



# SAFETY DATA SHEET

FIRE RETARDANT ADDITIVES

## Hydral® 710

MOL No. 2009-68 Standards for Classification and Labeling of Chemical Substances and Safety Data Sheet (SDS)

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### Section 1: PRODUCT AND COMPANY IDENTIFICATION

**A. Product name** Hydral® 710

**Pure substance/mixture** Substance

**Aluminum Hydroxide**

**CAS Number** 21645-51-2

**Weight-%** 100

**B. Recommended use and Limitations on use**

**Recommended Use** Flame retardant

**Uses advised against** None known

**C. Supplier information**

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### Section 2: HAZARDS IDENTIFICATION

**A. Hazard category/Classification**

**Physical Hazards** Not classified

**Health Hazards** Not classified

**Environmental Hazards** Not classified

**B. Warning label items including precautionary statement**

**Label Elements**

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Symbols/Pictograms None

Signal Words None

Hazard Statements None

**Precautionary statement****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 Store away from incompatible materials

Disposal Dispose of contents/containers in accordance with local regulations

Additional Information: None.

**C. Other hazards not included in the hazard category criteria (e.g. dust explosion hazard)**

None known

**Section 3: COMPOSITION/INFORMATION ON INGREDIENTS****Pure substance/mixture****Substance**

Chemical Name	CAS Number	S. Korea (KECL)	Korean GHS Classification	TSCA: United States	Weight-%
Aluminum Hydroxide	21645-51-2	KE-00980	Not classified	A	100

**Legend**

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

Additional information

TSCA A: Component is listed on Inventory as Active

**Section 4: FIRST AID MEASURES**

A. In case of eye contact Rinse with water. Get medical attention if irritation develops and persists.

B. In case of skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

C. In case of inhalation Move to fresh air. Call a physician if symptoms develop or persist.

D. In case of swallowing Rinse mouth. Get medical attention if symptoms occur.

E. Note to physician Treat symptomatically.

## Section 5: FIRE FIGHTING MEASURES

### A. Suitable (and unsuitable) extinguishing media

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ).
<b>Unsuitable extinguishing media</b>	None known

### B. Specific hazards arising from the chemical (example: hazardous combustion products)

**Explosion hazard:** None known

### C. Specific methods of fire-fighting

Self-contained breathing apparatus and full protective clothing must be worn in case of fire. In the event of fire and/or explosion do not breathe fumes. Move container from fire area if it can be done without risk.

## Section 6: SPILLAGE, ACCIDENTAL RELEASE MEASURES

**A. Personal precautions, protective equipment and emergency measures** Ensure adequate ventilation. Avoid dust formation. See section 8 for more information.

**B. Environmental precautions** Not considered to be harmful to aquatic life. Avoid discharge into drains, water courses or onto the ground.

**C. Methods and materials for containment and cleaning up** Vacuum or sweep material and place in a disposal container.

## Section 7: HANDLING AND STORAGE

### A. Precautions for safe handling

In case of exposure to environments exceeding the occupational exposure limit, wear a respirator in compliance with national legislation.

### B. Conditions for safe storage (including any incompatibilities)

Keep container tightly closed in a dry and well-ventilated place

## Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### A. Exposure limit values, biological limit values, etc

#### Aluminum Hydroxide

ACGIH  
OSHA

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

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

**C. Personal protective equipment**

- **Eye protection**      If contact is likely, safety glasses with side shields are recommended.
- **Hand protection**      For prolonged or repeated skin contact use suitable protective gloves.
- **Body protection**      Wear suitable protective clothing.

**Hygiene Measures**

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

<b>Physical State</b>	Solid Powder
<b>Odor</b>	Odorless
<b>Odor Threshold</b>	No information available
<b>pH:</b>	8.4 - 10.2 5% Water suspension
<b>Melting point / Freezing point</b>	ca 300 °C / 572 °F (1013 kPa)
<b>Initial boiling point</b>	5396 °F (2980 °C) 101,3 kPa
<b>Flash Point:</b>	Not applicable
<b>Evaporation Rate</b>	Not applicable
<b>Flammability (solid, gas)</b>	Not applicable
<b>Upper flammability limit:</b>	No data available
<b>Lower flammability limit:</b>	No data available
<b>Vapor Pressure</b>	Not applicable
<b>Vapor Density</b>	Not applicable
<b>Relative Density</b>	2.4 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>	No information available
<b>Autoignition Temperature</b>	Not applicable
<b>Decomposition Temperature</b>	392 °F (200 °C)
<b>Viscosity</b>	Not applicable
<b>Kinematic viscosity</b>	No data available.
<b>Explosive Properties</b>	None
<b>Oxidizing Properties</b>	Not applicable
 <b>VOC Content (%)</b>	 Not applicable

**Section 10: STABILITY AND REACTIVITY****A. Stability and hazardous reaction potential**

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**Stability** Stable under normal conditions

**Hazardous reaction potential** None known

**B. Conditions to avoid (e.g. static discharge, shock or Vibration, etc)** Avoid creating dust. Incompatible materials.

**C. Incompatible materials** Strong oxidizing agents

**D. Hazardous decomposition products** No hazardous decomposition products are known.

## Section 11: TOXICOLOGICAL INFORMATION

### A. Information on likely routes of exposure

- **Mouth** Not an expected route of exposure
- **Eyes** Dust contact with the eyes can lead to mechanical irritation
- **Skin** Prolonged skin contact may cause temporary irritation.

### B. Information on health hazards

#### 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

#### Aluminum Hydroxide

**IARC** Not Listed

**Acute Toxicity** Based on available data, the classification criteria are not met

**Chronic Toxicity** Based on available data, the classification criteria are not met.

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

**Respiratory Sensitization** No information available

**Serious eye damage/eye irritation** Non-irritant Rabbit

**Skin Corrosion/Irritation** Non-irritant Rabbit

**Skin Sensitization** Based on available data, the classification criteria are not met Not a skin sensitizer Guinea pig

**Mutagenicity** in vitro Not genotoxic in bacteria and mammalian cell systems.  
 in vivo Mutagenicity (micronucleus test) Rat Negative (weight of evidence approach)

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<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

### A. Ecotoxicity

**Hazardous to the aquatic environment, acute hazard** Not classified  
Avoid runoff to waterways and sewers

**Hazardous to the aquatic environment, long-term hazard** Not classified  
Avoid runoff to waterways and sewers

**B. Persistence/degradability** No data available

**C. Bioaccumulative potential** No data available

**D. Mobility in soil** No data available

**E. Other adverse effects** No data available

## Section 13: DISPOSAL CONSIDERATIONS

### A. Method of disposal

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose in accordance with all applicable regulations.

**B. Disposal considerations (including disposal of contaminated containers or packaging)** Disposal should be in accordance with applicable regional, national and local laws and regulations

## Section 14: TRANSPORT INFORMATION

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

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

### National Regulations

#### Aluminum Hydroxide

CAS Number	21645-51-2
Weight-%	100
Korean GHS Classification	Not classified

### Other domestic and foreign regulations

#### 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	01-211952 9246-39-0 016	Y	Y	Y	(1)-17 (ENCS); ISHL	KE-00980	Y	Y	Y	Y	A

#### Legend

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## Section 16: OTHER INFORMATION

### A. Source of 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)

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**C. Number of revisions and Date 1.3  
of most recent revision**

### D. Other

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**End of Safety Data Sheet**