



Martinal® OL-104 ZO; Martinal® OL-107 ZO

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006
COMMISSION REGULATION (EU) No. 2020/878

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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 ZO; Martinal® OL-107 ZO
Chemical Name	Aluminum Hydroxide (surface modified)
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.
Professional use	- Polymer processing - Use in Adhesives and/or sealants

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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

Uses advised against

No information available.

1.3. Details of the supplier of the safety data sheet**Manufacturer**

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

Poison control center phone number

National Anti-Poison Center UK: +44 844 892 0111 (National Poisons Information Service)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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(CLP) Regulation (EC 1272/2008) Not classified.**Hazards identification****Physical Hazard** Not classified.**Health Hazards** Not classified.**Environmental Hazard** Not classified.**2.2. Label elements****Symbols/Pictograms** None**Signal Word** None

Hazard Statements This product is not classified as hazardous according to the UN GHS guideline and labeling is not required
This material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Precautionary Statements

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

Additional Information: None.**2.3. Other hazards** No information available.

SECTION 3: Composition/information on ingredients

3.1. Substance Not applicable**3.2. Mixture** Mixture

Chemical Name	CAS Number	EC No	(CLP) Regulation (EC 1272/2008)	Weight-%
Aluminum Hydroxide	21645-51-2	244-492-7	Not classified.	99

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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.
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.
Inhalation	If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
Ingestion	Rinse mouth thoroughly with water.
Aspiration hazard	Not an expected route of exposure.
Notes to Physician	Treat symptomatically.
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

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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

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**

ACGIH
OSHA

NIOSH
France

TLV/TWA 8-hr: 1 mg/m³ (respirable fraction)
TWA: 15 mg/m³ (Total Dust)
5 mg/m³ (Respirable Dust)
TWA: 5 mg/m³ (respirable dust); 10 mg/m³ TWA (total dust)
Not established (Non établi)

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Not established (Non établi)

2.5 mg/m³ (inhalable); 1.2 mg/m³ (respirable)TWA: 3 mg/m³

10 mg.m-3 (inhalable); 4 mg.m-3 (respirable)

Recommended monitoring procedures

Refer also to national guidance documents for information on currently recommended monitoring procedures

Biological Limit Values

None

DNEL/DMEL and PNEC values**PNEC (Predicted No Effect Concentration)****8.2. Exposure 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

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. Wear suitable gloves tested to EN 374.

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

Recommended filter type:

(FFP2)

(FFP3)

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

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance:

Physical State	Solid Granular
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)	No information available
Upper flammability limit:	--
Lower flammability limit:	--
Vapor Pressure	Not applicable
Vapor Density	Not applicable
Density	No data available
Relative Density	+/- 2.42 g/cm ³ (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.
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

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10.3. Possibility of hazardous reactions	None under normal processing
10.4. Conditions to avoid	Incompatible materials Dust formation
10.5. Incompatible materials	Incompatible with strong acids and bases
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 hazard classes as defined in Regulation (EC) No 1272/2008

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

Reproductive Effects Information given is based on data obtained from similar substances. No indication of effects on fertility. No indication of effects on developmental toxicity.

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.

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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.

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

HUBER

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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

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

SECTION 15: Regulatory information

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

Global Inventories

Pure substance/mixture Mixture

Chemical Name	CAS Number	EC No	Australia (AIC)	Canada (DSL)	China (IECSC)	Japan	S. Korea (KECL)	Mexico	Thailand (TECI)	New Zealand	Philippines (PICCS)	Taiwan	TSCA: United States
Aluminum Hydroxide	21645-51-2	244-492-7	Y	Y	Y	(1)-17 (ENCS); ISHL	KE-00980	Y	55-1-02595	Y	Y	Y	A

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

REACH No.

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Very low solubility Not considered to be harmful to aquatic life

Aluminum Hydroxide**WGK Classification (AwSV)** 5220 WGK: nwg**15.2. Chemical safety assessment**

A Chemical Safety Assessment has been carried out for this substance

SECTION 16: Other information

Reason for Revision This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006 & COMMISSION REGULATION (EU) No. 2020/878**Issue Date** 07/Nov/2024**Print Date** 07/Nov/2024**Revision Number** 1.3.1**Prepared by** Huber Engineered Materials Global Regulatory Affairs
email: regulatory.affairs@huber.com.**(CLP) Regulation (EC 1272/2008)** Not classified.**Labeling****Symbols/Pictograms** None**Signal Word** None**Hazard Statements** This product is not classified as hazardous according to the UN GHS guideline and labeling is not required. This material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).**Training Advice** Do not handle until all safety precautions have been read and understood.**Abbreviations and acronyms**IARC (International Agency for Research on Cancer)
IUCLID (International Uniform Chemical Information Database)
WHMIS (Workplace Hazardous Materials Information System)
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)
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)

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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)
IATA (International Air Transport Association)
IMDG (International Maritime Dangerous Goods)
DOT (Department of Transportation)
TDG (Transport of Dangerous Goods) Canada
PNEC (Predicted No Effect Concentration)
SCBA (Self-Contained Breathing Apparatus) Positive Pressure
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