



FIRE RETARDANT ADDITIVES

SAFETY DATA SHEET

Kemgard® HPSS-UF

MOL No. 2009-68 Standards for Classification and Labeling of Chemical Substances and Safety Data Sheet (SDS)

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Section 1: PRODUCT AND COMPANY IDENTIFICATION

A. Product name	Kemgard® HPSS-UF
Pure substance/mixture	Mixture
<u>Magnesium Hydroxide</u>	
CAS Number	1309-42-8
Weight-%	>25
<u>Zinc Oxide</u>	
CAS Number	1314-13-2
Weight-%	10-30
<u>Molybdenum zinc oxide</u>	
CAS Number	22914-58-5
Weight-%	>5
B. Recommended use and Limitations on use	
Recommended Use	Flame retardant Smoke suppressant
Uses advised against	None known
C. Supplier information	
Company Name	J.M. Huber Corporation 3100 Cumberland Boulevard, Suite 600 Atlanta, GA 30339 USA Tel: +1 678 247-7300
E-mail	hubermaterials@huber.com
Internet	www.hubermaterials.com
Contact person	CHEMTREC
Emergency phone number	+1 800 424 9300 International +1 703 527 3887

Section 2: HAZARDS IDENTIFICATION

A. Hazard category/Classification

Physical Hazards	Not classified
Health Hazards	H370 - Causes damage to organs H372 - Causes damage to organs through prolonged or repeated exposure

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Environmental Hazards

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

B. Warning label items including precautionary statement**Label Elements****Symbols/Pictograms****Signal Words**

Danger

Hazard Statements

H410 - Very toxic to aquatic life with long lasting effects
H370 - Causes damage to organs
H372 - Causes damage to organs through prolonged or repeated exposure

**Precautionary statement
Prevention**

P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P280 - Wear protective gloves/protective clothing and eye/face protection
P260 - Do not breathe dust
P264 - Wash hands thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P273 - Avoid release to the environment
Employ good industrial hygiene practice

Response

P391 - Collect spillage
P308 + P311 - IF exposed or concerned: Call a POISON CENTER or doctor
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]

Storage

Store away from incompatible materials

Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

C. Other hazards not included in the hazard category criteria (e.g. dust explosion hazard)

None known

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture

Mixture

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Chemical Name	CAS Number	S. Korea (KECL)	Korean GHS Classification	Weight-%
Magnesium Hydroxide	1309-42-8	KE-22716	Not classified	>25
Zinc Oxide	1314-13-2	KE-35565	STOT - single exposure Category 1 STOT - repeated exposure Category 1 Aquatic Acute 1 Aquatic Chronic 1	10-30
Molybdenum zinc oxide	22914-58-5	KE-11910 KE-25463	< 25% Not classified H410 - Very toxic to aquatic life with long lasting effects TRI: >1% ; 10 tons per year	>5

Section 4: FIRST AID MEASURES

- A. In case of eye contact** 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
- B. In case of skin contact** Wash with plenty of soap and water Take off contaminated clothing and wash before reuse
- C. In case of inhalation** Move to fresh air. Call a physician if symptoms develop or persist.
- D. In case of swallowing** Rinse mouth. Get medical attention if symptoms occur.
- E. Note to physician** Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

A. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media** Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂).
- Unsuitable extinguishing media** Do not use water jetstream

B. Specific hazards arising from the chemical (example: hazardous combustion products)

- Explosion hazard:** Avoid dust formation

C. Specific methods of fire-fighting

Self-contained breathing apparatus and full protective clothing must be worn in case of fire. In the event of fire and/or explosion do not breathe fumes. Move container from fire area if it can be done without risk.

Section 6: SPILLAGE, ACCIDENTAL RELEASE MEASURES

- A. Personal precautions, protective equipment and emergency measures** Ensure adequate ventilation. Avoid

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dust formation. See section 8 for more information.

B. Environmental precautions Very toxic to aquatic life with long lasting effects. Avoid discharge into drains, water courses or onto the ground.

C. Methods and materials for containment and cleaning up Vacuum or sweep material and place in a disposal container.

Section 7: HANDLING AND STORAGE

A. Precautions for safe handling

In case of exposure to environments exceeding the occupational exposure limit, wear a respirator in compliance with national legislation. Very toxic to aquatic life with long lasting effects

B. Conditions for safe storage (including any incompatibilities)

Keep container tightly closed in a dry and well-ventilated place

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

A. Exposure limit values, biological limit values, etc

Magnesium Hydroxide

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

Zinc Oxide

Korea	TWA: 5 mg/m ³ (fume); 2 mg/m ³ (respirable fraction)
Korea	STEL 10 mg/m ³ (fume)
ACGIH	STEL: 10 mg/m ³ (respirable)
OSHA	TWA: 2 mg/m ³ (respirable) PEL: 15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)

Molybdenum zinc oxide

Korea	TWA: 8-hour 0.5 mg/m ³
Korea	STEL: Not established
ACGIH	TWA: 10 mg/m ³ dust 0.5 mg/m ³ Respirable fraction
OSHA	TWA: 5 mg/m ³ (respirable); 10 mg/m ³ (dust) PEL: 5 mg/m ³ (respirable)

B. Engineering 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)

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Use exhaust ventilation to keep airborne concentrations below exposure limits
In case of insufficient ventilation, wear suitable respiratory equipment

C. Personal protective equipment

- **Eye protection** If contact is likely, safety glasses with side shields are recommended.
- **Hand protection** For prolonged or repeated skin contact use suitable protective gloves.
- **Body protection** Wear suitable protective clothing.

Hygiene Measures

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

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:	No data available
Lower flammability limit:	No data available
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
Kinematic viscosity	No data available.
VOC Content (%)	Not applicable

Section 10: STABILITY AND REACTIVITY**A. Stability and hazardous reaction potential**

Stability Stable under normal conditions

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Hazardous reaction potential

None known

B. Conditions to avoid (e.g. static discharge, shock or Vibration, etc) Avoid creating dust. Incompatible materials.

C. Incompatible materials Strong oxidizing agents

D. Hazardous decomposition products No hazardous decomposition products are known.

Section 11: TOXICOLOGICAL INFORMATION

A. Information on likely routes of exposure

- **Respiratory organs** Inhalation of dust may cause irritation of the respiratory system.
- **Mouth** Not an expected route of exposure
- **Eyes** Dust contact with the eyes can lead to mechanical irritation
- **Skin** Prolonged skin contact may cause temporary irritation.

B. Information on health hazards

Magnesium Hydroxide

Oral LD50 8500 mg/kg Rat

Zinc Oxide

Oral LD50 7950 mg/kg Rat

Molybdenum zinc oxide

Oral LD50 >10000 mg/kg Rat

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.

Specific target organ toxicity - Single exposure

No data available.

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Specific target organ toxicity - Not classified.
Repeated exposure

Section 12: ECOLOGICAL INFORMATION

A. Ecotoxicity

Hazardous to the aquatic environment, acute hazard Very toxic to aquatic life
Avoid runoff to waterways and sewers

Hazardous to the aquatic environment, long-term hazard Very toxic to aquatic life with long lasting effects
Avoid runoff to waterways and sewers

B. Persistence/degradability Not biodegradable

C. Bioaccumulative potential No data available

D. Mobility in soil No data available

E. Other adverse effects No data available

Section 13: DISPOSAL CONSIDERATIONS

A. Method of disposal

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose in accordance with all applicable regulations.

B. Disposal considerations (including disposal of contaminated containers or packaging) Disposal should be in accordance with applicable regional, national and local laws and regulations

Section 14: TRANSPORT INFORMATION

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

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

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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****National Regulations****Magnesium Hydroxide**

CAS Number

1309-42-8

Weight-%

>25

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Korean GHS Classification Not classified

Zinc Oxide

CAS Number 1314-13-2

Weight-% 10-30

Korean GHS Classification STOT - single exposure Category 1
STOT - repeated exposure Category 1
Aquatic Acute 1
Aquatic Chronic 1

Molybdenum zinc oxide

CAS Number 22914-58-5

Weight-% >5

Korean GHS Classification < 25% Not classified H410 - Very toxic to aquatic life with long lasting effects
TRL: >1% ; 10 tons per year

Other domestic and foreign regulations**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	01-211948 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
Molybdenum zinc oxide	22914-58-5	245-322-4	01-212080 0481-68-0 000	Y: CAS 61583-60-6 (generics)	Y: DSL-2291 4-58-5 NDSL: 61583-60-6	Y	(1)-781 (ENCS)(ISHL)	KE-11910 KE-25463	-	-	Y: 61583-60-6	Y	A

Legend

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

Section 16: OTHER INFORMATION**A. Source of Information****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
 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)

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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)

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C. Number of revisions and Date 1.3
of most recent revision

D. Other

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End of Safety Data Sheet