FIRE RETARDANT ADDITIVES

Safety Data Sheet

Kemgard® HPSS-UF

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

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name:	Kemgard® HPSS-UF
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	
CAS Number	22914-58-5 61583-60-6
Weight-%	>5
Recommended Use	Flame retardant Smoke suppressant
Uses advised against	None known
Company:	J.M. Huber Corporation 3100 Cumberland Boulevard, Suite 600 Atlanta, GA 30339 USA Tel: +1 678 247-7300
Emergency Telephone	CHEMTREC: 1 800 424 9300 or International +1 703 527 3887
E-mail	hubermaterials@huber.com
Internet	www.hubermaterials.com
Registration Number	No information available

Section 2: HAZARDS IDENTIFICATION

GHS Classification	Hazardous to the aquatic environment - Acute, category 1 Hazardous to the aquatic environment - Chronic, category 1
Physical Hazard	Not classified
Health Hazard	Not classified

Environmental Hazard	Hazardous to the aquatic environment - Acute, category 1 Hazardous to the aquatic environment - Chronic, category 1

Label Elements

Symbols/Pictograms

Signal Word	Warning
Hazard Statement	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 P273 - Avoid release to the environment
Response	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water [or shower]
Spills and Leaks	P391 - Collect spillage
Storage	Store in a dry place Store away from incompatible materials.
Disposal	Dispose of contents/container in accordance with local/regional/national/international 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	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	Acute Aquatic Toxicity Category 1 Chronic Aquatic Toxicity Category 1	A	01-2119463881-32	10-30
Zinc Molybdenum	22914-58-5 61583-60-6	Y	Not classified as a dangerous goods/substances	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/m^3 (total dust) 3 mg/m^3 (respirable fraction)
NIOSH	TWA: 15 mg/m^3 (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	
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	
Oral LD50	>10000 mg/kg Rat
IARC	Not Listed

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.
Specific target organ toxicity - Single exposure	No data available.
Specific target organ toxicity - Repeated exposure	Not classified.

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 substances, n.o.s. (Zinc oxide), 9, PG III, Marine Pollutant
ADR	UN3077, Environmentally hazardous substances, n.o.s. (Zinc oxide), 9, PG III, Marine Pollutant
RID	UN3077, Environmentally hazardous substances, n.o.s. (Zinc oxide), 9, PG III, Marine Pollutant
ADN	UN3077, Environmentally hazardous substances, n.o.s. (Zinc oxide), 9, PG III, Marine Pollutant
IATA	UN3077, Environmentally hazardous substances, n.o.s. (Zinc oxide), 9, PG III, Marine Pollutant
IMDG/IMO	UN3077, Environmentally hazardous substances, n.o.s. (Zinc oxide), 9, PG III, Marine Pollutant

14.1. UN number	UN3077
14.2. UN proper shipping name	Environmentally hazardous substance, solid, n.o.s. Zinc oxide
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	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	01-2119488756-18-0040	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	22914-58-5 61583-60-6	245-322-4	01-2120800481-68-0000	Y: CAS 61583-60-6 (generics)	Y: DSL-22914-58-5 NDSL: 61583-60-6	Y	(1)-781 (ENCS)(ISHL)	KE-11910	Y: (MO-generics)	Y: CAS 22914-58-5 (generics)	Y	Y	A

Legend
X / Y: Complies ; A: Active ; - / N: Exempt / Not Listed

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
Hazardous to the aquatic environment - Acute, category 1
Hazardous to the aquatic environment - Chronic, category 1

Physical Hazard
Not classified

Health Hazard
Not classified

Environmental Hazard
Hazardous to the aquatic environment - Acute, category 1
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Label Elements

Symbols/Pictograms

Signal Word
Warning

Hazard Statement
Very toxic to aquatic life with long lasting effects

Abbreviations and acronyms
International Agency for Research on Cancer (IARC)
International Air Transport Association (IATA)
International Maritime Dangerous Goods (IMDG)
International Uniform Chemical Information Database (IUCLID)
Workplace Hazardous Materials Information System (WHMIS) status and classification
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)
The Classification, Labeling and Packaging of Substances and Mixtures (CLP) 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)
Reportable Quantity (RQ) (RQ/% in mixture)
STEL - Short Term Exposure Limit

TLV® - Threshold Limit Value
Derived No Effect Level (DNEL)
SVHC: Substances of Very High Concern for Authorization:
Land transport (ADR/RID)
Biochemical oxygen demand (BOD)
Chemical oxygen demand (COD)
ICAO (air)
(IMDG) International Maritime Dangerous Goods
Positive Pressure Self-Contained Breathing Apparatus (SCBA)
Predicted No Effect Concentration (PNEC)
Globally Harmonized System (GHS)

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