



Issue Date 01/Jan/2024
Print Date 14/Dec/2023

Revision Number 1.4.1

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

1.1. Product identifier

Product Name: Kemgard® 981

Pure substance/mixture Mixture

Zinc Oxide

CAS Number 1314-13-2

Weight-% >25

Zinc Phosphate

CAS Number 7779-90-0

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.huberadvancedmaterials.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

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Environmental Hazard

Acute Aquatic Toxicity: Category 1
Chronic Aquatic Toxicity: Category 1

2.2. Label elements

Symbols/Pictograms



Signal Word

Warning

Hazard Statements

H400 - Very toxic to aquatic life
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.

2.3. Other hazards

No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture

Mixture

Chemical Name	CAS Number	TSCA: United States	EU REACH registration number	Weight-%
Zinc Oxide	1314-13-2	A	01-2119463881-32	>25
Zinc Phosphate	7779-90-0	A	01-2119485044-40	>25

4. FIRST AID MEASURES

4.1. Description of first aid measures

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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	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	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.

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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/m ³ Fume and respirable dust
NIOSH	Ceiling: 15 mg/m ³ (total dust) STEL: 10 mg/m ³ (fume) TWA: 5 mg/m ³ (total dust)
ACGIH	STEL: 10 mg/m ³ (respirable) TWA: 2 mg/m ³ (respirable)
OSHA	PEL: 15 mg/m ³ (total dust)

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Zinc Phosphate OSHA	5 mg/m ³ (respirable fraction) 15 mg/m ³ Total Dust 5 mg/m ³ Respirable Dust
Biological Limit Values	None
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	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	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
Melting Point / Melting Range	Not applicable
Freezing Point	Not applicable
Boiling Point	No information available
Evaporation Rate	Not applicable.
Flammability (solid, gas)	Not applicable

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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
Decomposition Temperature	
Specific Gravity	4.2 g/cm ³ , 20° C
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
Aspiration hazard	Based on available data, the classification criteria are not met.

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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 Phosphate

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.

12. ECOLOGICAL INFORMATION

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

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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

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

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)

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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. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code



Marine Pollutant

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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	EU REACH registration number	Australia (AIC)	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	01-211946388 1-32	Y	Y	Y	ENCS: (1)-561 ISHL: (1)-561	KE-35565	Y	Y	Y	Y	A
Zinc Phosphate	7779-90-0	231-944-3 *	01-211948504 4-40	Y	Y	Y	(1)-526 (ENCS) (1)-1181 (ENCS)	KE-34945	Zinc salts	Y	Y	Y	A

16. OTHER INFORMATION

Prepared by

Huber Engineered Materials Global Regulatory Affairs
email: regulatory.affairs@huber.com.

GHS Classification

Physical Hazard

Not classified

Health Hazards

Not classified

Environmental Hazard

Acute Aquatic Toxicity: Category 1
Chronic Aquatic Toxicity: Category 1

Labeling

Symbols/Pictograms

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Signal Word

Warning

Hazard Statements

H400 - Very toxic to aquatic life

H410 - 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

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)
 GHS (Globally Harmonized System)
 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