



Safety Data Sheet

ADVANCED MATERIALS

Martinal® TM-3810

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

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1. PRODUCT AND COMPANY IDENTIFICATION

| | |
|-----------------------------------|---|
| Product Name: | Martinal® TM-3810 |
| Chemical Name | Aluminum Hydroxide |
| Pure substance/mixture | Mixture |
| Aluminum Hydroxide | |
| CAS Number | 21645-51-2 |
| Weight-% | - |
| Surface Treatment | |
| CAS Number | -- |
| Weight-% | 1-2 |
| Recommended Use | Flame retardant Industrial |
| 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.hubermaterials.com |
| E-mail | 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 | Not classified |
| GHS label elements | |
| Symbols/Pictograms | None |
| Signal Word | None |
| Hazard statements | Based on available data, the classification criteria are not met |
| Precautionary Statements | |

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| | |
|-------------------|--|
| Prevention | Do not handle until all safety precautions have been read and understood Employ good industrial hygiene practice Do not breathe dust |
| 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 |

Additional Information: None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture Mixture

| Chemical Name | CAS Number | Japan | Japan GHS Classification | EU REACH registration number | Weight-% |
|--------------------|------------|---------------------|--------------------------|------------------------------|----------|
| Aluminum Hydroxide | 21645-51-2 | (1)-17 (ENCS); ISHL | Not classified | 01-2119529246-39 | - |
| Surface Treatment | -- | Y | | Registered | 1-2 |

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

| | |
|-------------------------------------|--|
| Suitable Extinguishing Media | Water spray (fog) Foam Dry chemical Carbon dioxide (CO ₂) |
|-------------------------------------|--|

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

Technical measures Provide adequate ventilation as well as local exhaustion 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 exhaustion at critical locations

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Aluminum Hydroxide

Japan

TWA: 2 mg/m³

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 |
| Color | Off-white |
| Odor | Odorless |
| Odor Threshold | No information available |
| Melting Point / Melting Range | No data available |
| Boiling Point | No information available |
| Freezing Point | No information available |
| Autoignition Temperature | Not applicable |
| Evaporation Rate | Not applicable |
| Flammability (solid, gas) | Not applicable |
| Explosive Properties | Not applicable |
| Vapor Pressure | Not applicable |
| Water Solubility | Insoluble |
| Partition coefficient | Not applicable Product/Substance is inorganic |
| Viscosity | Not applicable |
| Specific Gravity | No data available |
| Oxidizing Properties | Not oxidizing |
| Decomposition Temperature | Not applicable |
| Flash Point | Not applicable. |
| pH: | Not available |
| Melting point / Freezing point | Not applicable |
| Vapor Density | Not applicable |
| Relative Density | 2.4 g/cm ³ , 20° C |
| Solubility in other solvents | No information available |
| VOC Content (%) | Not applicable |

10. STABILITY AND REACTIVITY

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| | |
|---|--|
| Reactivity | Stable under normal conditions |
| Chemical stability | Stable under normal conditions |
| Possibility of hazardous reactions | None known |
| Conditions to avoid | Decomposition Temperature < / =0.3% : Al ₂ O ₃ Water |
| 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.

Information on Likely Routes of Exposure

| | |
|--------------------------|---|
| Inhalation | Avoid inhalation of the product |
| Skin | Avoid contact with skin and clothing Prolonged exposure may cause skin irritation |
| Eyes | Avoid contact with 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. |

Symptoms Low hazard for usual industrial or commercial handling

11.1. Information on toxicological effects

Aluminum Hydroxide

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

| | |
|--|---|
| Acute Toxicity | Based on available data, the classification criteria are not met |
| Chronic Toxicity | Based on available data, the classification criteria are not met. |
| Chronic Effects | Based on available data, the classification criteria are not met. |
| Serious eye damage/eye irritation | Based on available data, the classification criteria are not met |
| Respiratory Sensitization | Based on available data, the classification criteria are not met |
| Skin Corrosion/Irritation | Prolonged or repeated contact may dry skin and cause irritation |

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| | |
|---|--|
| Skin Sensitization | Based on available data, the classification criteria are not met |
| Germ cell mutagenicity | Based on available data, the classification criteria are not met. |
| Reproductive Toxicity | Based on available data, the classification criteria are not met. |
| Carcinogenicity | This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP. |
| Target Organ Effects | No information available. |
| Specific target organ toxicity - Single exposure | No information available. |
| Specific target organ toxicity - Repeated exposure | No information available. |
| Mixture versus substance information | No information available. |

12. ECOLOGICAL INFORMATION

| | |
|--------------------------------------|--|
| Ecotoxicity | Based on available data, the classification criteria are not met |
| 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 or disposal |

14. TRANSPORT INFORMATION

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

| | |
|-----------------|---------------|
| ADR | Not regulated |
| RID | Not regulated |
| ADN | Not regulated |
| IATA | Not regulated |
| IMDG/IMO | Not regulated |
| ICAO | Not regulated |

14.1. UN number None

14.2. UN proper shipping name None

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14.3. Transport hazard class(es) None

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 |
| Surface Treatment | -- | -- | Registered | Y | Y | Y | Y | Y | Y | Y | Y | Y | A |

Legend

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

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

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)

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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