



**ADVANCED  
MATERIALS**

# Safety Data Sheet

Malaysia CLASS Regulation, 2013  
GHS (Globally Harmonized System)

Issue Date 01/Jan/2024  
Print Date 14/Dec/2023

Revision Number 1.4.3

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identifier

**Product Name:** Kemgard® MZM

**Pure substance/mixture** Mixture

#### Magnesium Hydroxide

**CAS Number** 1309-42-8

**Weight-%** > 75

#### Zinc Molybdenum Oxide

**CAS Number** 22914-58-5

61583-60-6

**Weight-%** < 25

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

**Recommended Use** Flame retardant Smoke suppressant

**Uses advised against** None known.

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

**Company:** J.M. Huber Corporation  
3100 Cumberland Boulevard, Suite 600  
Atlanta, GA 30339 USA  
Tel: +1 678 247-7300

**Internet** [www.huberadvancedmaterials.com](http://www.huberadvancedmaterials.com)

**E-mail** [hubermaterials@huber.com](mailto:hubermaterials@huber.com)

**1.4. Emergency telephone number** CHEMTREC: +1 800 424 9300 or International +1 703 527 3887

## 2. HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

**GHS Classification** Considered a hazardous substance or mixture according to the Globally Harmonized System (GHS)

**Hazards identification**

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Not classified

**Health Hazards**

Specific target organ toxicity (STOT) - repeated exposure, category 2

**Environmental Hazard**

Chronic Aquatic Toxicity Category 3

**2.2. Label elements****Symbols/Pictograms****Signal Word**

Warning

**Hazard Statements**May cause damage to organs through prolonged or repeated exposure  
Harmful to aquatic life with long lasting effects**Precautionary Statements****Prevention**Do not handle until all safety precautions have been read and understood  
Employ good industrial hygiene practice  
Do not breathe dust  
Wear protective gloves/protective clothing/eye protection/face protection  
Avoid release to the environment**Response**Get medical advice/attention if you feel unwell  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
IF ON SKIN: Wash with plenty of soap and water**Storage**

Keep in a dry place.

**Disposal**

Dispose of contents/containers in accordance with local regulations. See Section 13: DISPOSAL CONSIDERATIONS.

**2.3. Other hazards**

No information available.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Pure substance/mixture**

Mixture

Chemical Name	CAS Number	TSCA: United States	EU REACH registration number	Weight-%
Magnesium Hydroxide	1309-42-8	A	01-2119488756-18-0040	> 75
Zinc Molybdenum Oxide	22914-58-5 61583-60-6	A	01-2120800481-68-0000	< 25

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## 4. FIRST AID MEASURES

### 4.1. Description of first aid measures

<b>General Advice</b>	When in doubt or if symptoms are observed, get medical advice. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
<b>Eye Contact</b>	In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
<b>Skin Contact</b>	Wash with plenty of soap and water.
<b>Ingestion</b>	Rinse mouth thoroughly with water.
<b>Inhalation</b>	Do not breathe dust. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
<b>Aspiration hazard</b>	Not an expected route of exposure.
<b>Notes to Physician</b>	Treat symptomatically.
<b>4.2. Most important symptoms and effects, both acute and delayed</b>	Inhalation of dust may cause irritation of the respiratory system. Eye irritation.
<b>4.3. Indication of any immediate medical attention and special treatment needed</b>	Treat symptomatically. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

## 5. FIRE-FIGHTING MEASURES

### 5.1. Extinguishing media

#### **Suitable Extinguishing Media**

Use extinguishing agent suitable for type of surrounding fire. Water spray (fog). Dry chemical. Foam. Carbon dioxide (CO<sub>2</sub>).

#### **Unsuitable Extinguishing Media**

Do not use water jetstream.

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

Non-combustible.

### 5.3. Advice for firefighters

#### **Special protective**

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Wear a self-contained breathing apparatus and chemical protective clothing.

**Fire-fighting measures**

Water mist may be used to cool closed containers.

## 6. ACCIDENTAL RELEASE MEASURES

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

Keep unauthorized personnel away. Use personal protection recommended in Section 8.

**For non-emergency personnel**

Keep unauthorized personnel away.

**For emergency responders**

Keep unauthorized personnel away. Use personal protection recommended in Section 8.

**6.2. Environmental precautions**

Avoid runoff to waterways and sewers.

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

Large Spill: Do not dry sweep dust. Wet dust with water before sweeping or use a vacuum to collect dust Small Spill: Vacuum or sweep material and place in a disposal container

**6.4. Reference to other sections**

Section 8: Exposure controls and personal protection. See Section 13 for additional waste treatment information.

## 7. HANDLING AND STORAGE

**7.1. Precautions for safe handling**

Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimize dust generation and accumulation. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment as required.

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

Keep container tightly closed and dry. Store away from incompatible materials.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**8.1. Control parameters****Occupational exposure limits****Magnesium Hydroxide**  
NIOSHTWA: 15 mg/m<sup>3</sup> (total dust)

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ACGIH

OSHA

**Zinc Molybdenum Oxide**

Malaysia

NIOSH

ACGIH

OSHA

TLV-TWA: 8-hr : 10 mg/m<sup>3</sup> (total dust)3 mg/m<sup>3</sup> (respirable fraction)TWA: 15 mg/m<sup>3</sup> total dust5 mg/m<sup>3</sup> respirableTWA: 5 mg/m<sup>3</sup>8-hr TWA: 10 mg/m<sup>3</sup>TWA: 10 mg/m<sup>3</sup> dust0.5 mg/m<sup>3</sup> Respirable fractionTWA: 5 mg/m<sup>3</sup> (respirable); 10 mg/m<sup>3</sup> (dust)PEL: 5 mg/m<sup>3</sup> (respirable)**Biological Limit Values**

None

**Recommended monitoring procedures**

Refer also to national guidance documents for information on currently recommended monitoring procedures

**8.2. Exposure controls****Engineering Measures**

Do not handle until all safety precautions have been read and understood  
Ensure adequate ventilation, especially in confined areas  
Provide a good standard of controlled ventilation (10 to 15 air changes per hour)  
Use exhaust ventilation to keep airborne concentrations below exposure limits  
In case of insufficient ventilation, wear suitable respiratory equipment

**Personal protective equipment****Eye/Face Protection**

Wear safety glasses with side shields (or goggles)

**Skin and Body Protection**

Wear suitable protective clothing.

**Hand Protection**

Wear suitable gloves.

**Respiratory Protection**

In case of inadequate ventilation wear respiratory protection.

**Thermal hazards**

Wear suitable protective clothing.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use.

**Environmental Exposure Controls**

Dispose of in accordance with local regulations.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**9.1. Information on basic physical and chemical properties****Appearance:****Physical State**

Solid Powder

**Color**

White

**Odor**

Odorless

**Odor Threshold**

No information available

**pH:**

9.4

**Freezing Point**

Not applicable

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<b>Flash Point</b>	Not applicable.
<b>Evaporation Rate</b>	Not applicable.
<b>Flammability (solid, gas)</b>	Not applicable
<b>Upper flammability limit:</b>	
<b>Lower flammability limit:</b>	
<b>Vapor Pressure</b>	Not applicable
<b>Vapor Density</b>	Not applicable
<b>Relative Density</b>	No data available
<b>Water Solubility</b>	Slightly soluble
<b>Solubility in other solvents</b>	No information available
<b>Partition coefficient</b>	No data available
<b>Autoignition Temperature</b>	Not applicable
<b>Decomposition Temperature</b>	1292 - 1652 °F (700 - 900 °C)

<b>Specific Gravity</b>	2.63 (H <sub>2</sub> O = 1)
<b>9.2. Other information</b>	No data available.

## 10. STABILITY AND REACTIVITY

<b>10.1. Reactivity</b>	Stable under normal conditions
<b>10.2. Chemical stability</b>	Stable under normal conditions
<b>10.3. Possibility of hazardous reactions</b>	No information available
<b>10.4. Conditions to avoid</b>	Dust formation Incompatible materials
<b>10.5. Incompatible materials</b>	Strong oxidizing agents
<b>10.6. Hazardous decomposition products</b>	None known

## 11. TOXICOLOGICAL INFORMATION

<b>General Information</b>	Users are advised to consider national Occupational Exposure Limits or other equivalent values.
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### Information on Likely Routes of Exposure

<b>Inhalation</b>	Avoid inhalation of the product
<b>Skin</b>	Prolonged or repeated contact may dry skin and cause irritation
<b>Eyes</b>	Dust contact with the eyes can lead to mechanical irritation

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**Ingestion** Ingestion is not a likely route of exposure

**Aspiration hazard** Not an expected route of exposure.

## 11.1. Information on toxicological effects

### Magnesium Hydroxide

**Oral LD50** 8500 mg/kg Rat

### Zinc Molybdenum Oxide

**Oral LD50** >10000 mg/kg Rat

**IARC** Not Listed

**Specific target organ toxicity - Repeated exposure** Kidney (based on tubular degeneration/regeneration of male Han Wistar rats at 125 mg/kg/day). NOAEL – 60 mg/kg Rat; Oral; 90-day.

**Acute Toxicity** Based on available data, the classification criteria are not met

**Respiratory Sensitization** No data available

**Serious eye damage/eye irritation** Dust may cause mechanical irritation to eyes

**Skin Sensitization** No data available

**Carcinogenicity** There are no known carcinogenic chemicals in this product.

**Target Organ Effects** Skin. Eyes. Respiratory system.

**Specific target organ toxicity - Single exposure** No data available.

**Specific target organ toxicity - Repeated exposure** May cause damage to organs through prolonged or repeated exposure if inhaled. Kidney.

## 12. ECOLOGICAL INFORMATION

**12.1. Ecotoxicity** Harmful to aquatic life with long lasting effects. Avoid release to the environment.

### Magnesium Hydroxide

**WGK Classification (AwSV)** 5209 WGK: nwg

**12.2. Persistence and degradability** No data available.

**12.3. Bioaccumulative potential** No data available.

**Partition coefficient** No data available

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**Bioconcentration factor (BCF)** No data available.

**12.4. Mobility in soil** No data available.

**12.5. Results of PBT and vPvB assessment** No data available.

**12.6. Other adverse effects** None known

## 13. DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

**Disposal Methods** Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated Packaging** Product residue may remain in empty containers. Empty containers should be taken to an approved waste handling site for recycling or disposal.

**Waste codes** Waste codes should be assigned by the user based on the application for which the product was used

### Magnesium Hydroxide

**European Waste Catalog** 060299  
**WGK Classification (AwSV)** 5209 WGK: nwg

## 14. TRANSPORT INFORMATION

### Mode of Transportation (Road, Water, Air, Rail)

<b>TDG -Canada</b>	Not regulated
<b>DOT</b>	Not regulated
<b>ADR</b>	Not regulated
<b>RID</b>	Not regulated
<b>ADN</b>	Not regulated
<b>IATA</b>	Not regulated
<b>IMDG/IMO</b>	Not regulated

**14.1. UN number** None

**14.2. UN proper shipping name** None

**14.3. Transport hazard class(es)** None



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Not applicable

## 15. REGULATORY INFORMATION

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### Global Inventories

Chemical Name	CAS Number	EC No	EU REACH registration number	Australia (AIC)	Canada (DSL)	China (IECSC)	Japan	S. Korea (KECL)	Mexico	New Zealand	Philippines (PICCS)	Taiwan	TSCA: United States
Magnesium Hydroxide	1309-42-8	215-170-3	01-211948875-6-18-0040	Y	Y	Y	(1)-386 (ENCS) (ISHL)	KE-22716	Y	Y	Y	Y	A
Zinc Molybdenum Oxide	22914-58-5 61583-60-6	245-322-4	01-212080048-1-68-0000	N	Y	Y	(1)-781 (ENCS)(ISHL)	KE-11910	N	N	N	Y	A

## 16. OTHER INFORMATION

**Prepared by** Huber Engineered Materials Global Regulatory Affairs  
email: regulatory.affairs@huber.com.**GHS Classification** Considered a hazardous substance or mixture according to the Globally Harmonized System (GHS)**Physical Hazard** Not classified**Health Hazards** Specific target organ toxicity (STOT) - repeated exposure, category 2**Environmental Hazard** Chronic Aquatic Toxicity Category 3**Labeling****Symbols/Pictograms**

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Warning

**Hazard Statements**May cause damage to organs through prolonged or repeated exposure  
Harmful to aquatic life with long lasting effects**Training Advice**

Do not handle until all safety precautions have been read and understood

**Abbreviations and acronyms**

IARC (International Agency for Research on Cancer)  
IATA (International Air Transport Association)  
IMDG (International Maritime Dangerous Goods)  
IUCLID (International Uniform Chemical Information Database)  
WHMIS (Workplace Hazardous Materials Information System)  
DOT (Department of Transportation)  
OSHA (Occupational Safety and Health Administration of the US Department of Labor)  
TWA (Time-Weighted Average)  
CLP (The Classification, Labeling and Packaging of Substances and Mixtures Regulation (EC 1272/2008))  
PPE (Personal Protection Equipment)  
NIOSH (National Institute for Occupational Safety and Health)  
TDG (Transport of Dangerous Goods) Canada  
CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act)  
RQ (Reportable Quantity) (RQ/% in mixture)  
STEL (Short Term Exposure Limit)  
TLV® (Threshold Limit Value)  
DNEL (Derived No Effect Level)  
SVHC (Substances of Very High Concern)  
BOD (Biochemical oxygen demand)  
COD (Chemical oxygen demand)  
ICAO (International Civil Aviation Organization)  
IMDG (International Maritime Dangerous Goods)  
ADR (European Agreement Concerning the International Carriage of Dangerous Goods by Road)  
RID (Agreement Concerning the International Carriage of Dangerous Goods by Rail)  
SCBA (Self-Contained Breathing Apparatus) Positive Pressure  
PNEC (Predicted No Effect Concentration)  
GHS (Globally Harmonized System)  
TSCA (Toxic Substances Control Act)

**Disclaimer** The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of Safety Data Sheet**