



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

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03
Canadian Workplace Hazardous Material Information System (WHMIS) 2015
Mexico NOM-018-STPS-2000; NOM-018-STPS-2015
GHS (Globally Harmonized System)

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Name: Martinal® OL-104 IO; Martinal® OL-107 IO
Pure substance/mixture Mixture

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Additive. ∴ Flame retardant.

Industrial use
Production substance
Polymer processing
Production of plastics and rubber compounds
Formulation flame retardant preparation
Compounds used in transport industry
Compounds used in electrical application
Compounds used in electronic application
Compounds used in Wire & Cable
Abrasive for glass industry, ceramics and stones
Textile coating
Production of corrosion inhibitors
Fuels
Deacidification agent for paper
pH Regulating agent
Use in coatings, inks, paints and roofing
Use as corrosion inhibitor of gas turbines and boilers
Use in cleaning agents
Use in oil field operations
Use in lubricants
Use in metal working fluids
Use in blowing agents
Use in binders and release agents
Use in textile
Use in functional fluids
Use in agrochemicals
Use in water treatment chemicals
Use in mining chemicals
Recycling plastics
White pigment for paper and board, filler, etc.

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Polymer processing
Use in Adhesives and/or sealants
Use in coatings, inks, paints and roofing
Use in agrochemicals
Use in cleaning agents
Use in oil field operations
Use in lubricants
Use in metal working fluids
Use in binders and release agents
Use in propellants
Use in textile
Use in explosives
Use in water treatment chemicals
Use in functional fluids
For use by laboratories for research
Fuels
De-icing & anti-icing applications
Road and construction applications

Consumer use

Use in coatings, inks, paints and roofing
Use in cleaning agents
Use in lubricants
Use in propellants
Fuels
Use in functional fluids
De-icing & anti-icing applications
Cosmetic additive
Use in water treatment chemicals

1.3. Details of the supplier of the safety data sheet

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

Internet www.huberadvancedmaterials.com

Contact E-Mail www.huberadvancedmaterials.com/contact

1.4. Emergency telephone number CHEMTREC: +1 800 424 9300 or International 1+703-527-3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

OSHA Regulatory Status This material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Physical Hazards Not classified.

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Health Hazards Not classified.

Environmental Hazard Not classified.

2.2. Label elements

Symbols/Pictograms None

Signal Word None

Hazard Statements None

Hazard Statements None

Precautionary Statements

Prevention Employ good industrial hygiene practice
Do not handle until all safety precautions have been read and understood
Do not breathe dust
Wear protective gloves/protective clothing/eye protection/face protection

Response IF ON SKIN: Wash with plenty of soap and water

Storage Store away from incompatible materials

Disposal Dispose of contents/containers in accordance with local regulations

Additional Information: None.

Hazards not otherwise classified (HNOC) Not classified.

SECTION 3: Composition/information on ingredients

Pure substance/mixture Mixture

Chemical Name	CAS Number	Weight-%
Aluminum Hydroxide	21645-51-2	>98

SECTION 4: First aid measures

4.1. Description of first aid measures

General Advice When in doubt or if symptoms are observed, get medical advice. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

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Eye Contact	In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Skin Contact	Wash with plenty of soap and water.
Ingestion	Rinse mouth thoroughly with water.
Inhalation	If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
Aspiration hazard	Not an expected route of exposure.
4.2. Most important symptoms and effects, both acute and delayed	Dust contact with the eyes can lead to mechanical irritation. Contact with dust can cause mechanical irritation or drying of the skin.
4.3. Indication of any immediate medical attention and special treatment needed	Treatment should be symptomatic and supportive.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media

Water spray (fog). Foam. Dry chemical. Carbon dioxide (CO₂).

Unsuitable Extinguishing Media

None known.

5.2. Special hazards arising from the substance or mixture

None known.

5.3. Advice for firefighters

Special protective equipment for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing.

Fire-fighting measures

In case of fire and/or explosion do not breathe fumes.

SECTION 6: Accidental release measures

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- 6.1. Personal precautions, protective equipment and emergency procedures** Ensure adequate ventilation. Use personal protection recommended in Section 8. Avoid dust formation. Keep unauthorized personnel away.
- For non-emergency personnel** Keep unauthorized personnel away.
- For emergency responders** Keep unauthorized personnel away. Use personal protection recommended in Section 8.
- 6.2. Environmental precautions** Avoid runoff to waterways and sewers.
- 6.3. Methods and material for containment and cleaning up** Methods for Containment : Prevent further leakage or spillage if safe to do so
Methods for Clean-up : Sweep up and shovel into suitable containers for disposal
- 6.4. Reference to other sections** Section 8: Exposure controls and personal protection. See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

- 7.1. Precautions for safe handling** Minimize dust generation and accumulation. Provide local exhaust ventilation. Handle in accordance with good industrial hygiene and safety practice.
- 7.2. Conditions for safe storage, including any incompatibilities** Store away from incompatible materials. Keep container tightly closed and dry.
- 7.3. Specific end use(s)** No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Aluminum Hydroxide

OSHA

TWA: 15 mg/m³ (Total Dust)

5 mg/m³ (Respirable Dust)

ACGIH

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

Canada - Ontario - OEL - TWA EVs

1 mg/m³

Canada - Nova Scotia - OEL - TWA

1 mg/m³ TWA (respirable fraction)

PNEC (Predicted No Effect Concentration) No information available

DNEL (Derived No Effect Level) No information available

Biological Limit Values None

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8.2. Exposure controls

Engineering Measures

Provide a good standard of controlled ventilation (5 to 10 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

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

Respiratory Protection

In case of inadequate ventilation wear respiratory protection.

Thermal hazards

None known.

Hygiene Measures

Follow general hygiene considerations recognized as common good workplace practices. The worker should wash daily at the end of each work shift, and prior to eating, drinking, smoking, etc.

Environmental Exposure Controls

Dispose of in accordance with local regulations.

SECTION 9: Physical and chemical properties

9.1. 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)

Freezing Point

Not applicable

Flash Point

Not applicable Product/Substance is inorganic Solid

Evaporation Rate

Not applicable.

Flammability (solid, gas)

Not flammable

Upper flammability limit:

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Lower flammability limit:

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Vapor Pressure

Not applicable

Vapor Density

Not applicable

Density

No data available

Relative Density

+/- 2.42 g/cm³ (20 °C)

Water Solubility

Insoluble

Solubility in other solvents

No information available

Partition coefficient

No information available Not applicable Product/Substance is inorganic

Autoignition Temperature

No data available No information available

Decomposition Temperature

No data available No information available

Viscosity

No information available.

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Kinematic viscosity	Not applicable
Dynamic viscosity	Not applicable Solid
Explosive Properties	None
Oxidizing Properties	None
Particle Size	No information available
VOC Content (%)	Not applicable

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Not applicable

9.2.2. Other safety characteristics

Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity	No data available
10.2. Chemical stability	Stable under normal conditions
10.3. Possibility of hazardous reactions	None under normal processing
10.4. Conditions to avoid	Incompatible materials Dust formation
10.5. Incompatible materials	None known
10.6. Hazardous decomposition products	None known

SECTION 11: Toxicological information

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

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 Not classified.

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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.**Information on Likely Routes of Exposure****Inhalation** Do not breathe dust**Ingestion** Ingestion is not a likely route of exposure**Skin** Avoid prolonged or repeated contact with skin
Contact with dust can cause mechanical irritation or drying of the skin**Eyes** Avoid contact with eyes
Dust contact with the eyes can lead to mechanical irritation**Aspiration hazard** Not an expected route of exposure.**11.2. Information on other hazards****11.2.1. Endocrine disrupting properties** This product does not contain any known or suspected endocrine disruptors**11.2.2. Other information** Not applicable

SECTION 12: Ecological information

12.1. Toxicity Not considered to be harmful to aquatic life**Aluminum Hydroxide****WGK Classification (AwSV)** 5220 WGK: nwg**12.2. Persistence and degradability** The methods for determining biodegradability are not applicable to inorganic substances.**12.3. Bioaccumulative potential** Not likely to bioaccumulate.**Bioconcentration factor (BCF)** No data available.**12.4. Mobility in soil** No information available.

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12.5. Results of PBT and vPvB assessment This substance does not meet the criteria for classification as PBT or vPvB.

12.6. Endocrine disrupting properties This product does not contain any known or suspected endocrine disruptors

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal Methods Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not reuse container.

Waste codes Waste codes should be assigned by the user based on the application for which the product was used

Aluminum Hydroxide

European Waste Catalog 060299

WGK Classification (AwSV) 5220 WGK: nwg

SECTION 14: Transport information

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

TDG -Canada	Not regulated
DOT	Not regulated
IATA	Not regulated
IMDG/IMO	Not regulated
ICAO	Not regulated

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

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14.7. Maritime transport in bulk according to IMO instruments
Not applicable

SECTION 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

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

US Federal Regulations

EPA

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40n of the Code of Federal Regulations, Part 372.

Aluminum Hydroxide

CERCLA

Not listed

SARA 302

Not listed

SARA 311/312 Hazardous Categorization

None

CWA (Clean Water Act)

Not listed

CAA (Clean Air Act)

Not listed

U.S. State Right-to-Know Regulations

Chemical Name	CAS Number	California Proposition 65	Massachusetts	Minnesota	New Jersey	Pennsylvania
Aluminum Hydroxide	21645-51-2	N	N	N	N	N

Y: Listed ; N: Not Listed

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)

This product does not contain any Proposition 65 chemicals

CANADA

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WHMIS

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR

SECTION 16: Other information

Prepared by	Huber Engineered Materials (HEM) Global Regulatory Affairs regulatory.affairs@huber.com
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Reason for Version	OSHA (Occupational Safety and Health Administration of the US Department of Labor).
Training Advice	Do not handle until all safety precautions have been read and understood.
Abbreviations and acronyms	<p>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 GHS (Globally Harmonized System) SARA (Superfund Amendments and Reauthorization Act of 1986) TSCA (Toxic Substances Control Act)</p>
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