



Martinal® OL-104C; Martinal® OL-107C

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006
COMMISSION REGULATION (EU) No. 2015/830

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

1.1. Product identifier

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

Chemical Name: Aluminum Hydroxide (surface modified)

Pure substance/mixture: Mixture

| Chemical Name | CAS Number | EC No | REACH registration number | (CLP) Regulation (EC 1272/2008) | TSCA: United States | Weight-% |
|--------------------|------------|-----------|---------------------------|---------------------------------|---------------------|----------|
| Aluminum Hydroxide | 21645-51-2 | 244-492-7 | 01-2119529246-39-0016 | Not classified | Y | >98 |

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

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White pigment for paper and board, filler, etc.

Professional use

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

Uses advised against

No information available.

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

E-mail hubermaterials@huber.com

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

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2.1. Classification of the substance or mixture

(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. Substances Not applicable

3.2. Mixtures Mixture

| Chemical Name | CAS Number | EC No | REACH registration number | (CLP) Regulation (EC 1272/2008) | Annex | TSCA: United States | Weight-% |
|--------------------|------------|-----------|---------------------------|---------------------------------|-------|---------------------|----------|
| Aluminum Hydroxide | 21645-51-2 | 244-492-7 | 01-2119529246-39-0016 | Not classified | -- | Y | >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. |
| 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
France
Russia

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)
 Not established (Non établi)
 6 mg/m³ TWA (aerosol)

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Switzerland
United Kingdom

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

Predicted No Effect Concentration (PNEC)

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.

Respiratory Protection 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

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance:

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| | |
|--|--|
| 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 (1013 hPa) |
| Initial boiling point and boiling range | > 2900 °C / 5252 °F (1013 hPa) |
| 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 |
| 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 |
| 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

| | |
|---|--|
| 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 Decomposition Temperature : Al ₂ O ₃ Water |
| 10.5. Incompatible materials | Incompatible with strong acids and bases |
| 10.6. Hazardous decomposition products | None under normal use conditions |

SECTION 11: Toxicological information

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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 ₂ O ₃) Aerosol Maximum attainable concentration |
| IARC | Not Listed |

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

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

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

Aluminum Hydroxide

WGK Classification (VwVwS) 5220 WKG: 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.

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| | |
|---|--|
| 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 |

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 (VwVwS) | 5220 WKG: 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 | None |
| 14.2. UN proper shipping name | None |
| 14.3. Transport hazard class(es) | None |
| 14.4. Packing group | None |

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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

Pure substance/mixture Mixture

| 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 | 01-211952 9246-39-0 016 | Y | Y | Y | Y | KE-00980 | Y | Y | Y | Y | Y |

Legend X / Y: Complies , - / N: Not Listed , Exempt

National Regulations

Germany

Aluminum Hydroxide

WGK Classification (VwVwS) 5220 WKG: 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. 2015/830

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Print Date: 30/Nov/2018
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(CLP) Regulation (EC 1272/2008) Not classified

Labeling

Symbols/Pictograms None

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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

- 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
- 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