



Kemgard® MZM

**Japan-JIS Z 7253:2019
Occupational Safety and Health Act
GHS (Globally Harmonized System)**

Issue Date 01/Jan/2024
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Revision Number 1.4.3
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1. PRODUCT AND COMPANY IDENTIFICATION

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

Recommended Use Flame retardant Smoke suppressant

Uses advised against None known

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2. HAZARD IDENTIFICATION

Japan GHS Classification

Physical Hazards Not classified

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

Environmental Hazards Chronic Aquatic Toxicity, Category 3

GHS label elements
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

Precautionary Statements

Prevention

Do not breathe vapor or mist
Employ good industrial hygiene practice
Wash hands thoroughly after handling
Avoid release to the environment

Response

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
Get medical help if you feel unwell

Storage

Store away from incompatible materials.
Keep in a dry place

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC) None known

3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture

Mixture

Chemical Name	CAS Number	Japan GHS Classification	Weight-%
Magnesium Hydroxide	1309-42-8	Not classified	> 75
Zinc Molybdenum Oxide	22914-58-5 61583-60-6	Acute Tox. 4, H332 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 2, H411	< 25

4. FIRST AID MEASURES

If inhaled:

Remove victim to fresh air and keep at rest in a position comfortable for breathing

IF ON SKIN:

Wash with plenty of soap and water
Take off contaminated clothing and wash before reuse

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IF IN EYES: In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes
Call a physician if irritation develops and persists

If swallowed: Rinse mouth thoroughly with water

Self-Protection of the First Aider Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Water spray (fog)
Foam
Dry chemical
Carbon dioxide (CO₂)

Unsuitable Extinguishing Media Do not use water jetstream

Special hazards arising from the substance or mixture Avoid dust formation

Fire-fighting measures In case of fire and/or explosion do not breathe fumes
Water mist may be used to cool closed containers
Keep unauthorized personnel away

Special Protective Equipment for Firefighters Wear self-contained breathing apparatus and protective suit

6. ACCIDENTAL RELEASE MEASURES

Protective Equipment and Precautions for Firefighters Avoid dust formation
Ensure adequate ventilation
Use personal protection recommended in Section 8
Avoid contact with eyes and skin. Wear suitable personal protection equipment.
Keep unauthorized personnel away

Environmental Precautions Keep out of drains, sewers, ditches and waterways
Disposal considerations
See section 13 for more information

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 Minimize use of water during clean-up
Recommended filter type: High efficiency particulate air filter (HEPA filter)

Other Information Not applicable

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7. HANDLING AND STORAGE

Handling

Technical measures Provide adequate ventilation as well as local exhaust at critical locations
Ensure adequate ventilation
Use personal protection equipment
See section 8 for more information

Advice on safe handling Minimize dust generation and accumulation

Conditions for safe storage, including any incompatibilities Keep containers tightly closed in a cool, well-ventilated place

Hygiene Measures Wash hands thoroughly after handling

Storage

Packaging compatibilities Keep/store only in original container

Incompatible Products Strong oxidizing agents

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits Provide adequate ventilation as well as local exhaust at critical locations

Magnesium Hydroxide

Japan Not established

Zinc Molybdenum Oxide

Japan Not established

Engineering Measures Ensure adequate ventilation, especially in confined areas

Personal Protective Equipment

Respiratory Protection In case of inadequate ventilation wear respiratory protection

Hand protection For operations where prolonged or repeated skin contact may occur, impervious gloves should be worn

Eye Protection Wear safety glasses with side shields (or goggles)

Skin and Body Protection Wear suitable protective clothing.
Chemical resistant apron.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice
Wash thoroughly after handling
Avoid contact with eyes and skin
Do not breathe dust

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State Solid, Powder

Color White

Odor Odorless

Odor Threshold No information available

Melting Point / Melting Range No data available

Boiling Point No data available

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Freezing Point	Not applicable
Autoignition Temperature	Not applicable
Evaporation Rate	Not applicable
Flammability (solid, gas)	Not applicable
Explosive Properties	No data available
Vapor Pressure	Not applicable
Water Solubility	Slightly soluble
Partition coefficient	No data available
Viscosity	No data available
Specific Gravity	2.63 (H ₂ O = 1)
Oxidizing Properties	No data available
Decomposition Temperature	1292 - 1652 °F (700 - 900 °C)
Flash Point	Not applicable.
pH:	9.4
Vapor Density	Not applicable
Relative Density	No data available
Solubility in other solvents	No information available No data available.

10. STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions
Chemical stability	Stable under normal conditions
Possibility of hazardous reactions	None known
Incompatible materials	Strong oxidizing agents
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
Ingestion	Ingestion is not a likely route of exposure
Aspiration hazard	Not an expected route of exposure.

11.1. Information on toxicological effects

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Magnesium Hydroxide

Oral LD50

8500 mg/kg Rat

Zinc Molybdenum Oxide

Oral LD50

>10000 mg/kg Rat

IARC

Not Listed

Target Organ Effects

Kidney (based on tubular degeneration/regeneration of male Han Wistar rats at 125 mg/kg/day)

Acute Toxicity

Based on available data, the classification criteria are not met

Serious eye damage/eye irritation

Dust may cause mechanical irritation to eyes

Respiratory Sensitization

No data available

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

Ecotoxicity

Harmful to aquatic life with long lasting effects

Persistence and degradability

No data available

Bioaccumulation

No data available.

Mobility in soil

No data available

Hazardous to the ozone layer

No data available

13. DISPOSAL CONSIDERATIONS

Disposal

Dispose of in accordance with federal, state and local regulations

Contaminated packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal

14. TRANSPORT INFORMATION

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

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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

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

Global Inventories

Pure substance/mixture

Mixture

Chemical Name	CAS Number	EC No	EU REACH registration number	Australia (AICS)	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	01-211948 8756-18-0 040	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	01-212080 0481-68-0 000	N	Y: DSL-2291 4-58 -5 NDSL: 61583-60- 6	Y	(1)-781 (ENCS)(ISHL)	KE-11910	Y: (MO-generics)	Y	Y	Y	A

Legend-Inventories

KECL - Korean Existing and Evaluated Chemical Substances
 IECSC - China Inventory of Existing Chemical Substances
 PICCS - Philippines Inventory of Chemicals and Chemical Substances
 AICS - Australian Inventory of Chemical Substances
 TSCA (Toxic Substances Control Act)
 DSL (Domestic Substance List)
 NDSL (Non-Domestic Substances List)
 Japan - ISHL Notifiable Substances
 ENCS - Japan Existing and New Chemical Substances

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Zinc Molybdenum Oxide

Japanese Pollutant Release and Transfer Register - Class 1 Substance :453 >= 1.0%

16. OTHER INFORMATION

Prepared by	Huber Engineered Materials Global Regulatory Affairs email: regulatory.affairs@huber.com
Reason for Revision	This SDS complies with the requirements of JIS Z 7250:2010 and JIS Z 7252:2009 (Japan)
Bibliography	NITE GHS Classified list Japan Society for occupational health (2015) recommendation of allowable concentrations, etc. ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value
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