Safety Data Sheet

Kemgard® HPSS

Prepared in accordance with GB/T 16483-2008, GB/T 24774-2009, GB 13690 – 2009, GB/T 17519–2013
GHS (Globally Harmonized System)

Section 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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Registration Number No information available

Section 2: HAZARDS IDENTIFICATION

GHS Classification

Physical Hazard Not classified

Health Hazard
Specific target organ toxicity (STOT) - repeated exposure, category 2
Acute toxicity - Inhalation Category 5

Environmental Hazard
Acute Aquatic Toxicity Category 1
Chronic Aquatic Toxicity Category 1

Label Elements

Symbols/Pictograms

Signal Word
Warning

Hazard Statement
H333 - May be harmful if inhaled
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
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water [or shower]
P304+P317: IF INHALED: Get medical help.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Spills and Leaks
P391 - Collect spillage

Storage
Store in a dry place
Store away from incompatible materials.

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

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

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture Mixture

Chemical Name	CAS Number	China (IECSC)	China classification	TSCA: United States	EU REACH registration number	Weight-%
Magnesium Hydroxide	1309-42-8	Y	Not classified as a dangerous goods/substances	A	01-2119488756-18-0040	>25
Zinc Oxide	1314-13-2	Y	Aquatic Acute Category 1; H400 Aquatic Chronic Category 1; H410	A	01-2119463881-32	10-30
Zinc Molybdenum Oxide	22914-58-5 61583-60-6	Y	Acute Tox. 4, H332 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 2, H411	A	01-2120800481-68-0000	>5

Section 4: 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 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 INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing

Ingestion If swallowed, rinse mouth with water (only if the person is conscious)

Notes to Physician Treat symptomatically

Personal Protective Equipment For First Aid Responders Wear suitable protective clothing
IF exposed or concerned: Get medical advice/attention

Expected acute symptoms and delayed symptoms None known

Section 5: FIRE FIGHTING MEASURES

Flammable Properties	None known
Suitable Extinguishing Media	Carbon dioxide (CO2) Dry chemical Foam
Unsuitable extinguishing media:	Water spray may be ineffective.
Specific Hazards Arising from the Chemical	Avoid dust formation. In the event of fire and/or explosion do not breathe fumes. The pressure in sealed containers can increase under the influence of heat. Use water spray to cool unopened containers.
Protective Equipment and Precautions for Firefighters	Wear self-contained breathing apparatus and protective suit

Section 6: SPILLAGE, ACCIDENTAL RELEASE MEASURES

Personal Precautions	Use personal protective equipment. Avoid dust formation. Avoid contact with skin, eyes and clothing. Avoid inhalation of dust.
Environmental Precautions	Prevent further leakage or spillage if safe to do so. Do not allow material to contaminate ground water system. Prevent product from entering drains. Should not be released into the environment. Local authorities should be advised if significant spillages cannot be contained.
Methods for cleaning up	Use personal protective equipment. Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. Take up mechanically and collect in suitable container for disposal. Avoid dust formation. Clean contaminated surface thoroughly.
Other Information:	None known

Section 7: HANDLING AND STORAGE

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. Do not breathe dust. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Wear appropriate personal protective clothing to prevent skin contact.
Storage	Keep container tightly closed in a dry and well-ventilated place Store away from incompatible materials.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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

Magnesium Hydroxide

China	TWA: Not established
China	STEL: Not established
ACGIH	TLV-TWA: 8-hr : 10 mg/m³ (total dust) 3 mg/m³ (respirable fraction)
NIOSH	TWA: 15 mg/m³ (total dust)
OSHA	TWA: 15 mg/m³ total dust 5 mg/m³ respirable

Zinc Oxide

China	STEL: 5 MG/M3 TWA: 3 mg/m³
ACGIH	STEL: 10 mg/m³ (respirable) TWA: 2 mg/m³ (respirable)
NIOSH	Ceiling: 15 mg/m³ (total dust) STEL: 10 mg/m³(fume) TWA: 5 mg/m³ (total dust)
OSHA	PEL: 15 mg/m³ (total dust) 5 mg/m³ (respirable fraction)

Zinc Molybdenum Oxide

China	TWA: 8-hour: 4 mg/m³
China	STEL: Not established
ACGIH	TWA: 10 mg/m³ dust 0.5 mg/m³ Respirable fraction
NIOSH	TWA 8-hr: 10 mg/m³
OSHA	TWA: 5 mg/m³ (respirable); 10 mg/m³ (dust) PEL: 5 mg/m³ (respirable)

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 goggles with side protection

Skin and Body Protection Wear suitable protective clothing

Hand Protection Protective gloves

Respiratory Protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice

Environmental Exposure Controls Dispose of in accordance with local regulations
Do not empty into drains or water courses

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

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
Initial boiling point	No information available
Freezing Point	No information available
Boiling Point	No information available
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
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.

VOC Content (%) Not applicable

Section 10: STABILITY AND REACTIVITY

Stability Stable under normal conditions

Conditions to avoid: Dust formation Incompatible materials

Incompatible materials Strong oxidizing agents

Hazardous decomposition products None under normal processing

Hazardous Reactions None under normal processing

Hazardous polymerization: Hazardous polymerization does not occur

Section 11: TOXICOLOGICAL INFORMATION

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

Product Information

Information on Likely Routes of Exposure

Eyes	Dust contact with the eyes can lead to mechanical irritation
Skin	No known hazard in contact with skin
Inhalation	May cause respiratory tract 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 -	May cause damage to organs through prolonged or repeated exposure if inhaled.

Repeated exposure Kidney.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Persistence/Degradability: No data available.

Bioaccumulative Potential No data available.

Partition coefficient No data available
Bioconcentration factor (BCF) No data available.
Mobility in soil No data available.

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

Other Adverse Effects None known

Section 13: DISPOSAL CONSIDERATIONS

Waste from Residues/Unused Products Dispose of in accordance with local regulations

Contaminated Packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal.

Section 14: TRANSPORT INFORMATION

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

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

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

Marine Pollutant

Section 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 (AIIC)	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	01-2119488756-18-0040	Y	Y	Y	(1)-386 (ENCS) (ISHL)	KE-22716	Y	Y	Y	Y	A
Zinc Oxide	1314-13-2	215-222-5	01-2119463881-32	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	01-2120800481-68-0000	N	Y: DSL-22914-58-5 NDSL: 61583-60-6	Y	(1)-781 (ENCS)(ISHL)	KE-11910	Y: (MO-generics)	Y	Y	Y	A

Section 16: OTHER INFORMATION

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Reason for Revision

GB/T 16483-2008
GB/T 24774-2009
GB 13690 – 2009
GB/T 17519–2013

GHS Classification

Physical Hazard

Not classified

Health Hazard

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Environmental Hazard

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Label Elements

Symbols/Pictograms

Signal Word

Warning

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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)
SCBA (Self-Contained Breathing Apparatus) Positive Pressure
GHS (Globally Harmonized System)
ADR (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
RID (Agreement Concerning the International Carriage of Dangerous Goods by Rail)
SARA (Superfund Amendments and Reauthorization Act of 1986)
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