



Kemgard® 620

**Japan-JIS Z 7253:2019
Occupational Safety and Health Act
GHS (Globally Harmonized System)**

Issue Date 25/Jan/2024
Print Date 26/Jan/2024

Revision Number 1.3.4
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1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Kemgard® 620

Chemical Name --

Pure substance/mixture Mixture

Aluminum Hydroxide
CAS Number 21645-51-2
Weight-% > 75

Zinc Molybdenum Oxide
CAS Number 22914-58-5
61583-60-6
Weight-% < 25

Recommended Use Flame retardant Smoke suppressant

Uses advised against None known

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2. HAZARD IDENTIFICATION

Japan GHS Classification

Physical Hazards Not classified

Health Hazard Specific target organ toxicity (STOT) - repeated exposure, category 2

Environmental Hazards Chronic Aquatic Toxicity, Category 3

Specific hazards arising from the chemical None known

GHS label elements

Symbols/Pictograms

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**Signal Word**

Warning

Hazard statements

May cause damage to organs (kidney) through prolonged or repeated exposure
Harmful to aquatic life with long lasting effects

Precautionary Statements**Prevention**

Do not breathe vapor or mist
Employ good industrial hygiene practice
Wash hands thoroughly after handling
Avoid release to the environment

Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
IF ON SKIN: Wash with plenty of soap and water
Get medical help if you feel unwell

Storage

Store away from incompatible materials.
Keep in a dry place

Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture

Mixture

Chemical Name	CAS Number	Japan GHS Classification	Weight-%
Aluminum Hydroxide	21645-51-2	Not classified	> 75
Zinc Molybdenum Oxide	22914-58-5 61583-60-6	Acute Tox. 4, H332 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 2, H411	< 25

4. FIRST AID MEASURES

If inhaled:

Remove victim to fresh air and keep at rest in a position comfortable for breathing

IF ON SKIN:

Wash with plenty of soap and water
Take off contaminated clothing and wash before reuse

IF IN EYES:

In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes

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Call a physician if irritation develops and persists

If swallowed: Rinse mouth thoroughly with water**Self-Protection of the First Aider** Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves**Notes to Physician** Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Water spray (fog)
Foam
Dry chemical
Carbon dioxide (CO₂)**Unsuitable Extinguishing Media** Do not use water jetstream**Special hazards arising from the substance or mixture** Avoid dust formation**Fire-fighting measures** In case of fire and/or explosion do not breathe fumes
Water mist may be used to cool closed containers
Keep unauthorized personnel away**Special Protective Equipment for Firefighters** Wear self-contained breathing apparatus and protective suit

6. ACCIDENTAL RELEASE MEASURES

Protective Equipment and Precautions for Firefighters Avoid dust formation
Ensure adequate ventilation
Use personal protection recommended in Section 8
Avoid contact with eyes and skin. Wear suitable personal protection equipment.
Keep unauthorized personnel away**Environmental Precautions** Keep out of drains, sewers, ditches and waterways
Disposal considerations
See section 13 for more information**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 Minimize use of water during clean-up
Recommended filter type: High efficiency particulate air filter (HEPA filter)**Other Information** Not applicable

7. HANDLING AND STORAGE

Handling

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Technical measures Provide adequate ventilation as well as local exhaust at critical locations
Ensure adequate ventilation
Use personal protection equipment
See section 8 for more information

Advice on safe handling Minimize dust generation and accumulation

Conditions for safe storage, including any incompatibilities Keep containers tightly closed in a cool, well-ventilated place

Hygiene Measures Wash hands thoroughly after handling

Storage

Packaging compatibilities Keep/store only in original container

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits Provide adequate ventilation as well as local exhaust at critical locations

Aluminum Hydroxide

Japan

TWA: 2 mg/m³**Zinc Molybdenum Oxide**

Japan

Not established

Engineering Measures Ensure adequate ventilation, especially in confined areas

Personal Protective Equipment

Respiratory Protection In case of inadequate ventilation wear respiratory protection

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

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

Skin and Body Protection Wear suitable protective clothing.
Chemical resistant apron.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice
Wash thoroughly after handling
Avoid contact with eyes and skin
Do not breathe dust

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid, Powder
Color	White to off-white
Odor	Odorless
Odor Threshold	No information available
Melting Point / Melting Range	Not applicable
Boiling Point	Not applicable
Freezing Point	Not applicable
Autoignition Temperature	Not applicable
Evaporation Rate	Not applicable

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Flammability (solid, gas)	Not applicable
Explosive Properties	No data available
Vapor Pressure	Not applicable
Water Solubility	11.7 mg/l , 25° C
Partition coefficient	No data available
Viscosity	Not applicable
Specific Gravity	No data available
Oxidizing Properties	No data available
Decomposition Temperature	No data available
Flash Point	Non-combustible.
pH:	8.4 (5% water suspension)
Vapor Density	Not applicable
Density	2.5 – 2.7 g/cm ³ , 20°C
Relative Density	2.6 g/cm ³ , 20° C
Solubility in other solvents	No data available

10. STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions
Chemical stability	Stable under normal conditions
Possibility of hazardous reactions	None known
Incompatible materials	Strong oxidizing agents
Hazardous decomposition products	None known

11. TOXICOLOGICAL INFORMATION

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

Inhalation	Avoid inhalation of the product
Skin	Prolonged or repeated contact may dry skin and cause irritation
Eyes	Dust contact with the eyes can lead to mechanical irritation
Ingestion	Ingestion is not a likely route of exposure
Aspiration hazard	Not an expected route of exposure.

11.1. Information on toxicological effects

Aluminum Hydroxide

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Oral LD50	> 2000 mg/kg Rat
Inhalation LC50	Rat > 2.3 mg/l (Al ₂ O ₃) Aerosol Maximum attainable concentration
IARC	Not Listed
Zinc Molybdenum Oxide	
Oral LD50	>10000 mg/kg Rat
IARC	Not Listed
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.
Acute Toxicity	No data available
Serious eye damage/eye irritation	Dust may cause mechanical irritation to eyes
Respiratory Sensitization	Inhalation of dust in high concentration may cause irritation of respiratory system.
Skin Corrosion/Irritation	Prolonged or repeated contact may dry skin and cause irritation
Skin Sensitization	Not a skin sensitizer
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.
Target Organ Effects	Skin. Eyes. Respiratory system.
Specific target organ toxicity - Single exposure	No data available.
Specific target organ toxicity - Repeated exposure	May cause damage to organs through prolonged or repeated exposure if inhaled. Kidney.
Mixture versus substance information	Mixture.

12. ECOLOGICAL INFORMATION

Ecotoxicity	Harmful to aquatic life with long lasting effects
Persistence and degradability	No data available
Bioaccumulation	No data available.
Mobility in soil	No data available
Hazardous to the ozone layer	No data available

13. DISPOSAL CONSIDERATIONS

Disposal	Dispose of in accordance with federal, state and local regulations
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling

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or disposal

14. TRANSPORT INFORMATION

Mode of Transportation (Road, Water, Air, Rail)

ADR	Not regulated
RID	Not regulated
IATA	Not regulated
IMDG/IMO	Not regulated
ICAO	Not regulated

14.1. UN number None

14.2. UN proper shipping name None

14.3. Transport hazard class(es) None

Subsidiary Risk -

14.4. Packing group None

14.5. Environmental hazards No

14.6. Special precautions for user Not applicable

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

15. REGULATORY INFORMATION

Global Inventories

Pure substance/mixture Mixture

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
Aluminum Hydroxide	21645-51-2	244-492-7	01-211952-9246-39	Y	Y	Y	(1)-17 (ENCS); ISHL	KE-00980	Y	Y	Y	Y	A
Zinc Molybdenum Oxide	22914-58-5 61583-60-6	245-322-4	01-212080-0481-68-000	N	Y	Y	(1)-781 (ENCS)(ISHL)	KE-11910	N	N	N	Y	A

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KECL - Korean Existing and Evaluated Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances
TSCA (Toxic Substances Control Act)
DSL (Domestic Substance List)
NDSL (Non-Domestic Substances List)
Japan - ISHL Notifiable Substances
ENCS - Japan Existing and New Chemical Substances

Zinc Molybdenum Oxide

Japanese Pollutant Release and Transfer Register - Class 1 Substance :453 >= 1.0%

16. OTHER INFORMATION

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Reason for Revision

This SDS complies with the requirements of JIS Z 7250:2010 and JIS Z 7252:2009 (Japan)

Bibliography

NITE GHS Classified list
Japan Society for occupational health (2015) recommendation of allowable concentrations, etc.
ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value

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

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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