Lightburn MagChem® Magnesium Oxide

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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SECTION 1: Identification

1.1. Identification

Product form : Substance

Trade name : MagChem® 30,
MagChem® 35,
MagChem® 40,
MagChem® 40 AH,
MagChem® 50

Chemical name : magnesium oxide

CAS-No. : 1309-48-4

Formula : MgO

Other means of identification : calcined brucite magnesia, calcined magnesia, calcined magnesite, magnesite burnt deadburned refreactory, periclase, sea-water magnesia, oxomagnesiia

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Lightburn magnesia products (MagChem® 30, 35, 40, 50) have a combination of moderate reactivity and fine particle size. Lightburn magnesia products find applications in the preparation of magnesium salts, motor oil detergents such as overbased magnesium sulfonates , fuel oil additives, rubber compounds, air scrubbing and oil well additives.

1.3. Supplier

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

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Not classified

2.2. GHS Label elements, including precautionary statements

GHS US labeling

No labeling applicable

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name : LightburnMagnesium Oxide

CAS-No. : 1309-48-4

Name	Product identifier	%	GHS US 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 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 (acute and delayed)

Potential Adverse human health effects and symptoms : None under normal conditions.

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, cough, 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. Immediate medical attention and special treatment, if necessary

No special procedures required.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) 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. Specific hazards arising from the chemical

Fire hazard : If heated to decomposition (>1700 °C), magnesium oxide fumes may be generated.

Explosion hazard : Product is not explosive.

Reactivity : Reacts with : Incompatible materials.

5.3. Special protective equipment and precautions for fire-fighters

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.

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 Heading 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.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

MagChem® 30, MagChem® 35, MagChem® 40, MagChem® 40 AH, MagChem® 50 (1309-48-4)		
ACGIH	Local name	Magnesium oxide
ACGIH	ACGIH TWA (mg/m³)	10 mg/m³
Magnesium oxide (1309-48-4)		
ACGIH	Local name	Magnesium oxide
ACGIH	ACGIH TWA (mg/m³)	10 mg/m³ (I - Inhalable particulate matter)
ACGIH	Remark (ACGIH)	(inhalable fraction)
ACGIH	Regulatory reference	ACGIH 2019
OSHA	OSHA PEL (TWA) (mg/m³)	15 mg/m³
Oxides of silicon, iron, aluminum, and calcium (mixture)		
Not applicable		

8.2. 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.

8.3. Individual protection measures/Personal protective equipment

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.

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. Use an N95 respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid

Appearance : Powder.

Color : white

Odor : odorless

Odor 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 (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Vapor pressure at 50 °C	: 0 hPa
Relative vapor density at 20 °C	: 0
Relative density	: No data available
Specific gravity / density	: 3.58 g/cm³ (theoretical density of MgO)
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
Explosion limits	: No data available
Explosive properties	: Product is not explosive.
Oxidizing properties	: No data available

9.2. Other information

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; 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

Acute toxicity (oral)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

Magnesium oxide (1309-48-4)	
LD50 oral rat	3990 mg/kg
ATE US (oral)	3990 mg/kg body weight

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 sensitization	: 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)
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)
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)
Viscosity, kinematic	: No data available
Likely routes of exposure	: dermal. Inhalation.
Potential Adverse human health effects and symptoms	: None under normal conditions.
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, cough, 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.

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

MagChem® 30, MagChem® 35, MagChem® 40, MagChem® 40 AH, MagChem® 50 (1309-48-4)	
Persistence and degradability	Not established.
Magnesium oxide (1309-48-4)	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

MagChem® 30, MagChem® 35, MagChem® 40, MagChem® 40 AH, MagChem® 50 (1309-48-4)	
Bioaccumulative potential	Not established.
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. Disposal 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

Department of Transportation (DOT)

In accordance with DOT

Not regulated.

Transport by sea

Not regulated.

Air transport

Not regulated.

SECTION 15: Regulatory information

15.1. US Federal regulations

Magnesium oxide (1309-48-4)		
Listed on the United States TSCA (Toxic Substances Control Act) inventory		
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard	No
	Delayed (chronic) health hazard	No
	Fire hazard	No
	Sudden release of pressure hazard	No
	Reactive hazard	No
SARA Section 313 - Emission Reporting	Magnesium oxide is not hazardous and is not subject to Form R reporting requirements.	

15.2. International 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
	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 Thrshold 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/m^3
	OSHA Permissible Exposure Limits	8 hour TWA: total particulates 15 mg/ m^3
	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	

Magnesium oxide (1309-48-4)		
	High Production Volume Chemicals: OECD	

15.3. US State regulations

WARNING: This product can expose you to Lead and Nickel compounds, which are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Component	Carcinogenicity	Developmental toxicity	Reproductive toxicity male	Reproductive toxicity female	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Lead, Nickel and Arsenic compounds	X					

Component	State or local regulations
Magnesium oxide (1309-48-4)	U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

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Revision date : 04/09/2021

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

Other information : None.

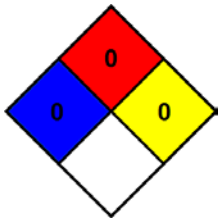
Abbreviations and acronyms:

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 - Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials.

NFPA fire hazard : 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



Indication of changes:

Section	Changed item	Change	Comments
15	California Proposition 65 Disclosure	Added	

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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.