



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

E-mail 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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Physical Hazard	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

General Advice	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.
Eye Contact	In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Skin Contact	Wash with plenty of soap and water.
Ingestion	Rinse mouth thoroughly with water.
Inhalation	Do not breathe dust. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
Aspiration hazard	Not an expected route of exposure.
Notes to Physician	Treat symptomatically.
4.2. Most important symptoms and effects, both acute and delayed	Inhalation of dust may cause irritation of the respiratory system. Eye irritation.
4.3. Indication of any immediate medical attention and special treatment needed	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 (CO₂).

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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equipment for firefighters

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/m³ (total dust)

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ACGIH

TLV-TWA: 8-hr : 10 mg/m³ (total dust)

OSHA

3 mg/m³ (respirable fraction)

TWA: 15 mg/m³ total dust

5 mg/m³ respirable

Zinc Molybdenum Oxide

Malaysia

TWA: 5 mg/m³

NIOSH

8-hr TWA: 10 mg/m³

ACGIH

TWA: 10 mg/m³ dust

0.5 mg/m³ Respirable fraction

OSHA

TWA: 5 mg/m³ (respirable); 10 mg/m³ (dust)

PEL: 5 mg/m³ (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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Flash Point	Not applicable.
Evaporation Rate	Not applicable.
Flammability (solid, gas)	Not applicable
Upper flammability limit:	
Lower flammability limit:	
Vapor Pressure	Not applicable
Vapor Density	Not applicable
Relative Density	No data available
Water Solubility	Slightly soluble
Solubility in other solvents	No information available
Partition coefficient	No data available
Autoignition Temperature	Not applicable
Decomposition Temperature	1292 - 1652 °F (700 - 900 °C)
Specific Gravity	2.63 (H ₂ O = 1)
9.2. Other information	No data available.

10. STABILITY AND REACTIVITY

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

11. TOXICOLOGICAL INFORMATION

General Information Users are advised to consider national Occupational Exposure Limits or other equivalent values.

Information on Likely Routes of Exposure

Inhalation	Avoid inhalation of the product
Skin	Prolonged or repeated contact may dry skin and cause irritation
Eyes	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)

TDG -Canada Not regulated
DOT Not regulated
ADR Not regulated
RID Not regulated
ADN Not regulated
IATA Not regulated
IMDG/IMO 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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- 14.4. Packing group None
- 14.5. Environmental hazards No
- 14.6. Special precautions for user Not applicable

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
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
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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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Signal Word

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