



**Kemgard® 605**

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

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

**Revision Number** 1.2.1  
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## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Kemgard® 605

**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** Smoke suppressant

**Uses advised against** None known

**Company:** J.M. Huber Corporation  
3100 Cumberland Boulevard, Suite 600  
Atlanta, GA 30339 USA  
Tel: +1 678 247-7300

**Internet** [www.huberadvancedmaterials.com](http://www.huberadvancedmaterials.com)

**E-mail** [hubermaterials@huber.com](mailto:hubermaterials@huber.com)

**Emergency Telephone Number** CHEMTREC: +1 800 424 9300 or International +1 703 527 3887  
+81 03-3560-7316

## 2. HAZARD IDENTIFICATION

### Japan GHS Classification

**Physical Hazards** Not classified

**Health Hazard** Not classified

**Environmental Hazards** Chronic Aquatic Toxicity, Category 3

**Specific hazards arising from the chemical** None known

**GHS label elements**  
**Symbols/Pictograms** None

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Avoid release to the environment  
Do not handle until all safety precautions have been read and understood  
Employ good industrial hygiene practice

**Response** IF exposed or concerned: Get medical advice/attention  
Wash with plenty of soap and water**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  
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

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**Suitable Extinguishing Media** Water spray (fog)  
Foam  
Dry chemical  
Carbon dioxide (CO<sub>2</sub>)

**Unsuitable Extinguishing Media** None known

**Special hazards arising from the substance or mixture** None known

**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

**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

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**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/m<sup>3</sup>**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

**Flammability (solid, gas)**

Not applicable

**Explosive Properties**

No data available

**Vapor Pressure**

Not applicable

**Water Solubility**

11.7 mg/l , 25° C

**Partition coefficient**

Not applicable

**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)

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<b>Vapor Density</b>	Not applicable
<b>Density</b>	2.5 – 2.7 g/cm <sup>3</sup> , 20°C
<b>Relative Density</b>	2.6 g/cm <sup>3</sup> , 20° C
<b>Solubility in other solvents</b>	No data available

## 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	Stable under normal conditions
<b>Chemical stability</b>	Stable under normal conditions
<b>Possibility of hazardous reactions</b>	None known
<b>Conditions to avoid</b>	Incompatible materials Dust formation
<b>Incompatible materials</b>	Strong oxidizing agents
<b>Hazardous decomposition products</b>	None known

## 11. TOXICOLOGICAL INFORMATION

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

<b>Inhalation</b>	Inhalation of dust may cause irritation of the respiratory system
<b>Skin</b>	Contact with dust can cause mechanical irritation or drying of the skin
<b>Eyes</b>	Dust contact with the eyes can lead to mechanical irritation
<b>Ingestion</b>	Ingestion is not a likely route of exposure
<b>Aspiration hazard</b>	Not an expected route of exposure.

### 11.1. Information on toxicological effects

#### Aluminum Hydroxide

<b>Oral LD50</b>	> 2000 mg/kg Rat
<b>Inhalation LC50</b>	Rat > 2.3 mg/l (Al <sub>2</sub> O <sub>3</sub> ) Aerosol Maximum attainable concentration
<b>IARC</b>	Not Listed

#### Zinc Molybdenum Oxide

<b>Oral LD50</b>	>10000 mg/kg Rat
<b>IARC</b>	Not Listed
<b>Specific target organ toxicity - Repeated exposure</b>	Kidney (based on tubular degeneration/regeneration of male Han Wistar rats at 125 mg/kg/day). NOAEL – 60 mg/kg Rat; Oral; 90-day.

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<b>Acute Toxicity</b>	No data available
<b>Serious eye damage/eye irritation</b>	Dust may cause mechanical irritation to eyes
<b>Respiratory Sensitization</b>	Inhalation of dust in high concentration may cause irritation of respiratory system.
<b>Skin Corrosion/Irritation</b>	Prolonged or repeated contact may dry skin and cause irritation
<b>Skin Sensitization</b>	Not a skin sensitizer
<b>Mutagenicity</b>	No data available.
<b>Reproductive Effects</b>	This product does not contain any known or suspected reproductive hazards.
<b>Carcinogenicity</b>	This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.
<b>Target Organ Effects</b>	Skin. Eyes. Respiratory system.
<b>Specific target organ toxicity - Single exposure</b>	No data available.
<b>Specific target organ toxicity - Repeated exposure</b>	May cause damage to organs through prolonged or repeated exposure if inhaled. Kidney.
<b>Mixture versus substance information</b>	Mixture.

## 12. ECOLOGICAL INFORMATION

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

## 13. DISPOSAL CONSIDERATIONS

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

## 14. TRANSPORT INFORMATION

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

Not regulated

HUBER

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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  
Not applicable

## 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 0481-68-0 000	N	Y	Y	(1)-781 (ENCS)(ISHL)	KE-11910	N	N	N	Y	A

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

### Legend-Inventories

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

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Japanese Pollutant Release and Transfer Register - Class 1 Substance :453 &gt;= 1.0%

## 16. OTHER INFORMATION

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

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**End of Safety Data Sheet**