



## Kemgard® 928

MoEL's Public Notice No. 2016-19 Standards for Classification and Labeling of Chemical Substances and Safety Data Sheet (SDS)

Issue Date 01/Jan/2024

Print Date 13/Dec/2023

Revision Number 1.4.3

Page 1 of 9

### 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**

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### Section 2: HAZARDS IDENTIFICATION

**A. Hazard category/Classification**

**Physical Hazards** Not classified

**Health Hazards** Specific target organ toxicity (STOT) - repeated exposure, category 2

Issue Date 01/Jan/2024

Print Date 13/Dec/2023

Revision Number 1.4.3

Page 2 of 9

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 (CO<sub>2</sub>).
- 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**

Issue Date 01/Jan/2024

Print Date 13/Dec/2023

Revision Number 1.4.3

Page 4 of 9

**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

Korea

ACGIH

OSHA

TWA: Not established

STEL: Not established

TLV-TWA: 8-hr : 10 mg/m<sup>3</sup> (total dust)3 mg/m<sup>3</sup> (respirable fraction)TWA: 15 mg/m<sup>3</sup> total dust5 mg/m<sup>3</sup> respirable**Zinc Molybdenum Oxide**

Korea

Korea

ACGIH

OSHA

TWA: 8-hour 0.5 mg/m<sup>3</sup>

STEL: Not established

TWA: 10 mg/m<sup>3</sup> dust0.5 mg/m<sup>3</sup> Respirable fractionTWA: 5 mg/m<sup>3</sup> (respirable); 10 mg/m<sup>3</sup> (dust)PEL: 5 mg/m<sup>3</sup> (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 State**

Solid

Powder

Issue Date 01/Jan/2024

Print Date 13/Dec/2023

Revision Number 1.4.3

Page 5 of 9

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 <sup>3</sup> , 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

Magnesium Hydroxide

Issue Date 01/Jan/2024

Print Date 13/Dec/2023

Revision Number 1.4.3

Page 6 of 9

**Oral LD50** 8500 mg/kg Rat**Zinc Molybdenum Oxide****Oral LD50** >10000 mg/kg Rat**Surface Treatment****Oral LD50** 2830 µL/kg (rat)**Zinc Molybdenum Oxide****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

Issue Date 01/Jan/2024

Print Date 13/Dec/2023

Revision Number 1.4.3

Page 7 of 9

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

**A. Method of disposal**

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**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 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-gene rics)	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)



Kemgard® 928

Issue Date 01/Jan/2024

Print Date 13/Dec/2023

Revision Number 1.4.3

Page 9 of 9

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

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End of Safety Data Sheet