Safety Data Sheet

Kemgard® 981

OSHA HCS 2024
Canadian Workplace Hazardous Material Information System (WHMIS) 2015 rev 2022
Mexico NOM-018-STPS-2000; NOM-018-STPS-2015
GHS (Globally Harmonized System)

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

1.1. Product identifier

Product Name:	Kemgard® 981
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.huberadvancedmaterials.com
Contact E-Mail	www.huberadvancedmaterials.com/contact

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

Physical Hazards	Not classified.
Health Hazards	Not classified.
Environmental Hazard	Acute Aquatic Toxicity: Category 1 Chronic Aquatic Toxicity: Category 1

2.2. Label elements

Symbols/Pictograms



Signal Word	Warning
Hazard Statements	H410 - Very toxic to aquatic life with long lasting effects

Precautionary Statements

Prevention	P202 - Do not handle until all safety precautions have been read and understood P273 - Avoid release to the environment
Response	P391 - Collect spillage P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water [or shower] 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	Store away from incompatible materials
Disposal	P501 - Dispose of contents/containers in accordance with local regulations

Hazards not otherwise classified (HNOC)	None known.
Hazards associated with known or reasonably anticipated uses	None known.

SECTION 3: Composition/information on ingredients

Pure substance/mixture Mixture

Chemical Name	CAS Number	Weight-%
Zinc Oxide	1314-13-2	>25
Zinc Phosphate	7779-90-0	>25

Additional information *The exact percentage (concentration) of composition has been withheld as a trade secret.

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 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 INHALED: Remove 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). 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. 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	Avoid dust formation. Ensure adequate ventilation. Use personal protection recommended in Section 8. 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.

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.

7.3. Specific end use(s) No information available.

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)
OSHA - Final PELs -TWA	5 mg/m³ TWA 15 mg/m³ TWA
ACGIH	STEL: 10 mg/m³ (respirable) TWA: 2 mg/m³ (respirable)
ACGIH	10 mg/m³
NIOSH	Ceiling: 15 mg/m³ (total dust) STEL: 10 m/m³ (fume) TWA: 5 mg/m³ (total dust)
Canada - British Columbia - OEL-STELs	10 mg/m³
Canada - Ontario - OEL - STEVs	10 mg/m³ STEL
Canada - Ontario - OEL - TWA EVs	2 mg/m³

Zinc Phosphate

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

PNEC (Predicted No Effect Concentration) No information available

DNEL (Derived No Effect Level) No data available

Biological Limit Values 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.
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
pH:	6.5
Melting Point / Melting Range	Not applicable
Melting point / Freezing point	Not applicable
Boiling Point	No information available
Freezing Point	Not applicable
Flash Point	Not determined
Flammability	Not applicable
Upper flammability limit:	--
Lower flammability limit:	--
Vapor Pressure	Not applicable
Relative Vapor Density	Not applicable
Relative Vapor Density	Not applicable
Density	No data available
Relative Density	
Water Solubility	Slightly soluble
Partition coefficient	No information available
Autoignition Temperature	Not applicable
Decomposition Temperature	No data available
Viscosity	No information available.
Kinematic viscosity	Not applicable
Oxidizing Properties	Not applicable
Particle Characteristics	No information available
Specific Gravity	4.2 g/cm3, 20° C
VOC Content (%)	Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes
Not applicable

9.2.2. Other safety characteristics
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.

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 Not classified.
Skin Corrosion/Irritation	Prolonged or repeated contact may dry skin and cause irritation Not classified.
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.

Information on Likely Routes of Exposure

Inhalation	May cause respiratory tract irritation
Ingestion	Ingestion is not a likely route of exposure
Skin	No known hazard in contact with skin
Eyes	Dust contact with the eyes can lead to mechanical irritation
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.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties	This product does not contain any known or suspected endocrine disruptors
11.2.2. Other information	Not applicable

SECTION 12: Ecological information

12.1. Toxicity Very toxic to aquatic life with long lasting effects. Avoid release to the environment.

Zinc Oxide

Aquatic toxicity Very toxic to aquatic life with long lasting effects
Persistence / Degradability There is no need to carry out the study if the substance is inorganic.
Bioaccumlative potential: No bioaccumulation is expected.
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. Endocrine disrupting properties This product does not contain any known or suspected endocrine disruptors

12.7. Other Adverse Effects None known

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)

TDG -Canada	UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S (Zinc oxide, Zinc phosphate)
DOT	Not regulated in non-bulk packages (<119 gal) UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S (Zinc oxide, Zinc phosphate)
ADR	UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S (Zinc oxide, Zinc phosphate)
RID	UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S (Zinc oxide, Zinc phosphate)
ADN	UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S (Zinc oxide, Zinc phosphate)
IATA	UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S (Zinc oxide, Zinc phosphate)
IMDG/IMO	UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S (Zinc oxide, Zinc phosphate)
ICAO	UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S (Zinc oxide, Zinc phosphate)

14.1. UN number	UN3077
14.2. UN proper shipping name	UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S (Zinc oxide, Zinc phosphate)
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. Maritime transport in bulk according to IMO instruments
Not applicable



Marine Pollutant



SECTION 15: Regulatory information

Global Inventories

Pure substance/mixture Mixture

Chemical Name	CAS Number	EC No	Australia (AIIC)	Canada (DSL)	China (IECSC)	Japan	S. Korea (KECL)	Mexico	Thailand (TECI)	New Zealand	Taiwan	Philippines (PICCS)	TSCA: United States
Zinc Oxide	1314-13-2	215-222-5	Y	Y	Y	ENCS: (1)-561 ISHL: (1)-561	KE-35565	Y	55-1-01378	Y	Y	Y	A
Zinc Phosphate	7779-90-0	231-944-3 *	Y	Y	Y	(1)-1181,(1)-526 (ENCS) Present (ISHL)	Present	Zinc salts	55-1-06089	Y	Y	Y	A

US Federal Regulations

EPA

Zinc Oxide
SARA 313 Listed

SARA 311/312 Hazardous Categorization
Refer to Section 2

CAA (Clean Air Act)
The components of this product are not regulated under any of the following sections of the Clean Air Act: Section 112 Hazardous Air Pollutants, Section 112 Statutory Air Pollutants, Section 112 High-Risk Pollutants, Section 112(r) Accidental Release Prevention Substances or Section 602 Ozone Depleting Substance. As a powder product, it would be regulated under Section 109 Criteria Pollutants particulates.

U.S. State Right-to-Know Regulations

Chemical Name	CAS Number	California Proposition 65	Massachusetts	Minnesota	New Jersey	Pennsylvania
Zinc Oxide	1314-13-2	N	Y	Y	Y	Y
Zinc Phosphate	7779-90-0				3012	Environmental hazard

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 Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

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
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
GHS (Globally Harmonized System)
SARA (Superfund Amendments and Reauthorization Act of 1986)
TSCA (Toxic Substances Control Act)

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