

**Safety Data Sheet  
Aluminium Hydroxide**

according to Regulation (EC) No. 1907/2006

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***This generic Safety Data Sheet has been provided for information purposes only, since according to present legislation the producer is under no obligation to provide any SDS for this material.***

**1. Identification of the substance/preparation and of the company/undertaking**

**1.1 Product identifier**

**Aluminium hydroxide, Aluminium hydrate**

Additional trade names: Hydrate

Article code: reference to materials standards

**REACH Registration No.:** 01-2119529246-39-0009

**1.2 Use of the substance/ the preparation**

Industrial use, further processing into a number of articles/products

Aluminium oxide production

**1.3 Manufacturer / Supplier:**

**1.3.1 Manufacturer**

Company: Aluminium Oxid Stade GmbH  
Street: Johann-Rathje-Köser-Straße  
Location: 21683 Stade-Bützfleth  
Country: Germany  
Phone: +49 4146 92641  
Fax: +49 4146 92377

**1.3.2 Supplier**

Company: Dadco Alumina & Chemicals Ltd  
Street: Hamilton House, St Julian's Avenue  
Location: St Peter Port, Guernsey GY1 1WA  
Country: Channel Islands  
Phone: +44 1481 740605  
Fax: +44 1481 740604

**1.3.3 Further information obtainable from:**

Phone: + 49 4146 92393

E-Mail (expert): b.petersen@aos-stade.de

**1.3.4 Information in case of emergency**

**Call national emergency number**

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## 2. Hazards Identification

### 2.1 Classification

Not hazardous.

### 2.2 Information concerning particular hazards for human and environment:

Not a health hazard under normal conditions of use and as delivered.

High dust concentration may cause mechanical irritation of the eyes, skin and respiratory tract

Releases humidity on decomposition, do not heat in enclosed containers

## 3. Composition/information on ingredients

### 3.1 Chemical characterisation:

Aluminium hydroxide content of > 95 weight by weight %

### 3.2 Ingredients:

| CAS #      | EC #      | Component           | Concentration % | Classification | R- phrase |
|------------|-----------|---------------------|-----------------|----------------|-----------|
| 21645-51-2 | 244-492-7 | Aluminium hydroxide | > 95            | --- ---        | --- ---   |

### 3.3 Additional information:

Usually supplied to customers in bulk or big bags. Main impurities, iron oxide, calcium oxide, sodium oxide and silica

## 4. First-aid measures

### 4.1 General information:

First aide personnel: pay attention to self- protection!

- **After inhalation:**. In case of dust inhalation remove person to ventilated area and keep calm. In case of ongoing discomfort consult a physician
- **After skin contact:**. In case of large exposures wash with soap and water.
- **After eye contact.** If particles comes into contact with eyes treatment for mechanical irritation may be required; flush thoroughly with water, in case of ongoing discomfort consult a physician
- **After swallowing:** Wash mouth with water

### 4.2 Notes to physician:

None

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**5. Fire-fighting measures**

Not flammable

**5.1 Suitable extinguishing agents:**

Use extinguishing agents appropriate for surrounding materials.

**5.2 For safety reasons unsuitable extinguishing agents:**

None

**5.3 Special hazards caused by the substance, its products of combustion or resulting gases:**

None

**5.4 Protective equipment:**

Fire fighters should wear approved personal protective equipment for the surrounding fired material

**5.5 Additional hints:**

**6. Accidental release measures**

**6.1 Person- related safety precautions:**

See protection measures listed in section 8.

**6.2 Environmental protection measures:**

Avoid dispersal of spilled material and runoff. Avoid creating dusty conditions and prevent wind dispersal. Collect material for recycling if possible.

**6.3 Measures for cleaning:**

Use vacuum cleaner if possible.

**6.4 Additional hints:**

See section 13

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## **7. Handling and storage**

### **7.1 Handling:**

Ensure good ventilation / local exhaust at the workplace in the case of operations generating dust. Avoid creating dusty conditions. Avoid inhalation and skin and eye contact  
Wear appropriate personal protective equipment.

### **7.2 Storage**

#### **Requirements to be met by storerooms and receptacles:**

Store in dry area.

#### **Additional hints:**

None

## **8. Exposure controls/personal protection**

### **8.1 Exposure limits**

Occupational exposure limits (air): generally same as for nuisance dust

Germany

10\*/3\*\* mg/m<sup>3</sup> (\*inhalable dust; \*\* respirable dust)

Great Britain

10\*/4\*\* mg/m<sup>3</sup> (\*inhalable dust; \*\* respirable dust)

United States

OSHA 15 mg/m<sup>3</sup> (total dust); 5 mg/m<sup>3</sup> TWA (respirable fraction)

Some additional EU countries: 10 mg/m<sup>3</sup> (Include national OEL in national language version)

### **8.2 Exposure controls:**

Ensure good ventilation / local exhaust at the workplace in the case of operations generating dust. Avoid work practises which generate dust. Avoid inhalation and eye contact

### **8.3 Personal protective equipment:**

Respiratory equipment: not required under recommended conditions of use. In case dust is generated, use personal protective equipment, dust filter P2 or if fine particles P3.

Use protective goggles and gloves when handling the substance and appropriate work clothes

### **8.4 Environmental exposure control:**

Avoid creating dusty conditions and prevent wind dispersal

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## 9. Physical and chemical properties

### 9.1 General information:

|                                     |   |
|-------------------------------------|---|
| Physical state:                     | solid powder  |
| Colour:                             | white   |
| Odour:                              | odourless   |
| pH- value:                          | not relevant  |
| Melting point/Melting range:        | Transforms to alumina in temperature range 300 -600°C |
| Boiling Point/Boiling range:        | not relevant  |
| Flash point:                        | not relevant  |
| Flammability:                       | not relevant  |
| Explosive properties:               | not relevant  |
| Density at 20°C:                    | 2,42 g/cm <sup>3</sup>                                |
| Solubility in water (20 °C):        | almost insoluble                                      |
| Other physical-chemical properties: | not relevant  |

### 9.2 Important information on health and safety and environmental protection: Safety related basic data, methods, comments

## 10. Stability and reactivity

Stable under normal conditions of use, storage, and transport  
When heated undergoes gradual transformation to aluminium oxide and may release steam

### 10.1 Conditions to be avoided:

None

### 10.2 Materials to be avoided:

None

### 10.3 Dangerous decomposition products:

None

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### 11. Toxicological information

#### 11.1 Toxicokinetics, metabolism and distribution:

Oral uptake < 0.1%, nearly insoluble in lung fluids, most aluminium hydroxide absorbed is rapidly excreted through urine, main deposit in body is in bone structure. Used as an antacid and filler for some medicines. Used as adjuvant for some vaccines.

#### 11.2 Acute effects (acute toxicity, irritation and corrosivity):

No acute effects

|        |                    |                        |
|--------|--------------------|------------------------|
| 11.2.1 | Acute toxicity:    |                        |
|        | LD50 (oral):       | > 5000mg/kg bwt (rats) |
|        | LD50 (dermal):     | No effect              |
|        | LD50 (inhalative): | > 2,3 mg/l (rats)      |

|        |                                    |      |
|--------|------------------------------------|------|
| 11.2.2 | Specific symptoms in animal tests: |      |
|        | After swallowing:                  | None |
|        | After skin contact:                | None |
|        | After inhalation:                  | None |

|        |                               |            |
|--------|-------------------------------|------------|
| 11.2.3 | Irritation/Corrosion effects: |            |
|        | Irritant effects on skin:     | No effects |
|        | Irritant effect on eyes:      | No effects |

#### 11.3 Sensitisation:

|                     |      |
|---------------------|------|
| After skin contact: | None |
| After inhalation:   | None |
| Remarks:            |      |

#### 11.4 Toxicity after repeated intake (sub acute, sub chronic, chronic):

|  |  |
|--|--|
| Sub acute oral Toxicity:               | None, calculated DNEL 6,85 mg/kg bwt/day |
| Sub acute inhalative Toxicity:         | None, see occupational exposure limits   |
| Calculated DNEL 3,59 mg/m <sup>3</sup> | respirable                               |
| Assessment:                            |  |

#### 11.5 CMR-effects (carcinogenic, mutagenic and reproductive effects)

|                               |                        |
|-------------------------------|------------------------|
| Carcinogenicity:              | None                   |
| Mutagenicity:                 | None                   |
| Reproductive toxicity:        | None                   |
| Assessment of CMR properties: | Not classified for CMR |

Product components not listed under IARC/NTP/ACGIH (ingredient carcinogenicity)

#### 11.6 Practical experience:

|   |      |
|---|------|
| Observations relevant for classification: | None |
| Other observations:                       | None |

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## 12. Ecological Information

### 12.1 Ecotoxicity:

| Product/ingredient name | test                  | result    | Species                      | Exposure |
|-------------------------|-----------------------|-----------|------------------------------|----------|
| Aluminium hydroxide     | Fish – OECD TG 203    | >100 mg/l | Salmo trutta                 | pH 8     |
| Aluminium hydroxide     | Daphnia – OECD TG 202 | >100mg/l  | Daphnia Magna                | pH 8     |
| Aluminium hydroxide     | Algae – OECD TG 201   | >100mg/l  | Selenastrum<br>Capricornutum | pH 8     |

### 12.2 Mobility:

Not mobile under normal environmental conditions

### 12.3 Persistence and degradability:

12.3.1 Persistence: Not relevant for metal compounds

12.3.2 Biological degradability: Not degradable

12.4 **Bioaccumulative potential:** Not bio accumulative

12.5 **Long term ecotoxicity:** Not classified for ecotoxicity

12.6 **Results of PBT assessment:** Not relevant for metal compounds

12.7 **Other adverse effects:** No

### 12.8 Final assessment:

No acute or chronic classification is appropriate for Al metal massive based on non toxic results below the Ecotoxicity Reference Value (ERV) of tests with aluminium metal, oxide and hydroxide at loadings of 100 mg/L at pH 8-8.5 (maximum solubility of Al expected).

Aluminium in soil or the aquatic environment comes from natural sources. Local sources has an insignificant contribution and impact on environment apart from limited local sources

## 13. Disposal considerations

### 13.1 Disposal / Waste (Product):

Dispose of wastes and residues in accordance with local waste regulations

### 13.2 Packaging:

Not relevant

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**14. Transport information**

Not regulated

**15. Regulatory Information**

No classification or special regulations. Follow general rules for handling, transport and waste management.

Chemical Safety Assessment carried out.

**16. Other information**

In dealing with chemicals the national laws and regulation must be observed and applied.

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship

Recommended limitations of use by manufacturer:

For industrial use and as component in consumer products

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Safety Data Sheet issued by:

**Dadco Alumina & Chemicals Ltd  
Hamilton House  
St Julian's Avenue  
St Peter Port  
Guernsey GY1 1WA**

Supplier's contact:

Tel.: +44 1481 740 605

Fax: +44 1481 740 604

[reach@dadcochemicals.com](mailto:reach@dadcochemicals.com)

Manufacturer's contact:

Birger Petersen

Tel.: +49 41 46 92 393

Fax: +49 41 46 92 398

[b.petersen@aos-stade.de](mailto:b.petersen@aos-stade.de)



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**Abbreviations and acronyms:**

|           |  |
|-----------|--|
| ACGIH     | American Conference of Governmental Industrial Hygienists  |
| OSHA      | Occupational Safety and Health Administration (US)   |
| ADR:      | Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)                  |
| RID:      | Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations concerning the International Transport of Dangerous Goods by Rail) |
| IMDG:     | International Maritime Code for Dangerous Goods  |
| IATA:     | International Air Transport Association  |
| IATA-DGR: | Dangerous Goods Regulations by the "International Air Transport Association" (IATA)  |
| ICAO:     | International Civil Aviation Organization  |
| ICAO-TI:  | Technical Instructions by the "International Civil Aviation Organization" (ICAO)   |
| GHS:      | Globally Harmonized System of Classification and Labelling of Chemicals  |
| EINECS:   | European Inventory of Existing Commercial Chemical Substances  |
| CAS:      | Chemical Abstracts Service (division of the American Chemical Society)   |
| Bwt       | bodyweight   |
| PNEC      | Potential No Effect Concentration  |
| DNEL      | Derived No Effect Level  |
| DOC       | Dissolved Organic Compounds  |