FIRE RETARDANT ADDITIVES

Safety Data Sheet

Malaysia CLASS Regulation, 2013
Globally Harmonized System (GHS)

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1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product Name: Kemgard® 911B-LSA

Pure substance/mixture Mixture

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

Zinc Molybdenum
CAS Number 22914-58-5
Weight-% >25

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Flame retardant Smoke suppressant

Uses advised against None known.

1.3. Details of the supplier of the safety data sheet

Company:
J.M. Huber Corporation
3100 Cumberland Boulevard, Suite 600
Atlanta, GA 30339 USA
Tel: +1 678 247-7300

Internet www.hubermaterials.com

E-mail hubermaterials@huber.com

1.4. Emergency telephone number CHEMTREC: +1 800 424 9300 or International +1 703 527 3887

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

GHS Classification

Hazards identification

Physical Hazard Not classified

Health Hazards Not classified

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

2.2. Label elements

Symbols/Pictograms

Signal Word Warning

Hazard Statements Very toxic to aquatic life with long lasting effects

Precautionary Statements

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.

2.3. Other hazards

No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture Mixture

Chemical Name	CAS Number	TSCA: United States	REACH registration number	Weight-%
Zinc Oxide	1314-13-2	A	01-2119463881-32	>25
Zinc Molybdenum	22914-58-5	A	01-2120800481-68-0000	>25

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

4. FIRST AID MEASURES

4.1. Description of first aid measures

General Advice	When in doubt or if symptoms are observed, get medical advice. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
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.
Skin Contact	Wash with plenty of soap and water.
Ingestion	Rinse mouth thoroughly with water.
Inhalation	Do not breathe dust. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
Aspiration hazard	Based on available data, the classification criteria are not met.
Notes to Physician	Treat symptomatically.
4.2. Most important symptoms and effects, both acute and delayed	Inhalation of dust may cause irritation of the respiratory system. Eye irritation.
4.3. Indication of any immediate medical attention and special treatment needed	Treat symptomatically. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

5. FIRE-FIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media
Use extinguishing agent suitable for type of surrounding fire. Water spray (fog). Dry chemical. Foam. Carbon dioxide (CO2).

Unsuitable Extinguishing Media
None known.

5.2. Special hazards arising from the substance or mixture
Non-combustible.

5.3. Advice for firefighters

Special protective

equipment for firefighters
Wear a self-contained breathing apparatus and chemical protective clothing.

Fire-fighting measures
Water mist may be used to cool closed containers.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures Ensure adequate ventilation. Use personal protection recommended in Section 8. Avoid dust formation. Keep unauthorized personnel away.

For non-emergency personnel Keep unauthorized personnel away.

For emergency responders Keep unauthorized personnel away. Use personal protection recommended in Section 8.

6.2. Environmental precautions Avoid runoff to waterways and sewers.

6.3. Methods and material for containment and cleaning up Large Spill: Do not dry sweep dust. Wet dust with water before sweeping or use a vacuum to collect dust Small Spill: Vacuum or sweep material and place in a disposal container

6.4. Reference to other sections Section 8: Exposure controls and personal protection. See Section 13 for additional waste treatment information.

7. HANDLING AND STORAGE

7.1. Precautions for safe 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. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment as required.

7.2. Conditions for safe storage, including any incompatibilities Keep container tightly closed and dry. Store away from incompatible materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Occupational exposure limits

Zinc Oxide

Malaysia	TWA 3 mg/m³ Fume and respirable dust
NIOSH	Ceiling: 15 mg/m³ (total dust) STEL: 10 mg/m³(fume)

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

Zinc Molybdenum

Malaysia	TWA: 5 mg/m³
NIOSH	8-hr TWA: 10 mg/m³
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)

Biological Limit Values: No information available

Recommended monitoring procedures Refer also to national guidance documents for information on currently recommended monitoring procedures

8.2. Exposure 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

Personal protective equipment

Eye/Face Protection Wear safety glasses with side shields (or goggles)

Skin and Body Protection Wear suitable protective clothing.

Hand Protection Wear suitable gloves.

Respiratory Protection In case of inadequate ventilation wear respiratory protection.

Thermal hazards Wear suitable protective clothing.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use.

Environmental Exposure Controls Dispose of in accordance with local regulations. Do not empty into drains or water courses.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance:	
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.

VOC Content (%) Not applicable

10. STABILITY AND REACTIVITY

10.1. Reactivity	Stable under normal conditions
10.2. Chemical stability	Stable under normal conditions
10.3. Possibility of hazardous reactions	None under normal processing
10.4. Conditions to avoid	Dust formation Incompatible materials
10.5. Incompatible materials	Strong oxidizing agents
10.6. Hazardous decomposition products	None known

11. TOXICOLOGICAL INFORMATION

General Information Users are advised to consider national Occupational Exposure Limits or other equivalent values.

Information on Likely Routes of Exposure

Inhalation	May cause respiratory tract irritation
Skin	No known hazard in contact with skin

Eyes	Dust contact with the eyes can lead to mechanical 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

Zinc Oxide

Oral LD50	7950 mg/kg Rat

Zinc Molybdenum

Oral LD50	>10000 mg/kg Rat
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. Based on available data, the classification criteria are not met

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.
Specific target organ toxicity - Repeated exposure	Based on available data, the classification criteria are not met.

12. ECOLOGICAL INFORMATION

12.1. Ecotoxicity Very toxic to aquatic life with long lasting effects.

Zinc Oxide

WGK Classification (AwSV)	2187 WGK: 2

12.2. Persistence and degradability	No data available.
12.3. Bioaccumulative potential	No data available.
Partition coefficient	No data available
Bioconcentration factor (BCF)	No data available.
12.4. Mobility in soil	No data available.
12.5. Results of PBT and vPvB assessment	This substance does not meet the criteria for classification as PBT or vPvB.
12.6. Other adverse effects	None known

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Disposal Methods	Dispose of waste product or used containers according to local regulations. Do not allow to enter into surface water or drains.
Contaminated Packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal.
Waste codes	Waste codes should be assigned by the user based on the application for which the product was used

Zinc Oxide

WGK Classification (AwSV)	2187 WGK: 2

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
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 Marine Pollutant
14.3. Transport hazard class(es)	9
Subsidiary Risk	-
14.4. Packing group	III
14.5. Environmental hazards	Marine Pollutant Yes
EmS:	F-A, S-F
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

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
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	245-322-4	01-2120800481-68-0000	N	Y	Y	(1)-781 (ENCS)(ISHL)	KE-11910	N	N	N	Y	A

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

16. OTHER INFORMATION

Prepared by

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GHS Classification

Physical Hazard

Not classified

Health Hazards

Not classified

Environmental Hazard

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

Labeling

Symbols/Pictograms

Signal Word

Warning

Hazard Statements

Very toxic to aquatic life with long lasting effects

Training Advice

Do not handle until all safety precautions have been read and understood.

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