



Kemgard® 928

MoEL's Public Notice No. 2016-19 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® 928

Pure substance/mixture Mixture

Magnesium Hydroxide

CAS Number 1309-42-8

Weight-% >50

Zinc Molybdenum Oxide

CAS Number 22914-58-5

61583-60-6

Weight-% >5

Surface Treatment

CAS Number Proprietary

Weight-% <1

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.huberadvancedmaterials.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 Specific target organ toxicity (STOT) - repeated exposure, category 2

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Environmental Hazards Chronic Aquatic Toxicity Category 3

B. Warning label items including precautionary statement

Label Elements

Symbols/Pictograms



Signal Words

Warning

Hazard Statements

May cause damage to organs through prolonged or repeated exposure
Avoid release to the environment

Precautionary statement

Prevention

Do not handle until all safety precautions have been read and understood
Employ good industrial hygiene practice
Do not breathe dust
Wear protective gloves/protective clothing/eye protection/face protection
Avoid release to the environment

Response

Get medical advice/attention if you feel unwell
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
IF ON SKIN: Wash with plenty of soap and water

Storage

Store away from incompatible materials

Disposal

Disposal should be in accordance with applicable regional, national and local laws and regulations

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

Chemical Name	CAS Number	S. Korea (KECL)	Korean GHS Classification	Weight-%
Magnesium Hydroxide	1309-42-8	KE-22716	Not classified	>50
Zinc Molybdenum Oxide	22914-58-5 61583-60-6	KE-11910	Acute Tox. 4, H332 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 2, H411	>5
Surface Treatment	Proprietary	Y	Not classified	<1

Section 4: FIRST AID MEASURES

- A. In case of eye contact** Rinse with water. Get medical attention if irritation develops and persists.
- B. In case of skin contact** Wash off with soap and water. Get medical attention if irritation develops and persists.
- 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** None known

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

- Explosion hazard:** None known

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 dust formation. See section 8 for more information.

B. Environmental precautions Not considered to be harmful to aquatic life. 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

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A. Precautions for safe handling

In case of exposure to environments exceeding the occupational exposure limit, wear a respirator in compliance with national legislation.

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 Molybdenum 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)
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 StateSolid
Powder

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Color	White
Odor	Odorless
Odor Threshold	No information available
Freezing Point	Not applicable
Flash Point	Non-combustible
Evaporation Rate	Not applicable
Upper flammability limit:	No data available
Lower flammability limit:	No data available
Vapor Density	Not applicable
Relative Density	No data available
Density	2.4 g/cm ³ , 20°C
Water Solubility	11.7 mg/l , 25° C
Solubility in other solvents	No information available
Partition coefficient	No data available
Autoignition Temperature	Not applicable
Decomposition Temperature	626 °F (330° C)
Kinematic viscosity	No data available.

Section 10: STABILITY AND REACTIVITY

A. Stability and hazardous reaction potential

Stability Stable under normal conditions

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

- 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

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Oral LD50	8500 mg/kg Rat
<u>Zinc Molybdenum Oxide</u>	
Oral LD50	>10000 mg/kg Rat
<u>Surface Treatment</u>	
Oral LD50	2830 µL/kg (rat)
<u>Zinc Molybdenum Oxide</u>	
IARC	Not Listed
Target Organ Effects	Kidney (based on tubular degeneration/regeneration of male Han Wistar rats at 125 mg/kg/day)
Acute Toxicity	Based on available data, the classification criteria are not met
Chronic Toxicity	Based on available data, the classification criteria are not met.
Respiratory Sensitization	Based on available data, the classification criteria are not met
Serious eye damage/eye irritation	Based on available data, the classification criteria are not met
Reproductive Effects	Based on available data, the classification criteria are not met.
Carcinogenicity	Not listed as a carcinogen.
Target Organ Effects	Skin. Eyes. Respiratory system.
Specific target organ toxicity - Single exposure	No information available.
Specific target organ toxicity - Repeated exposure	May cause damage to organs through prolonged or repeated exposure if inhaled. Kidney.

Section 12: ECOLOGICAL INFORMATION

A. Ecotoxicity	
Hazardous to the aquatic environment, acute hazard	Not classified Avoid runoff to waterways and sewers
Hazardous to the aquatic environment, long-term hazard	Harmful to aquatic life with long lasting effects

B. Persistence/degradability No data available

C. Bioaccumulative potential No data available

D. Mobility in soil No data available

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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	Not regulated
RID	Not regulated
ADN	Not regulated
IATA	Not regulated
IMDG/IMO	Not regulated
ICAO	Not regulated

14.1. UN number	None
14.2. UN proper shipping name	None
14.3. Transport hazard class(es)	None
14.4. Packing group	None
14.5. Environmental hazards	No
14.6. Special precautions for user	Not applicable

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

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Section 15: REGULATORY INFORMATION

National Regulations

Magnesium Hydroxide

CAS Number 1309-42-8
 Weight-% >50
 Korean GHS Classification Not classified

Zinc Molybdenum Oxide

CAS Number 22914-58-5
 61583-60-6
 Weight-% >5
 Korean GHS Classification Acute Tox. 4, H332
 STOT RE 2, H373
 Aquatic Acute 1, H400
 Aquatic Chronic 2, H411

Surface Treatment

CAS Number Proprietary
 Weight-% <1
 Korean GHS Classification Not classified

Other domestic and foreign regulations

Global Inventories

Chemical Name	CAS Number	EC No	EU REACH registration number	Australia (AIC)	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 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-generics)	Y	Y	Y	A
Surface Treatment	Proprietary	-	--	Y	Y	Y	Y	Y	Y	Y	Y	Y	A

Section 16: OTHER INFORMATION

A. Source of Information

Abbreviations and acronyms IARC (International Agency for Research on Cancer)
 IATA (International Air Transport Association)

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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)
TSCA (Toxic Substances Control Act)
GHS (Globally Harmonized System)

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C. Number of revisions and Date 1.4.3
of most recent revision

D. Other

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

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End of Safety Data Sheet