



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

Issue Date 07/Nov/2024
Print Date 15/Feb/2026

Revision Number 1.3.1
Page 1 of 12

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

Safety Data Sheet

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

Issue Date 07/Nov/2024
Print Date 15/Feb/2026

Revision Number 1.3.1
Page 2 of 12

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

Safety Data Sheet

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

Issue Date 07/Nov/2024
Print Date 15/Feb/2026

Revision Number 1.3.1
Page 3 of 12

(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

Safety Data Sheet

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

Issue Date 07/Nov/2024
Print Date 15/Feb/2026Revision Number 1.3.1
Page 4 of 12

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 MediaWater 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

Safety Data Sheet

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

Issue Date 07/Nov/2024

Print Date 15/Feb/2026

Revision Number 1.3.1

Page 5 of 12

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)

Safety Data Sheet

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

Issue Date 07/Nov/2024

Print Date 15/Feb/2026

Revision Number 1.3.1

Page 6 of 12

France	Not established (Non établi)
Germany	1.25 mg/m ³ 10 mg/m ³
Poland	2.5 mg/m ³ (inhalable); 1.2 mg/m ³ (respirable)
Switzerland	TWA: 3 mg/m ³
United Kingdom	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

Safety Data Sheet

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

Issue Date 07/Nov/2024
Print Date 15/Feb/2026

Revision Number 1.3.1
Page 7 of 12

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance:

Physical State	Solid Granular
Color	White
Odor	Odorless
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
Flammability	No information available
Upper flammability limit:	--
Lower flammability limit:	--
Vapor Pressure	Not applicable
Relative 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 Characteristics	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	None under normal processing

Safety Data Sheet

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

Issue Date 07/Nov/2024
Print Date 15/Feb/2026

Revision Number 1.3.1
Page 8 of 12

reactions

- 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 toxicological effects

Aluminum Hydroxide

LD50s and LC50s	> 5000 mg/kg Oral LD50
Oral LD50	> 2000 mg/kg Rat
IARC	Not Listed

- Acute Toxicity** Based on available data, the classification criteria are not met.
- Respiratory Sensitization** 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.
- Skin Corrosion/Irritation** Based on available data, the classification criteria are not met.
- 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 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

Safety Data Sheet

Martinal® OL-104 ZO; Martinal® OL-107 ZO**Issue Date** 07/Nov/2024
Print Date 15/Feb/2026**Revision Number** 1.3.1
Page 9 of 12

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.

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

12.7. Other Adverse Effects None known

Safety Data Sheet

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

Issue Date 07/Nov/2024
Print Date 15/Feb/2026

Revision Number 1.3.1
Page 10 of 12

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

14.1. UN number or ID 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. Maritime transport in bulk according to IMO instruments
Not applicable

SECTION 15: Regulatory information

Safety Data Sheet

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

Issue Date 07/Nov/2024
Print Date 15/Feb/2026

Revision Number 1.3.1
Page 11 of 12

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.

Aluminum Hydroxide

EU REACH registration number 01-2119529246-39
Turkish KKDIK pre-registration 05-0000193352-73-0000

Germany

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

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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

Safety Data Sheet

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

Issue Date 07/Nov/2024
Print Date 15/Feb/2026

Revision Number 1.3.1
Page 12 of 12

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)
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