 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.

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”.

Other information : None.

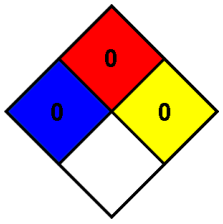
Abbreviations and acronyms:

	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
	TSCA: Toxic Substances Control Act
	TWA: Time Weighted Average

NFPA health hazard : 0 - Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.

NFPA fire hazard : 0 - Materials that will not burn.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and not reactive with water.



SDS prepared by: The Redstone Group, LLC
6077 Frantz Rd
Suite 206
Dublin, Ohio USA 43017
614.923.7472
www.redstonegrp.com

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