



Martinal® ON-310S; Martinal® ON-313S; Martinal® ON-320; Martinal®, ON-904; Martinal® ON-906; Martinal® ON-908; Martinal® ON-921; Martinal® ON-935

MoEL's Public Notice No. 2016-19 Standards for Classification and Labeling of Chemical Substances and Safety Data Sheet (SDS)

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Section 1: PRODUCT AND COMPANY IDENTIFICATION

A. Product name Martinal® ON-310S; Martinal® ON-313S; Martinal® ON-320; Martinal®, ON-904; Martinal® ON-906; Martinal® ON-908; Martinal® ON-921; Martinal® ON-935

Pure substance/mixture Substance

Aluminum Hydroxide

CAS Number 21645-51-2

Weight-% >99

B. Recommended use and Limitations on use

Recommended Use Additive : Flame retardant

C. Supplier information

Company Name MARTINSWERK GmbH
Kölner Strasse 110
50127 Bergheim
Germany
Tel. : +49-2271-90.22.78
Fax. : +49-2271-90.27.17

E-mail www.huberadvancedmaterials.com/contact

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Contact person CHEMTREC
Emergency phone number +1 800 424 9300 International +1 703 527 3887

Section 2: HAZARDS IDENTIFICATION

A. Hazard category/Classification

Physical Hazards Not classified.

Health Hazards Not classified.

Environmental Hazards Not classified.

B. Warning label items including precautionary statement

Label Elements

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Symbols/Pictograms None

Signal Words None

Hazard Statements None

Precautionary statement

Prevention Employ good industrial hygiene practice
Wash hands thoroughly after handling

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

Storage Keep in a dry place
Store away from incompatible materials

Disposal Dispose of contents/containers in accordance with local regulations

Additional Information: None.

C. Other hazards not included in the hazard category criteria (e.g. dust explosion hazard)
None known

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture

Substance

Chemical Name	CAS Number	S. Korea (KECL)	Korean GHS Classification	Weight-%
Aluminum Hydroxide	21645-51-2	KE-00980	Not classified.	>99

Section 4: FIRST AID MEASURES

A. In case of eye contact Rinse with water. Get medical attention if irritation develops and persists.

B. In case of skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

C. In case of inhalation Move to fresh air. Call a physician if symptoms develop or persist.

D. In case of swallowing Rinse mouth. Get medical attention if symptoms occur.

E. Note to physician Treat symptomatically.

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Section 5: FIRE FIGHTING MEASURES

A. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	None known

B. Specific hazards arising from the chemical (example: hazardous combustion products)

Explosion hazard: None known

C. Specific methods of fire-fighting

Self-contained breathing apparatus and full protective clothing must be worn in case of fire. In the event of fire and/or explosion do not breathe fumes. Move container from fire area if it can be done without risk.

Section 6: SPILLAGE, ACCIDENTAL RELEASE MEASURES

A. Personal precautions, protective equipment and emergency measures Ensure adequate ventilation. Avoid dust formation. See section 8 for more information.

B. Environmental precautions Not considered to be harmful to aquatic life. Avoid discharge into drains, water courses or onto the ground.

C. Methods and materials for containment and cleaning up Vacuum or sweep material and place in a disposal container.

Section 7: HANDLING AND STORAGE

A. Precautions for safe handling

In case of exposure to environments exceeding the occupational exposure limit, wear a respirator in compliance with national legislation.

B. Conditions for safe storage (including any incompatibilities)

Keep container tightly closed in a dry and well-ventilated place

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

A. Exposure limit values, biological limit values, etc

Aluminum Hydroxide

ACGIH
OSHA

TLV/TWA 8-hr: 1 mg/m³ (respirable fraction)
TWA: 15 mg/m³ (Total Dust)

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5 mg/m³ (Respirable Dust)

B. Engineering 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

C. Personal protective equipment

- **Eye protection** If contact is likely, safety glasses with side shields are recommended.
- **Hand protection** For prolonged or repeated skin contact use suitable protective gloves.
- **Body protection** Wear suitable protective clothing.

Hygiene Measures

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Color	Powder
Odor	White
Odor Threshold	Odorless
pH:	No information available
Melting point / Freezing point	+/- 9 (10% Water)
Initial boiling point and boiling range	~ 300 °C / 572 °F (101.3 hPa)
Flash Point	> 2900 °C / 5252 °F (101.3 hPa)
Evaporation Rate	Not applicable
Flammability (solid, gas)	Product/Substance is inorganic
Upper flammability limit:	Solid
Lower flammability limit:	Not applicable
Vapor Pressure	Not flammable
Vapor Density	No data available
Relative Density	No data available
Water Solubility	Not applicable
Solubility in other solvents	Not applicable
Decomposition Temperature	+/- 2.42 g/cm ³ (20 °C)
Kinematic viscosity	Insoluble
Dynamic viscosity	No information available
Explosive Properties	Not applicable Product/Substance is inorganic
Oxidizing Properties	200 °C (392 °F)
	No data available.
	Not applicable. Solid.
	None
	None

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9.2. Other information

No data available

Section 10: STABILITY AND REACTIVITY

A. Stability and hazardous reaction potential

Stability Stable under normal conditions

Hazardous reaction potential None known

B. Conditions to avoid (e.g. static discharge, shock or Vibration, etc) Avoid creating dust. Incompatible materials.

C. Incompatible materials Strong oxidizing agents

D. Hazardous decomposition products No hazardous decomposition products are known.

Section 11: TOXICOLOGICAL INFORMATION

A. Information on likely routes of exposure

- **Mouth** Not an expected route of exposure
- **Eyes** Dust contact with the eyes can lead to mechanical irritation
- **Skin** Prolonged skin contact may cause temporary irritation.

B. Information on health hazards

Aluminum Hydroxide

Oral LD50 > 2000 mg/kg Rat
Inhalation LC50 Rat > 2.3 mg/l (Al₂O₃) Aerosol Maximum attainable concentration

Aluminum Hydroxide

IARC Not Listed

Reproductive Toxicity Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.

Section 12: ECOLOGICAL INFORMATION

A. Ecotoxicity

Hazardous to the aquatic Not classified.

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environment, acute hazard Avoid runoff to waterways and sewers

Hazardous to the aquatic environment, long-term hazard Not classified.
Avoid runoff to waterways and sewers

B. Persistence/degradability No data available

C. Bioaccumulative potential No data available

D. Mobility in soil No data available

E. Other adverse effects No data available

Section 13: DISPOSAL CONSIDERATIONS

A. Method of disposal

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose in accordance with all applicable regulations.

B. Disposal considerations (including disposal of contaminated containers or packaging) Disposal should be in accordance with applicable regional, national and local laws and regulations

Section 14: TRANSPORT INFORMATION

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

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

14.4. Packing group None

14.5. Environmental hazards No

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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

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B. Disposal considerations (including disposal of contaminated containers or packaging) Disposal should be in accordance with applicable regional, national and local laws and regulations

Section 15: REGULATORY INFORMATION

National Regulations

Aluminum Hydroxide

CAS Number 21645-51-2
Weight-% >99
Korean GHS Classification Not classified.

Other domestic and foreign regulations

Global Inventories

Chemical Name	CAS Number	EC No	EU REACH registration number	Australia (AIIIC)	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

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

Section 16: OTHER INFORMATION

A. Source of Information

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)

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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)
TSCA (Toxic Substances Control Act)
GHS (Globally Harmonized System)

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**C. Number of revisions and Date 1.3.4
of most recent revision**

D. Other

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End of Safety Data Sheet