FIRE RETARDANT ADDITIVES

SAFETY DATA SHEET

Hydral® 710

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

Issue Date: 30/Mar/2020
Print Date: 30/Mar/2020

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

Company Name
J.M. Huber Corporation
3100 Cumberland Boulevard, Suite 600
Atlanta, GA 30339 USA
Tel: +1 678 247-7300

E-mail hubermaterials@huber.com

Internet www.hubermaterials.com

Contact person CHEMTREC
Emergency phone number +1 800 424 9300 International +1 703 527 3887

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

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

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	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	TLV/TWA 8-hr: 1 mg/m^3 (respirable fraction)
OSHA	TWA: 15 mg/m^3 Total Dust 5 mg/m^3 Respirable Dust

B. Engineering Controls. Ensure adequate ventilation, especially in confined areas
Engineering Measures 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

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
Upper flammability limit:	No data available
Lower flammability limit:	No data available
Vapor Pressure	Not applicable
Vapor Density	Not applicable
Relative Density	2.4 g/cm3, 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
Kinematic viscosity	No data available.
Explosive Properties	None
Oxidizing Properties	Not applicable

VOC Content (%) Not applicable

Section 10: STABILITY AND REACTIVITY

A. Stability and hazardous reaction potential

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 (Al2O3) 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)

Germ cell mutagenicity	No information available.
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	Not classified.
Specific target organ toxicity - Repeated exposure	No information available.
Mixture versus substance information	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	01-2119529246-39-0016	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)

B. Issue Date:

30/Mar/2020

Print Date: 30/Mar/2020

C. Number of revisions and Date of most recent revision

1.3

D. Other

Prepared by

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

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End of Safety Data Sheet