MagChem™ P98 Magnesium Oxide

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878
Issue date: 06/01/2011 Revision date: 16/11/2023 Supersedes: 06/06/2017 Version: 3.2

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

1.1. Product identifier

Product form	:	Substance
Trade name	:	MagChem™ P98 1/8" MagChem™ P98 -30 MagChem™ P98 Pulverized MagChem™ P98 RS MagChem™ P98 G
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

Use of the substance/mixture	:	MagChem™ P98 grades are sized deadburn magnesium oxide (periclase) products with low reactivity. MagChem™ P-98 grades include monolithic gunable refractories, castables, oil drilling, magnesium phosphate cement, ceramics and glass manufacture.

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	
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

Country	Organisation/Company	Address	Emergency number	Comment
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 : None under normal conditions.

PBT: not relevant – no registration required
vPvB: not relevant – no registration required
Contains no PBT/vPvB substances ≥ 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 : MagChem™ P98 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

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 inhaled and 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 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 special procedures required.

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.

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.

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

No data available

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

Magnesium oxide (1309-48-4)	
United Kingdom - Occupational Exposure Limits	
WEL TWA (mg/m³)	10 mg/m³ (inhalable dust) 4 mg/m³ (fume and respirable dust)

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.

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/cm³ (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

VOC content : 0 %

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; MALEIC ANHYDRIDE – Alkali and other alkaline earth compounds including magnesium compounds, will cause explosive decomposition of maleic anhydride; PHOSPHORUS – Phosphorus boiled with alkaline hydroxides yields mixed phosphines which may ignite spontaneously with air.

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

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

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

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

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

MagChem™ P98 Magnesium Oxide (1309-48-4)	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

MagChem™ P98 Magnesium Oxide (1309-48-4)	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

MagChem™ P98 Magnesium Oxide (1309-48-4)
PBT: not relevant – no registration required
vPvB: not relevant – no registration required

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

14.2. UN proper shipping name

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

14.3. Transport hazard class(es)

ADR
Transport hazard class(es) (ADR) : Not applicable

IMDG
Transport hazard class(es) (IMDG) : Not applicable

IATA
Transport hazard class(es) (IATA) : Not applicable

ADN
Transport hazard class(es) (ADN) : Not applicable

RID
Transport hazard class(es) (RID) : Not applicable

14.4. Packing group

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

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
No data available

Transport by sea
No data available

Air transport
No data available

Inland waterway transport
No data available

Rail transport
No data available

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

Magnesium oxide (1309-48-4)		
	EU REACH pre-registered	
	EU Inventory of Existing Commercial Chemical Substances (EINECS)	215-171-9
	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			
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

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. 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. European Standards: Personal Protective Equipment; accessed at: http://ec.europa.eu/enterprise/policies/european-standards/harmonised-standards/personal-protective-equipment/index_en.htm.

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.