Safety Data Sheet

Kemgard® HPSS

GHS (Globally Harmonized System)

Issue Date 01/Jan/2024 **Revision Number** 1.3.1
Print Date 14/Dec/2023

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Name: Kemgard® HPSS

Pure substance/mixture Mixture

Magnesium Hydroxide
CAS Number 1309-42-8
EU REACH registration number 01-2119488756-18-0040

Zinc Oxide
CAS Number 1314-13-2
EU REACH registration number 01-2119463881-32

Zinc Molybdenum Oxide
CAS Number 22914-58-5
61583-60-6
EU REACH registration number 01-2120800481-68-0000

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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS Classification

Hazards identification

Physical Hazard	Not classified
Health Hazards	Specific target organ toxicity (STOT) - repeated exposure, category 2
Environmental Hazard	Acute Aquatic Toxicity: Category 1 Chronic Aquatic Toxicity: Category 1

2.2. Label elements

Symbols/Pictograms

Signal Word	Warning
Hazard Statement	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.

SECTION 3: Composition/information on ingredients

Pure substance/mixture Mixture

Chemical Name	CAS Number	TSCA: United States	EU REACH registration number
Magnesium Hydroxide	1309-42-8	A	01-2119488756-18-0040
Zinc Oxide	1314-13-2	A	01-2119463881-32
Zinc Molybdenum Oxide	22914-58-5 61583-60-6	A	01-2120800481-68-0000

SECTION 4: First aid measures

4.1. Description of first aid measures

General Advice Do not handle until all safety precautions have been read and understood. Employ good industrial hygiene practice. Wear suitable protective clothing, gloves and eye/face protection. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. When in doubt or if symptoms are observed, get medical advice.

Eye Contact IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Skin Contact Wash with plenty of soap and 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.

Ingestion Rinse mouth thoroughly with water.

Aspiration hazard Based on available data, the classification criteria are not met.

Notes to Physician Treat symptomatically.

4.2. Most important symptoms and effects, both acute and delayed May cause irritation to mucous membranes and respiratory tract. Contact with dust can cause mechanical irritation or drying of the skin.

4.3. Indication of any immediate medical attention and special treatment needed Treatment should be symptomatic and supportive. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

SECTION 5: Firefighting measures

5.1. Extinguishing media

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

Unsuitable Extinguishing Media
None known.

5.2. Special hazards arising from the substance or mixture
Non-combustible.

5.3. Advice for firefighters

Special protective 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. No special fire protection measures are necessary. Standard procedure for chemical fires.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures	Avoid dust formation. Ensure adequate ventilation. Use personal protection recommended in Section 8. Keep unauthorized personnel away.
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.

SECTION 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

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Zinc Oxide

Thailand	TWA: 5 mg/m³ (fume)
Biological Limit Values	No information available
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.
Thermal hazards	None known.
Hygiene Measures	Follow general hygiene considerations recognized as common good workplace practices The worker should wash daily at the end of each work shift, and prior to eating, drinking, smoking, etc
Environmental Exposure Controls	Dispose of in accordance with local regulations Do not empty into drains or water courses

SECTION 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:	8.9
Melting Point / Melting Range	No information available
Melting point / Freezing point	Not applicable
Initial boiling point	No information available
Boiling Point	No information available
Freezing Point	No information available
Flash Point	Not determined
Evaporation Rate	Not applicable.
Flammability (solid, gas)	No information available
Upper flammability limit:	--
Lower flammability limit:	--
Vapor Pressure	No data available
Vapor Density	Not applicable
Vapor Density	Not applicable
Density	No data available
Relative Density	3.5
Water Solubility	Slightly soluble
Solubility in other solvents	No information available
Partition coefficient	No data available
Autoignition Temperature	No data available
Decomposition Temperature	No information available
Viscosity	No information available.
Kinematic viscosity	Not applicable
Oxidizing Properties	Not applicable
Particle Size	No information available
VOC Content (%)	Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Not applicable

9.2.2. Other safety characteristics

Not applicable

SECTION 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	None under normal processing
10.4. Conditions to avoid	Dust formation Incompatible materials
10.5. Incompatible materials	Strong oxidizing agents
10.6. Hazardous decomposition products	None known

SECTION 11: Toxicological information

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

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Magnesium Hydroxide	
Oral LD50	8500 mg/kg Rat
Zinc Oxide	
LD50s and LC50s	5000 mg/kg Oral LD50 Rat
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
Respiratory Sensitization	Does not cause sensitization
Serious eye damage/eye irritation	Dust may cause mechanical irritation to eyes
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.

Information on Likely Routes of Exposure

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

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties	This product does not contain any known or suspected endocrine disruptors
11.2.2. Other information	Not applicable

SECTION 12: Ecological information

12.1. Toxicity Very toxic to aquatic life with long lasting effects

Magnesium Hydroxide
WGK Classification (AwSV) 5209 WGK: nwg
Zinc Oxide
WGK Classification (AwSV) 2187 WGK: 2

12.2. Persistence and degradability	No data available.
12.3. Bioaccumulative potential	No data available.
Partition coefficient	No data available
Bioconcentration factor (BCF)	No data available.

12.4. Mobility in soil No data available.

12.5. Results of PBT and vPvB assessment This substance does not meet the criteria for classification as PBT or vPvB.

12.6. Endocrine disrupting properties This product does not contain any known or suspected endocrine disruptors

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal Methods Dispose of waste product or used containers according to local regulations. Do not allow to enter into surface water or drains.

Contaminated Packaging 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

Zinc Oxide
WGK Classification (AwSV) 2187 WGK: 2

SECTION 14: Transport information

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

TDG -Canada UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc Oxide, Zinc Molybdate)

DOT UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc Oxide, Zinc Molybdate),
, Not regulated in non-bulk packages (<119 gal)

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
EmS:	F-A, S-F
14.6. Special precautions for user	Do not handle until all safety precautions have been read and understood.

14.7. Maritime transport in bulk according to IMO instruments
Not applicable

Marine Pollutant

SECTION 15: Regulatory information

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

Global Inventories

Pure substance/mixture Mixture

Chemical Name	CAS Number	EC No	Australia (AIIC)	Canada (DSL)	China (IECSC)	Japan	S. Korea (KECL)	Mexico	Thailand (TECI)	New Zealand	Philippines (PICCS)	Taiwan	TSCA: United States
Magnesium Hydroxide	1309-42-8	215-170-3	Y	Y	Y	(1)-386 (ENCS) (ISHL)	KE-22716	Y	55-1-01343	Y	Y	Y	A
Zinc Oxide	1314-13-2	215-222-5	Y	Y	Y	ENCS: (1)-561 ISHL: (1)-561	KE-35565	Y	55-1-01377	Y	Y	Y	A
Zinc Molybdenum Oxide	22914-58-5 61583-60-6	245-322-4	N	Y: DSL-22914-58-5 NDSL: 61583-60-6	Y	(1)-781 (ENCS)(ISHL)	KE-11910	Y: (MO-generics)	Y	Y	Y	Y	A

REACH No.

Magnesium Hydroxide
EU REACH registration number 01-2119488756-18-0040
Turkish KKDIK pre-registration 05-0000192735-90-0000
Zinc Oxide
EU REACH registration number 01-2119463881-32
Turkish KKDIK pre-registration 05-0000192715-32-0000
Zinc Molybdenum Oxide
EU REACH registration number 01-2120800481-68-0000

Germany
Very toxic to aquatic life with long lasting effects
Magnesium Hydroxide
WGK Classification (AwSV) 5209 WGK: nwg
Zinc Oxide
WGK Classification (AwSV) 2187 WGK: 2

15.2. Chemical safety assessment

Chemical Safety Assessments have been carried out for these substances

SECTION 16: Other information

Prepared by Huber Engineered Materials Global Regulatory Affairs
email: regulatory.affairs@huber.com.

GHS Classification

Symbols/Pictograms

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

Hazards identification

Physical Hazard	Not classified
Health Hazards	Specific target organ toxicity (STOT) - repeated exposure, category 2
Environmental Hazard	Acute Aquatic Toxicity: Category 1 Chronic Aquatic Toxicity: Category 1

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)
EPA SARA Title III Section 312 (40 CFR 370) Hazard Classification
DOT (Department of Transportation)
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
TWA (Time-Weighted Average)
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA)
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)
Land transport (ADR/RID)
BOD (Biochemical oxygen demand)
COD (Chemical oxygen demand)

ICAO (International Civil Aviation Organization)
IMDG (International Maritime Dangerous Goods)
SCBA (Self-Contained Breathing Apparatus) Positive Pressure
PNEC (Predicted No Effect Concentration)
GHS (Globally Harmonized System)

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