



Kemgard® 981

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006
COMMISSION REGULATION (EU) No. 2020/878

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

Revision Number 1.4.1
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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

Manufacturer 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

E-mail hubermaterials@huber.com

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

Poison control center phone number National Anti-Poison Center UK: +44 844 892 0111 (National Poisons Information Service)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

(CLP) Regulation (EC 1272/2008) This mixture is classified as hazardous according to regulation (EC) No. 1272/2008 [CLP]

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

H410 - Very toxic to aquatic life with long lasting effects
H400 - Very toxic to aquatic life

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/ container to an approved waste disposal plant.

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.2. Mixture

Mixture

Chemical Name	CAS Number	EC No	(CLP) Regulation (EC 1272/2008)	Weight-%
Zinc Oxide	1314-13-2	215-222-5	Aquatic Acute Category 1; H400. Aquatic Chronic Category 1; H410.	>25
Zinc Phosphate	7779-90-0	231-944-3 *	Aquatic Acute Category 1; H400. Aquatic Chronic Category 1; H410.	>25

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Zinc Phosphate:

M=1

M(Chronic)=1

SECTION 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.
Inhalation	Do not breathe dust. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
Ingestion	Rinse mouth thoroughly with water.
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.

SECTION 5: Firefighting 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.

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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.

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
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

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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Occupational exposure limits

Zinc Oxide

ACGIH

STEL: 10 mg/m³ (respirable)

TWA: 2 mg/m³ (respirable)

OSHA

PEL: 15 mg/m³ (total dust)

5 mg/m³ (respirable fraction)

NIOSH

Ceiling: 15 mg/m³ (total dust)

STEL: 10 mg/m³(fume)

TWA: 5 mg/m³ (total dust)

Austria

MAK: 5 mg/m³ (fume, respirable dust)

Belgium

STEL: 10 mg/m³ (fume, respirable fraction)

TWA: 5 mg/m³ (fume); 2 mg/m³ (respirable fraction)

Bulgaria

STEL: 10 mg/m³

TWA: 5 mg/m³

Cyprus

TWA: 5 mg/m³ (fume)

Czech Republic

Ceiling: 5 mg/m³

TWA: 2 mg/m³

Denmark

TLV: 4 mg/m³

Estonia

TWA: 5 mg/m³

Finland

STEL: 10 mg/m³ (fume)

TWA: 2 mg/m³ (fume)

France

VME: 5 mg/m³ (fume); 10 mg/m³ (dust)

Germany

DFG MAK: TWA: 1 mg/m³ (respirable)

Greece

STEL: 10 mg/m³ (fume)

5 mg/m³ (fume)

Hungary

STEL: 20 mg/m³ (respirable)

TWA: 5 mg/m³ (respirable)

Iceland

TWA: 4 mg/m³ (fume)

Ireland

STEL: 10 mg/m³ (respirable fraction & fume)

TWA: 2 mg/m³ (respirable fraction & fume)

Italy

STEL: 10 mg/m³ (respirable fraction)

TWA: 2 mg/m³ (respirable fraction)

Latvia

TWA: 0.5 mg/m³

Lithuania

TWA: 5 mg/m³

Norway

TLV: 5 mg/m³

Poland

STEL: 10 mg/m³ (fume)

TWA: 5 mg/m³ (fume)

Portugal

TWA: 2 mg/m³ (respirable fraction)

Portugal

STEL 10 mg/m³ Respirable fraction

Romania

TWA: 5 mg/m³ (fume)

Romania

STEL 10 mg/m³ Fume

Slovakia

STEL: 1 mg/m³ (respirable fume)

TWA: 1 mg/m³ (respirable fume)

Slovenia

TWA: 5 mg/m³ (respirable fume)

Spain

STEL: 10 mg/m³ (respirable fraction)

TWA: 2 mg/m³ (respirable fraction)

Sweden

TWA: 5 mg/m³ (total dust)

Switzerland

STEL: 3 mg/m³ (fume & respirable dust)

TWA 3 mg/m³ (fume & respirable dust)

Switzerland

STEL 3 mg/m³ Fume and respirable

dust

Zinc Phosphate

OSHA

15 mg/m³ Total Dust

5 mg/m³ Respirable Dust

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

Biological Limit Values None

DNEL (Derived No Effect Level) No data available

PNEC (Predicted No Effect Concentration) 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.

Hygiene Measures Follow general hygiene considerations recognized as common good workplace practices

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
Melting Point / Melting Range	Not applicable

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Melting point / Freezing point	Not applicable
Boiling Point	No information available
Freezing Point	Not applicable
Flash Point	Not determined
Evaporation Rate	Not applicable.
Flammability (solid, gas)	Not applicable
Upper flammability limit:	--
Lower flammability limit:	--
Vapor Pressure	Not applicable
Vapor Density	Not applicable
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 Size	No information available
Specific Gravity	4.2 g/cm ³ , 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

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SECTION 11: Toxicological information

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

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

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.

Information on Likely Routes of Exposure

Inhalation May cause respiratory tract irritation

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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

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. Endocrine disrupting properties This product does not contain any known or suspected endocrine disruptors

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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

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Subsidiary Risk -

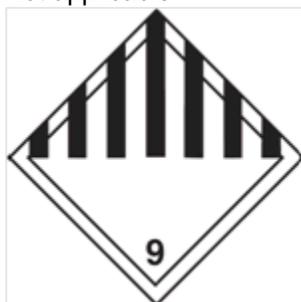
14.4. Packing group III

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

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Global Inventories

Pure substance/mixture

Mixture

Chemical Name	CAS Number	EC No	Australia (AIC)	Canada (DSL)	China (IECSC)	Japan	S. Korea (KECL)	Mexico	Thailand (TECI)	New Zealand	Philippines (PICCS)	Taiwan	TSCA: United States
Zinc Oxide	1314-13-2	215-222-5	Y	Y	Y	ENCS: (1)-561 ISHL: (1)-561	KE-35565	Y	55-1-0137 7	Y	Y	Y	A
Zinc Phosphate	7779-90-0	231-944-3 *	Y	Y	Y	(1)-526 (ENCS) (1)-1181 (ENCS)	KE-34945	Zinc salts	55-1-0608 8	Y	Y	Y	A

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REACH No.

Zinc Oxide

EU REACH registration number 01-2119463881-32
Turkish KKDIK pre-registration 05-0000192715-32-0000

Zinc Phosphate

EU REACH registration number 01-2119485044-40
Turkish KKDIK pre-registration 05-0000192733-32-0000

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

15.2. Chemical safety assessment

SECTION 16: Other information

Reason for Revision This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006 & COMMISSION REGULATION (EU) No. 2020/878

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

(CLP) Regulation (EC 1272/2008) This mixture is classified as hazardous according to regulation (EC) No. 1272/2008 [CLP]

Labeling

Symbols/Pictograms



Signal Word Warning

Hazard Statements H410 - Very toxic to aquatic life with long lasting effects. H400 - Very toxic to aquatic life.

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Marine Pollutant



Training Advice

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

Abbreviations and acronyms

IARC (International Agency for Research on Cancer)
 IUCLID (International Uniform Chemical Information Database)
 WHMIS (Workplace Hazardous Materials Information System)
 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)
 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)
 IATA (International Air Transport Association)
 IMDG (International Maritime Dangerous Goods)
 DOT (Department of Transportation)
 TDG (Transport of Dangerous Goods) Canada
 PNEC (Predicted No Effect Concentration)
 SCBA (Self-Contained Breathing Apparatus) Positive Pressure
 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,

HUBER

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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