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## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identifier

Product Name: Martinal® OL-104 LEO

Pure substance/mixture Substance

#### Aluminum Hydroxide

CAS Number 21645-51-2

Weight-% >99

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

Recommended Use Additive : Flame retardant

### 1.3. Details of the supplier of the safety data sheet

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

Internet [www.hubermaterials.com](http://www.hubermaterials.com)

E-mail [hubermaterials@huber.com](mailto:hubermaterials@huber.com)

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

## 2. HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

GHS Classification This product is not classified as hazardous according to the UN GHS guideline and labeling is not required

#### Hazards identification

Physical Hazard Not classified

Health Hazards Not classified

Environmental Hazard Not classified

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## 2.2. Label elements

**Symbols/Pictograms** None

**Signal Word** 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 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.

**2.3. Other hazards** No information available.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Pure substance/mixture** Substance

Chemical Name	CAS Number	TSCA: United States	REACH registration number	Weight-%
Aluminum Hydroxide	21645-51-2	A	01-2119529246-39	>99

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

## 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.

**Ingestion** Rinse mouth thoroughly with water.

**Inhalation** If breathing is difficult, remove victim to fresh air and keep at rest in a position

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	comfortable for breathing.
<b>Aspiration hazard</b>	Not an expected route of exposure.
<b>Notes to Physician</b>	Treat symptomatically.
<b>4.2. Most important symptoms and effects, both acute and delayed</b>	Dust contact with the eyes can lead to mechanical irritation. Contact with dust can cause mechanical irritation or drying of the skin.
<b>4.3. Indication of any immediate medical attention and special treatment needed</b>	Treatment should be symptomatic and supportive.

## 5. FIRE-FIGHTING MEASURES

### 5.1. Extinguishing media

**Suitable Extinguishing Media**

Water spray (fog). Foam. Dry chemical. Carbon dioxide (CO<sub>2</sub>).

**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.

## 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.

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- 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.

## 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.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

#### Occupational exposure limits

##### Aluminum Hydroxide

NIOSH  
ACGIH  
OSHA

TWA: 5 mg/m<sup>3</sup> (respirable dust); 10 mg/m<sup>3</sup> TWA (total dust)  
TLV/TWA 8-hr: 1 mg/m<sup>3</sup> (respirable fraction)  
TWA: 15 mg/m<sup>3</sup> Total Dust  
5 mg/m<sup>3</sup> Respirable Dust

**Biological Limit Values:** None

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

### 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** Wear suitable gloves.

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<b>Respiratory Protection</b>	In case of inadequate ventilation wear respiratory protection.
<b>Thermal hazards</b>	None known.
<b>Hygiene Measures</b>	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.
<b>Environmental Exposure Controls</b>	Dispose of in accordance with local regulations.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

**Appearance:**

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

### 9.2. Other information

No data available

## 10. STABILITY AND REACTIVITY

<b>10.1. Reactivity</b>	No data available
<b>10.2. Chemical stability</b>	Stable under normal conditions

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- 10.3. Possibility of hazardous reactions** None under normal processing
- 10.4. Conditions to avoid** Decomposition Temperature < / = 0.3% : Al<sub>2</sub>O<sub>3</sub> Water
- 10.5. Incompatible materials** None known
- 10.6. Hazardous decomposition products** None known

## 11. TOXICOLOGICAL INFORMATION

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

### Information on Likely Routes of Exposure

- Inhalation** Do not breathe dust
- 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
- Ingestion** Ingestion is not a likely route of exposure
- Aspiration hazard** Not an expected route of exposure.

### 11.1. Information on toxicological effects

#### Aluminum Hydroxide

- Oral LD50** > 2000 mg/kg Rat
- Inhalation LC50** Rat > 2.3 mg/l (Al<sub>2</sub>O<sub>3</sub>) Aerosol Maximum attainable concentration
- 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.

## 12. ECOLOGICAL INFORMATION

**12.1. Ecotoxicity** Very low solubility. Not considered to be harmful to aquatic life.

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**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. Other adverse effects** No information available

## 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

## 14. TRANSPORT INFORMATION

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

<b>TDG -Canada</b>	Not regulated
<b>DOT</b>	Not regulated
<b>IATA</b>	Not regulated
<b>IMDG/IMO</b>	Not regulated
<b>ICAO</b>	Not regulated

**14.1. UN number** None

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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

## 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	REACH registration number	Australia (AICS)	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

#### Legend

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

## 16. OTHER INFORMATION

**Prepared by** Huber Engineered Materials Global Regulatory Affairs  
email: regulatory.affairs@huber.com.

**GHS Classification** This product is not classified as hazardous according to the UN GHS guideline and labeling is not required

**Physical Hazard** Not classified

**Health Hazards** Not classified

**Environmental Hazard** Not classified

#### Labeling

**Symbols/Pictograms** None

**Signal Word** None

**Training Advice** Do not handle until all safety precautions have been read and understood.



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## Safety Data Sheet

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### Abbreviations and acronyms

International Agency for Research on Cancer (IARC)  
International Air Transport Association (IATA)  
International Maritime Dangerous Goods (IMDG)  
International Uniform Chemical Information Database (IUCLID)  
Workplace Hazardous Materials Information System (WHMIS) status and classification  
EPA SARA Title III Section 312 (40 CFR 370) Hazard Classification  
DOT (Department of Transportation)  
OSHA (Occupational Safety and Health Administration of the US Department of Labor)  
TWA - Time-Weighted Average  
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA)  
The Classification, Labeling and Packaging of Substances and Mixtures (CLP) 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)  
Reportable Quantity (RQ) (RQ/% in mixture)  
STEL - Short Term Exposure Limit  
TLV® - Threshold Limit Value  
Derived No Effect Level (DNEL)  
SVHC: Substances of Very High Concern for Authorization:  
Land transport (ADR/RID)  
Biochemical oxygen demand (BOD)  
Chemical oxygen demand (COD)  
ICAO (air)  
(IMDG) International Maritime Dangerous Goods  
Positive Pressure Self-Contained Breathing Apparatus (SCBA)  
Predicted No Effect Concentration (PNEC)  
Globally Harmonized System (GHS)

**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**