



**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 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.

**Hazards not otherwise classified (HNOC):** Not classified.

## SECTION 3: Composition/Information on Ingredients

Chemical Name	CAS Number	TSCA: United States	Canada (DSL)	Mexico	Weight-%
Aluminum Hydroxide	21645-51-2	Y	Y	Y	100

## 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:

### 4.3 Indication of any immediate medical attention and special treatment needed: Signs and symptoms may include coughing, gasping, choking and difficulty breathing. 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 (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.

**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. Methods and material for containment and cleaning up:

Large Spill: Do not dry sweep dust. Wet dust with water before sweeping or use a vacuum to collect dust  
Small Spill: Vacuum or sweep material and place in a disposal container

**6.3. 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):** Flame retardant.

**SECTION 8: Exposure Controls/Personal Protection****8.1. Control parameters Occupational exposure limits:****Aluminum Hydroxide**

<b>ACGIH</b>	TLV/TWA 8-hr: 1 mg/m <sup>3</sup> (respirable fraction)
<b>OSHA</b>	TWA: 15 mg/m <sup>3</sup> Total Dust, 5 mg/m <sup>3</sup> Respirable Dust
<b>NIOSH</b>	TWA: 5 mg/m <sup>3</sup> (respirable dust); 10 mg/m <sup>3</sup> TWA (total dust)
<b>France</b>	Not established (Non établi)
<b>Russia</b>	6 mg/m <sup>3</sup> TWA (aerosol)
<b>Switzerland</b>	TWA: 3 mg/m <sup>3</sup>
<b>United Kingdom</b>	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

**Derived No Effect Level (DNEL)** Consumer - oral, long-term - local and systemic 4.74 mg/kg bw/day  
Worker - inhalative, long-term - local and systemic 10.74 mg/m<sup>3</sup>

**Predicted No Effect Concentration (PNEC)** No information available

**8.2. Exposure controls**

**Engineering Measures:** Ensure adequate ventilation, especially in confined areas. Provide a good standard of controlled ventilation (10 to 15 air changes per hour)

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.

**Respiratory Protection:** In case of inadequate ventilation wear respiratory protection. When workers are facing concentrations above the exposure limit, they must use appropriate certified respirators.

**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:****Physical State:** Solid Powder**Odor:** Odorless**Odor Threshold:** No information available**pH:** 8.4 - 10.2 5% Water suspension**Melting point / Freezing point:** ca 300 °C / 572 °F (1013 kPa)**Initial boiling point:** 5396 °F (2980 °C) 101,3 kPa**Flash Point:** Not applicable.**Evaporation Rate:** Not applicable.**Flammability (solid, gas):** Not applicable**Vapor Pressure:** Not applicable**Vapor Density:** Not applicable**Relative Density:** 2.4 g/cm<sup>3</sup>, 20° C**Water Solubility:** Insoluble**Solubility in other solvents:** No information available**Partition coefficient:** No information available**Autoignition Temperature:** Not applicable**Decomposition Temperature:** 392 °F (200 °C)**Viscosity:** Not applicable.**Explosive Properties:** None**Oxidizing Properties:** Not applicable**VOC Content (%):** Not applicable**9.2. Other information:** No data available.**SECTION 10: Stability and Reactivity****10.1 Reactivity:** None**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.**10.5 Incompatible materials:** Strong acids**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.**Information on Likely Routes of Exposure:****Inhalation:** Do not breathe dust. Inhalation of dust in high concentration may cause irritation of respiratory system.**Skin:** Contact with dust can cause mechanical irritation or drying of the skin.**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**

<b>Oral LD50</b>	> 2000 mg/kg Rat
<b>Inhalation LC50</b>	Rat > 2.3 mg/l (Al <sub>2</sub> O <sub>3</sub> ) Aerosol Maximum attainable concentration
<b>IARC Acute Toxicity</b>	Not Listed Based on available data, the classification criteria are not met
<b>Chronic Toxicity</b>	Based on available data, the classification criteria are not met
<b>Chronic Effects</b>	Based on available data, the classification criteria are not met
<b>Respiratory Sensitization</b>	No information available
<b>Serious eye damage/eye irritation</b>	Non-irritant (rabbit)
<b>Skin Corrosion/Irritation</b>	Non-irritant (rabbit)
<b>Skin Sensitization</b>	Based on available data, the classification criteria are not met Not a skinsensitizer (Guinea pig)
<b>Mutagenicity</b>	in vitro Not genotoxic in bacteria and mammalian cell systems. in vivo Mutagenicity (micronucleus test) Rat Negative (weight of evidence approach)
<b>Germ cell mutagenicity</b>	No information available.
<b>Reproductive Effects</b>	Based on available data, the classification criteria are not met
<b>Reproductive Toxicity</b>	Based on available data, the classification criteria are not met
<b>Carcinogenicity</b>	Based on available data, the classification criteria are not met
<b>Specific target organ toxicity - Single exposure</b>	Not classified.
<b>Specific target organ toxicity - Repeated exposure</b>	No information available.
<b>Mixture versus substance information</b>	No information available

**SECTION 12: Ecological Information**

**12.1. Ecotoxicity:** Not considered to be harmful to aquatic life.

**Aluminum Hydroxide**

**Aquatic toxicity:**

- Acute
- Crustacea
- Daphnia Magna (Water Flea) 0.72 mg/l 48-hour pH 7.5
- Fish EC50
- Pimephales promelas (fathead minnow) 1.16 mg/l pH 7.8
- Pimephales promelas (fathead minnow) >218644 1 µg/L 96 hour

Chronic  
Fish LC50: Pimephales promelas (fathead minnow) 145190 1.16 7 day

Other

LC50 *Lymnaea stagnalis* >2099 µg/L 30 day  
 EC50 *Aeromonas* sp 1923 9 µg/L 17 day

**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.  
 Partition coefficient: No information available  
 Bioconcentration factor (BCF): Not 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.

**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
ADR	Not regulated
RID	Not regulated
ADN	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
- 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                      Substance

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		Y	Y	Y	Y	KE-00980	Y	Y	Y	Y	Y

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

US Federal Regulations:

EPA

CERCLA/SARA RQ: Not listed.

SARA Section 304 CERCLA Hazardous Substances (RQ): Not regulated.

CAA (Clean Air Act): Not regulated.

CWA (Clean Water Act): Not regulated.

US State Right-to-Know Regulations:

Chemical Name	CAS Number	California Prop 65	Massachusetts	Minnesota	New Jersey	Pennsylvania
Aluminum Hydroxide	21645-51-2	-	-	-	-	-

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This product contains no chemicals at levels known to the state of California to cause cancer or reproductive hazards.

CANADA

WHMIS: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

## **SECTION 16: Other Information**

### **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**