FIRE RETARDANT ADDITIVES

Safety Data Sheet

Kemgard® 981-UF

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03
Canadian Workplace Hazardous Material Information System (WHMIS) 2015
Mexico NOM-018-STPS-2000; NOM-018-STPS-2015
Globally Harmonized System (GHS)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Name: Kemgard® 981-UF

Pure substance/mixture Mixture

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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Physical Hazards 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
Do not handle until all safety precautions have been read and understood
Employ good industrial hygiene practice
Wash hands thoroughly after handling
Avoid release to the environment

Response
IF ON SKIN: Wash with plenty of soap and water
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing

Storage
Keep in a dry place
Store away from incompatible materials

Disposal
Disposal should be in accordance with applicable regional, national and local laws and regulations
Do not allow to enter into surface water or drains

Hazards not otherwise classified (HNOC) None known.

SECTION 3: Composition/information on ingredients

Pure substance/mixture Mixture

Chemical Name	CAS Number	TSCA: United States	Canada (DSL)	Mexico	REACH registration number	OSHA Regulatory Status	WHMIS	Weight-%
Zinc Oxide	1314-13-2	A	Y	Y	01-2119463881-32	Not classified	--	>25
Zinc Phosphate	7779-90-0	A	Y	Zinc salts	01-2119485044-40	Not classified	--	>25

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

SECTION 4: First aid measures

4.1. Description of first aid measures

General Advice Do not handle until all safety precautions have been read and understood. Employ good industrial hygiene practice. Wear suitable protective clothing, gloves and eye/face protection. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. When in doubt or if symptoms are observed, get medical advice.

Eye Contact IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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.

4.2. Most important symptoms and effects, both acute and delayed Dust contact with the eyes can lead to mechanical irritation. Contact with dust can cause mechanical irritation or drying of the skin.

4.3. Indication of any immediate medical attention and special treatment needed Treatment should be symptomatic and supportive. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing

Media
Water spray (fog). Foam. Dry chemical. 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. No special fire protection measures are necessary. Standard procedure for chemical fires.

SECTION 6: Accidental release measures

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

SECTION 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. Do not breathe dust. Ensure adequate ventilation. Wear appropriate personal protective clothing to prevent skin contact. Handle in accordance with good industrial hygiene and safety practice.

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

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Zinc Oxide

OSHA	PEL: 15 mg/m³ (total dust) 5 mg/m³ (respirable fraction)
ACGIH	STEL: 10 mg/m³ (respirable) TWA: 2 mg/m³ (respirable)
NIOSH	Ceiling: 15 mg/m³ (total dust) STEL: 10 mg/m³(fume) TWA: 5 mg/m³ (total dust)
Mexico	5 mg/3

Zinc Phosphate

OSHA	15 mg/m³ Total Dust 5 mg/m³ Respirable Dust

Biological Limit Values: No information available

Derived No Effect Level (DNEL) No data available

Predicted No Effect Concentration (PNEC) No information available

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 For operations where prolonged or repeated skin contact may occur, impervious gloves should be worn.

Hand Protection For operations where prolonged or repeated skin contact may occur, impervious gloves should be worn.

Respiratory Protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Thermal hazards	None known. Wear suitable protective clothing.
Hygiene Measures	Follow general hygiene considerations recognized as common good workplace practices. The worker should wash daily at the end of each work shift, and prior to eating, drinking, smoking, etc.
Environmental Exposure Controls	Dispose of in accordance with local regulations. Do not empty into drains or water courses.

SECTION 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	Not applicable
Boiling Point	No information available
Freezing Point	Not applicable
Evaporation Rate	Not applicable.
Flammability (solid, gas)	Not applicable
Upper flammability limit:	
Lower flammability limit:	
Vapor Density	Not applicable
Relative Density	
Water Solubility	Slightly soluble
Solubility in other solvents	
Partition coefficient	
Autoignition Temperature	Not applicable
Specific Gravity	4.2 g/cm3, 20° C
VOC Content (%)	Not applicable

SECTION 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

SECTION 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
Aspiration hazard	Based on available data, the classification criteria are not met.
Symptoms related to the physical, chemical and toxicological characteristics	Dust may cause mechanical irritation to eyes.

11.1. Information on toxicological effects

Zinc Oxide

LD50s and LC50s	5000 mg/kg Oral LD50 Rat
Oral LD50	7950 mg/kg Rat

Zinc Phosphate

LD50s and LC50s	5000 mg/kg Oral LD50 Rat
Oral LD50	> 5000 mg/kg Rat

Acute Toxicity	Low hazard for usual industrial or commercial handling
Chronic Toxicity	No data available.
Chronic Effects	No data available.
Respiratory Sensitization	Does not cause sensitization
Serious eye damage/eye irritation	Dust may cause mechanical irritation to eyes
Skin Corrosion/Irritation	Prolonged or repeated contact may dry skin and cause irritation
Skin Sensitization	Not a skin sensitizer
Mutagenicity	No information available

Germ cell mutagenicity	No information 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 - Single exposure	Not classified.
Specific target organ toxicity - Repeated exposure	Not classified.

SECTION 12: Ecological information

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

Zinc Oxide
WGK Classification (AwSV) 2187 WGK: 2
Zinc Phosphate
Germany - Water Classification (AwSV) - Annex 3: 5067 hazard class 2 - hazard to waters

12.2. Persistence and degradability	No data available.
12.3. Bioaccumulative potential	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	No information available

SECTION 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 Product residue may remain in empty containers. 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

SECTION 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
ICAO	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 UN3077, Environmentally hazardous substances, n.o.s. (Zinc oxide), 9, PG III, Marine Pollutant

14.3. Transport hazard class(es) 9

Subsidiary Risk -

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

Marine Pollutant

SECTION 15: Regulatory information

Global Inventories

Pure substance/mixture Mixture

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 Phosphate	7779-90-0	231-944-3 *	01-2119485044-40	Y	Y	Y	(1)-526 (ENCS) (1)-1181 (ENCS)	KE-34945	Zinc salts	Y	Y	Y	A

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

US Federal Regulations

EPA

Zinc Oxide
SARA 313 Yes

U.S. State Right-to-Know Regulations

Chemical Name	CAS Number	California Proposition 65	Massachusetts	Minnesota	New Jersey	Pennsylvania
Zinc Oxide	1314-13-2		Y	Y	Y	Y
Zinc Phosphate	7779-90-0					

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)
This product does not contain any Proposition 65 chemicals

CANADA

WHMIS:
This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR

SECTION 16: Other information

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Reason for Version OSHA (Occupational Safety and Health Administration of the US Department of Labor).

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