



Kemgard® HPSS

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

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

Revision Number 1.3.1
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1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Kemgard® HPSS

Pure substance/mixture Mixture

Magnesium Hydroxide
CAS Number 1309-42-8
Weight-% >25

Zinc Oxide
CAS Number 1314-13-2
Weight-% 10-30

Zinc Molybdenum Oxide
CAS Number 22914-58-5
61583-60-6
Weight-% >5

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 Acute Aquatic Toxicity: Category 1
Chronic Aquatic Toxicity: Category 1

GHS label elements
Symbols/Pictograms

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**Signal Word**

Warning

Hazard statements

H373 - May cause damage to organs through prolonged or repeated exposure

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

Precautionary Statements**Prevention**

P202 - Do not handle until all safety precautions have been read and understood

P260 - Do not breathe dust

P273 - Avoid release to the environment

Response

P314 - Get medical advice/attention if you feel unwell

P391 - Collect spillage

P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water [or shower]

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Storage

Store away from incompatible materials.

Disposal

P501 - Dispose of contents/containers in accordance with local regulations

3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture

Mixture

Chemical Name	CAS Number	Japan GHS Classification	Weight-%
Magnesium Hydroxide	1309-42-8	Not classified	>25
Zinc Oxide	1314-13-2	Acute Aquatic Toxicity: Category 1 Chronic Aquatic Toxicity: Category 1	10-30
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	>5

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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
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) Dry chemical Carbon dioxide (CO ₂) Foam
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
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

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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

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits

Provide adequate ventilation as well as local exhaust at critical locations

Magnesium Hydroxide

Japan

Not established

Zinc Oxide

Japan

TWA: 4 mg/m³ (total dust)
1 mg/m³ (respirable dust)**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 ProtectionWear 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

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9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid, Powder
Color	White
Odor	Odorless
Odor Threshold	No information available
Melting Point / Melting Range	No information available
Boiling Point	No information available
Freezing Point	No information available
Autoignition Temperature	No data available
Evaporation Rate	Not applicable
Flammability (solid, gas)	No information available
Explosive Properties	No data available
Vapor Pressure	No data available
Water Solubility	Slightly soluble
Partition coefficient	No data available
Viscosity	No information available
Specific Gravity	No data available
Oxidizing Properties	No data available
Decomposition Temperature	No information available
pH:	8.9
Initial boiling point	No information available
Vapor Density	Not applicable
Relative Density	3.5
Solubility in other solvents	No information available
VOC Content (%)	Not applicable

10. STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions
Chemical stability	Stable under normal conditions
Possibility of hazardous reactions	None known
Conditions to avoid	Strong oxidizing agents
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.
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Information on Likely Routes of Exposure

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Inhalation	May cause respiratory tract irritation
Skin	No known hazard in contact with skin
Eyes	Dust contact with the eyes can lead to mechanical irritation
Ingestion	Ingestion is not a likely route of exposure
Symptoms related to the physical, chemical and toxicological characteristics	Dust may cause mechanical irritation to eyes.

11.1. Information on toxicological effects

Magnesium Hydroxide

Oral LD50 8500 mg/kg Rat

Zinc Oxide

Oral LD50 7950 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	Low hazard for usual industrial or commercial handling
Serious eye damage/eye irritation	Dust may cause mechanical irritation to eyes
Respiratory Sensitization	Does not cause sensitization
Skin Corrosion/Irritation	Contact with dust can cause mechanical irritation or drying of the skin
Skin Sensitization	Not a skin sensitizer
Germ cell mutagenicity	No data available.
Reproductive Effects	This product does not contain any known or suspected reproductive hazards.
Carcinogenicity	This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.
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	Very toxic to aquatic life with long lasting effects
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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)

ADR	UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc Oxide, Zinc Molybdate)
RID	UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc Oxide, Zinc Molybdate)
ADN	UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc Oxide, Zinc Molybdate)
IATA	UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc Oxide, Zinc Molybdate)
IMDG/IMO	UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc Oxide, Zinc Molybdate)
ICAO	UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S (Zinc oxide)

14.1. UN number UN3077**14.2. UN proper shipping name** UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc Oxide, Zinc Molybdate)**14.3. Transport hazard class(es)** 9**14.4. Packing group** III**14.5. Environmental hazards** Yes Marine Pollutant**14.6. Special precautions for user** Do not handle until all safety precautions have been read and understood.**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**
Not applicable

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Marine Pollutant



15. REGULATORY INFORMATION

Global Inventories

Pure substance/mixture

Mixture

Chemical Name	CAS Number	EC No	EU REACH registration number	Australia (AIIIC)	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 Oxide	1314-13-2	215-222-5	01-211946 3881-32	Y	Y	Y	ENCS: (1)-561 (ISHL: (1)-561	KE-35565	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-gene rics)	Y	Y	Y	A

Legend-Inventories

KECL - Korean Existing and Evaluated Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

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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

Zinc Molybdenum Oxide

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

16. OTHER INFORMATION

Prepared byHuber 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

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