



Martinal® OL-104 IO; Martinal® OL-107 IO

Prepared in accordance with GB/T 16483-2008, GB/T 24774-2009, GB 13690 – 2009, GB/T 17519–2013
GHS (Globally Harmonized System)

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Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: Martinal® OL-104 IO; Martinal® OL-107 IO

Chemical Name Aluminum Hydroxide (surface modified)

Pure substance/mixture Mixture

Aluminum Hydroxide

CAS Number 21645-51-2

Weight-% >98

Recommended Use Additive : Flame retardant

Company: J.M. Huber Corporation
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Section 2: HAZARDS IDENTIFICATION

GHS Classification Not classified.

Physical Hazard Not classified.

Health Hazard Not classified.

Environmental Hazard Not classified.

Label Elements

Symbols/Pictograms None

Signal Word None

Precautionary Statements

Prevention None

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Response	None
Spills and Leaks	Collect spillage
Storage	Store in a dry place
Disposal	Dispose in accordance with local, state and national regulations
General Advice	None
Additional Information:	None.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture

Mixture

Chemical Name	CAS Number	China (IECSC)	China classification	TSCA: United States	EU REACH registration number	Weight-%
Aluminum Hydroxide	21645-51-2	Y	Not classified.	A	01-2119529246-39	>98

Section 4: FIRST AID MEASURES

General Advice	None
Eye Contact	Hold eyelids apart and flush eyes with a steady, gentle stream of water for several minutes.
Skin Contact	Wash skin with soap and water
Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
Ingestion	Rinse mouth with water. Do not induce vomiting.
Notes to Physician	Treat symptomatically
Personal Protective Equipment For First Aid Responders	Wear suitable protective clothing IF exposed or concerned: Get medical advice/attention
Expected acute symptoms and delayed symptoms	None known

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Section 5: FIRE FIGHTING MEASURES

Flammable Properties	None known
Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media:	None known
Specific Hazards Arising from the Chemical	None known
Unusual fire & explosion hazards:	None
Protective measures:	Use protective equipment that is appropriate for surrounding materials.
Protective Equipment and Precautions for Firefighters	Wear self-contained breathing apparatus and protective suit

Section 6: SPILLAGE, ACCIDENTAL RELEASE MEASURES

Personal Precautions	Avoid dust formation. When exposed to high concentrations of airborne dust, wear a SCBA in accordance with national legislation
Environmental Precautions	This product does not present any particular risk to the environment. Refer to applicable national, state and local regulations prior to washing in drain.
Methods for cleaning up	Pick up mechanically and / or by rinsing with water. Avoid dry sweeping and use a sprinkler system or exhaust ventilation to prevent dust formation.
Other Information:	None known

Section 7: HANDLING AND STORAGE

Handling	Avoid dust formation. Avoid breathing dust. Handle in accordance with good industrial hygiene and safety practice.
Storage	Store in a dry area. Keep containers closed and protect from physical damage.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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

ACGIH

NIOSH

OSHA

TLV/TWA 8-hr: 1 mg/m³ (respirable fraction)TWA: 5 mg/m³ (respirable dust); 10 mg/m³ TWA (total dust)TWA: 15 mg/m³ (Total Dust)

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5 mg/m³ (Respirable Dust)

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

Impervious gloves

Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice
 Handle in accordance with good industrial hygiene and safety practice

Environmental Exposure Controls

Dispose of in accordance with local regulations

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance:

Physical State	Solid Powder
Color	White
Odor	Odorless
Odor Threshold	No information available
pH:	+/- 9 (10% Water)
Melting point / Freezing point	~ 300 °C / 572 °F (101.3 hPa)
Initial boiling point and boiling range	> 2900 °C / 5252 °F (101.3 hPa)
Flash Point	Not applicable. Product/Substance is inorganic. Solid.
Evaporation Rate	Not applicable
Flammability (solid, gas)	Not flammable
Upper flammability limit:	
Lower flammability limit:	
Vapor Pressure	Not applicable
Vapor Density	Not applicable
Relative Density	+/- 2.42 g/cm ³ (20 °C)
Water Solubility	Insoluble
Solubility in other solvents	No information available
Partition coefficient	Not applicable Product/Substance is inorganic
Autoignition Temperature	No information available

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Decomposition Temperature	No information available
Dynamic viscosity	Not applicable Solid
Explosive Properties	None
Oxidizing Properties	None

9.2. Other information

No data available

Section 10: STABILITY AND REACTIVITY

Stability	Stable under normal conditions
Conditions to avoid:	Decomposes at 200 °C : Al ₂ O ₃ Water
Incompatible materials	None known
Hazardous decomposition products	None under normal processing
Hazardous Reactions	None under normal processing
Hazardous polymerization:	None under normal processing

Section 11: TOXICOLOGICAL INFORMATION

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

Product Information**Information on Likely Routes of Exposure**

Eyes	Avoid contact with eyes Dust contact with the eyes can lead to mechanical irritation
Skin	Avoid prolonged or repeated contact with skin Contact with dust can cause mechanical irritation or drying of the skin
Inhalation	Do not breathe dust
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

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11.1. Information on toxicological effects

Aluminum Hydroxide

Oral LD50

> 2000 mg/kg Rat

Inhalation LC50

Rat > 2.3 mg/l (Al₂O₃) Aerosol Maximum attainable concentration

IARC

Not Listed

Acute Toxicity

Not classified.

Reproductive Toxicity

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

Carcinogenicity

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

**Specific target organ toxicity -
Single exposure**

No information available.

**Specific target organ toxicity -
Repeated exposure**

No information available.

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity

Not considered to be harmful to aquatic life. Avoid release to the environment.

Persistence/Degradability:

The methods for determining biodegradability are not applicable to inorganic substances.

Bioaccumulative Potential

Not likely to bioaccumulate.

Partition coefficient

Not available

**Bioconcentration factor
(BCF)**

No data available.

Mobility in soil

No information available.

**Results of PBT and vPvB
assessment**

This substance does not meet the criteria for classification as PBT or vPvB.

Other Adverse Effects

No information available

Section 13: DISPOSAL CONSIDERATIONS

**Waste from Residues/Unused
Products**

Dispose of in accordance with local regulations

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Contaminated Packaging: Empty containers should be taken to an approved waste handling site for recycling or disposal.

Section 14: TRANSPORT INFORMATION

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

DOT 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

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

Section 15: REGULATORY INFORMATION

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

Global Inventories

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	01-211952924-6-39	Y	Y	Y	(1)-17 (ENCS); ISHL	KE-00980	Y	Y	Y	Y	A

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

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Section 16: OTHER INFORMATION

Prepared by	Huber Engineered Materials Global Regulatory Affairs email: regulatory.affairs@huber.com
Reason for Revision	GB/T 16483-2008 GB/T 24774-2009 GB 13690 – 2009 GB/T 17519–2013
GHS Classification	Not classified.
Physical Hazard	Not classified.
Health Hazard	Not classified.
Environmental Hazard	Not classified.
Label Elements	
Symbols/Pictograms	None
Signal Word	None
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) SCBA (Self-Contained Breathing Apparatus) Positive Pressure GHS (Globally Harmonized System) ADR (European Agreement Concerning the International Carriage of Dangerous Goods by Road) RID (Agreement Concerning the International Carriage of Dangerous Goods by Rail) SARA (Superfund Amendments and Reauthorization Act of 1986)

HUBER

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TSCA (Toxic Substances Control Act)

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End of Safety Data Sheet