SAFETY DATA SHEET

Kemgard® 911B

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

Section 1: PRODUCT AND COMPANY IDENTIFICATION

A. Product name Kemgard® 911B

Pure substance/mixture Mixture

Zinc Oxide
CAS Number 1314-13-2
Weight-% >25

Zinc Molybdenum Oxide
CAS Number 22914-58-5
61583-60-6
Weight-% >25

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
Acute oral toxicity Category 4
Specific target organ toxicity (STOT) - repeated exposure, category 2

Environmental Hazards
Acute Aquatic Toxicity: Category 1
Chronic Aquatic Toxicity: Category 1

B. Warning label items including precautionary statement

Label Elements

Symbols/Pictograms

Signal Words Warning

Hazard Statements
H332 - 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 statement

Prevention
P202 - Do not handle until all safety precautions have been read and understood
P260 - Do not breathe dust
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment

Response
P317 - Get emergency medical help.
P319 - Get medical help if you feel unwell.
P391 - Collect spillage
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water [or shower]
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Storage P402 - Store in a dry place

Disposal P501 - Dispose of contents/containers in accordance with local 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-%
Zinc Oxide	1314-13-2	KE-35565	Aquatic Acute 1 Aquatic Chronic 1	>25
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	>25

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 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

Zinc Oxide

Korea	TWA: 5 mg/m³ (fume); 2 mg/m³ (respirable fraction)
Korea	STEL 10 mg/m³ (fume)
ACGIH	STEL: 10 mg/m³ (respirable) TWA: 2 mg/m³ (respirable)
OSHA	PEL: 15 mg/m³ (total dust) 5 mg/m³ (respirable fraction)

Zinc Molybdenum Oxide

Korea	TWA: 8-hour 0.5 mg/m³
Korea	STEL: Not established
ACGIH	TWA: 10 mg/m³ dust 0.5 mg/m³ Respirable fraction
OSHA	TWA: 5 mg/m³ (respirable); 10 mg/m³ (dust) PEL: 5 mg/m³ (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
Color	White
Odor	Odorless
Odor Threshold	No information available
pH:	6.5 5% Water suspension
Melting Point / Melting Range	No information available
Initial boiling point	No information available
Freezing Point	No information available
Boiling Point	No information available
Flash Point	Not applicable Product/Substance is inorganic
Evaporation Rate	Not applicable
Flammability (solid, gas)	Non-combustible
Upper flammability limit:	Not applicable
Lower flammability limit:	Not applicable
Vapor Pressure	No data available
Vapor Density	No data available
Relative Density	5.1
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

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

Zinc Oxide

Oral LD50	7950 mg/kg Rat

Zinc Molybdenum Oxide

Oral LD50	>10000 mg/kg Rat

Zinc Molybdenum Oxide

IARC	Not Listed
Specific target organ toxicity - Repeated exposure	Kidney (based on tubular degeneration/regeneration of male Han Wistar rats at 125 mg/kg/day). NOAEL – 60 mg/kg Rat; Oral; 90-day.

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.
Target Organ Effects	Skin. Eyes. Respiratory system.
Specific target organ toxicity -	No data available.

Single exposure

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	Very toxic to aquatic life
Hazardous to the aquatic environment, long-term hazard	Very toxic to aquatic life with long lasting effects

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 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, Zinc Molybdate)

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
Subsidiary Risk	-
14.4. Packing group	III
14.5. Environmental hazards	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

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 15: REGULATORY INFORMATION

National Regulations

Zinc Oxide

CAS Number	1314-13-2
Weight-%	>25
Korean GHS Classification	Aquatic Acute 1 Aquatic Chronic 1

Zinc Molybdenum Oxide

CAS Number	22914-58-5 61583-60-6
Weight-%	>25
Korean GHS Classification	Acute Tox. 4, H332 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 2, H411

Other domestic and foreign regulations

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
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	Y	(1)-781 (ENCS)(ISHL)	KE-11910	N	N	N	Y	A

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

Section 16: OTHER INFORMATION

A. Source of Information

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)
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)

B. Issue Date 01/Jan/2024
Print Date 13/Dec/2023

C. Number of revisions and Date of most recent revision 1.5

D. Other

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End of Safety Data Sheet