

Safety Data Sheet

Alumina Trihydrate

MSDS No. 9605.52

Date of Preparation: 12/10/96

Revision: 3/15/19

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: Alumina Trihydrate

Synonyms: Alumina Hydrate, ATH, Aluminum Hydroxide, Trihydrate D'aluminae, Hydrate d'aluminae, Gibbsite, Hydroxide d'aluminum, Alumine hydrate, hydrated alumina, Trioxyde d'aluminum, Aluminum Trihydroxide, $Al_2O_3 \cdot 3H_2O$

Recommended Use: Additive, flame retardant, filler.

Uses advised against: None known

Manufacturer: The R. J. Marshall Company

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Section 2 - Hazards Identification

Classification of the chemical in accordance with paragraph (d) of 1910.1200: Material is non-hazardous.

Classification of the substance or mixture:

Classification according to Regulation (EC) No 1272/2008 (CLP): Not classified

Classification according to Directive 67/548/EEC or Directive 1999/45/EC: Not classified

Hazard Pictogram: None

Hazard Statements: None

Precautionary Statements: None

Other hazards: Prolonged and excessive contact can cause irritation of the respiratory tract.

Section 3 - Composition / Information on Ingredients

Ingredient Name	CAS Number	EC Number	Weight
Alumina Trihydrate	21645-51-2	244-492-7	100%

REACH Registration #: 01-2119529246-39-XXXX

SVHC: None

Section 4 - First Aid Measures

Inhalation: If overcome by high dust concentrations, remove to a ventilated area.

Eye Contact: Flush eyes thoroughly for several minutes taking care to rinse under eyelids. Do not scrub. Abrasion may cause irritation. If discomfort continues, continue to wash with water. If irritation persists, consult a physician.

Skin Contact: Wash skin thoroughly with soap and water. Consult a physician if irritation persists.

Ingestion: If swallowed, dilute with large amounts of water. Seek medical advice.

Most important symptoms and effects, both acute and delayed: None

Indication of any immediate medical attention and special treatment needed: Treat symptomatically.

Section 5 - Fire-Fighting Measures

Suitable Extinguishing Media: Use extinguishing measures appropriate to the surrounding fire.

Unsuitable Extinguishing Media: Full water jet

Special hazards arising from the chemical: None.

Hazardous Combustion Products: None.

Fire-Fighting Instructions: Use self-contained breathing apparatus. Fire residues and contaminated firefighting water must be disposed of in accordance with local regulations.

Section 6 - Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures: Avoid dust formation. In case of inadequate ventilation wear respiratory protection.

Environmental precautions: Do not discharge into drains/surface water/groundwater.

Methods and materials for containment and cleaning up: Sweep up and dispose in accordance with local regulations.

Reference to other sections: See Sections 8 & 13.

Section 7 - Handling and Storage

Precautions for safe handling: Avoid generating dust during handling. Provide vacuuming if dust raised. Wash hands before breaks and after work. Use barrier skin cream.

Conditions for safe storage, including any incompatibilities: Keep container tightly closed. Store in dry place. Do not store with food.

Section 8 - Exposure Controls / Personal Protection

Engineering Controls:

Ingredient	OSHA PEL		ACGIH TLV	
	TWA	STEL	TWA	STEL
Alumina Trihydrate	none estab.	none estab.	none estab.	none estab.
Particulates not otherwise classified	15 mg/m ³ total, 5 mg/m ³ respirable	none estab.	none estab.	none estab.

Ventilation: Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs (Sec. 2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

Administrative Controls:

Eye Protection: Safety glasses.

Hand Protection: Protective gloves are recommended.

Glove material: Nitrile rubber

Layer thickness: 0.11 mm

Breakthrough time: >480 min

Skin Protection: Protective clothing.

Other: Avoid contact with eyes and skin.

Do not inhale dust.

PPE should be selected specifically for the work place, depending on concentration and quantity handled.

Respiratory Protection: In the event of high concentrations use respirator with P1 filter for short term use.

Contaminated Equipment: Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

Comments: Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

Section 9 - Physical and Chemical Properties

Physical State: powder

Appearance and Odor: white odorless powder

Odor Threshold: not applicable

pH: 8-9 (20°C saturated solution)

Freezing/Melting Point: Decomposes before melting.

Boiling Point: 2980°C (5396°F)

Flash Point: Not applicable.

Flash Point Method: Not flammable.

Evaporation Rate: not applicable

Flammability: Not flammable.

Upper/lower flammability or explosive limits: not applicable

Oxidizing properties: None

Vapor Pressure: not applicable

Vapor Density (Air=1): not applicable

Relative Density: 2.42

Water Solubility: 0.00009 g/l (20°C/68°F)

Other Solubilities: Soluble in alkaline aqueous solutions or in HCL, H2SO4, and other strong acids in the presence of some water.

Partition coefficient: n-octanol/water; not applicable

Auto-ignition Temperature: Does not ignite.

Decomposition temperature: >200°C

Viscosity: not applicable

Section 10 - Stability and Reactivity

Reactivity: None known.

Chemical stability: Alumina trihydrate is stable at room temperature in closed containers under normal storage and handling conditions.

Possibility of hazardous reactions: No hazardous reactions known.

Conditions to avoid: Temperature >392°F (200°C).

Incompatible materials: Strong acids and bases. Alumina trihydrate reacts vigorously with strong acids and will dissolve in caustic solutions.

Hazardous decomposition products: not applicable

Section 11- Toxicological Information

Information on the likely routes of exposure:

Eye contact: Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.

Inhalation: Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat, and lungs.

Skin Contact: No known significant effects or critical hazards.

Ingestion: No known significant effects or critical hazards.

Symptoms related to the physical, chemical, and toxicological characteristics:

Eye contact: Adverse symptoms may include irritation and redness.

Inhalation: Adverse symptoms may include respiratory tract irritation and coughing.

Skin Contact: No specific data.

Ingestion: No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure:

Short term exposure: Not available

Long term exposure: Not available

Potential delayed effects: Not available

Numerical measures of toxicity:
Acute:

	Value	Species	Type	Test Substance
Oral	>2000 mg/kg bw	Rat	Acute	Aluminum hydroxide
Dermal	Not applicable			
Inhalation	LC ₅₀ : 7.6 mg/l/4h	Rat	Acute	Analogue
Skin Corrosion	Not corrosive	Rabbit	Acute	Analogue
Skin Irritation	Not irritating	Rabbit	Acute	Analogue
Eye Irritation	Not irritating	Rabbit	Acute	Analogue
Respiratory or Skin Sensitization	Non-sensitizing			

Repeated dose toxicity:

	Value	Species	Type	Test Substance
Oral	NOAEL: 30 mg/kg bw/day	Rat	Chronic	Analogue
Inhalation	NOAEL: 70 mg/m ³	Rat	Sub-chronic	Analogue

STOT-SE: No classification.

STOT-RE: No classification.

Carcinogenicity: No evidence of carcinogenic effects.

Mutagenicity: No evidence of any mutagenic effects.

Reproductive toxicity: No evidence of any reproductive toxicity effects.

Aspiration hazard: No classification.

Alumina Trihydrate is not listed as a carcinogen by NTP, IARC, OSHA, or ACGIH.

Section 12 - Ecological Information

Eco-toxicity:

Fish toxicity: LC₅₀>100 mg/l in Salmo trutta.

Invertebrate toxicity: EC₅₀>100 mg/l in Daphnia Magna

Algae toxicity: EC₅₀ >100 mg/l in Selenastrum capricornutum

Persistence and degradability: Not applicable for inorganic substances.

Bio-accumulative potential: Not applicable

Mobility in soil: Not applicable.

Results of PBT and vPvB assessment: This product does not meet the classification as PBT/vPvB.

Other adverse effects: None known.

Section 13 - Disposal Considerations

Disposal: Recycle if possible or landfill. This substance is inert and does not require special disposal methods. Follow applicable Federal, state, and local regulations.

Section 14 - Transport Information

DOT Transportation Data (49 CFR 172.101): This product is not classified as dangerous under the transport regulations for road, rail, sea, or air transport.

UN Number: not classified as dangerous goods

UN proper shipping name: not classified as dangerous goods

Transport hazard classes: None

Packaging group: None

Environmental hazards: None

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: No hazardous goods.

Special precautions for user: None

Transport by land according to ADR/RID: Not applicable

Inland Navigation (ADN): Not applicable

Marine transport in accordance with IMDG: Not applicable

Air transport in accordance with IATA: Not applicable

Section 15 - Regulatory Information

EPA Regulations:

RCRA Hazardous Waste Number: Not listed (40 CFR 261.33)

RCRA Hazardous Waste Classification (40 CFR 261.??): Not classified

CERCLA Hazardous Substance (40 CFR 302.4) not listed

SARA Toxic Chemical (40 CFR 372.65): Not listed

SARA EHS (Extremely Hazardous Substance) (40 CFR 355): Not listed

SARA 311/312 Hazard: None

OSHA Regulations:

Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-1-A): Not listed

Proposition 65: Not listed

Inventory Lists: This product is listed on the following inventory lists:

TSCA	Australia AICS	Canada DSL	China IECSC	Europe EINECS	Japan ENCS	Korea ECL
Listed	Listed	Listed	Listed	244-492-7	1-17	KE-00980

Malaysia	New Zealand NZIoC	Swiss Giftliste	Philippines PICCS	Taiwan NECI	Canada WHMIS
Listed	Listed	G-4621	Listed	Listed	Not listed

International Regulations:

Regulation (EC) No 2037/2000 (Ozone Depleting Substances): Not applicable

Regulation (EC) No 850/2004 (Persistent Organic Pollutants): Not applicable

Regulation (EC) No 689/2008 (Export and Import of Dangerous Substances): Not applicable

Directive 2002/95/EC (RoHS): Not applicable

Directive 2002/96/EC (WEEE): Not applicable

Directive 1999/13/EC (VOC): Not applicable

Restrictions according to TITLE VIII of the Regulation (EC) No 1907/2006 (REACH): None

ADR: European agreement concerning the international transportation of hazardous goods by road

ADN: European agreement concerning the international transportation of hazardous goods by inland waterways

CAS: Chemical Abstracts Service

DSL: Domestic Substances List

EC50: Median effective concentration

ECL: Existing Chemicals List

IATA: International Air Transport Association

IECSC: Inventory of Existing Chemical Substances in China

IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
 IMDG: International Maritime Code for Dangerous Goods
 LC50: Lethal concentration, 50%
 LOAEL: Lowest observed adverse effect level
 MARPOL: International Convention for the Prevention of Marine Pollution from Ships
 NECI: National Existing Chemical Inventory
 NOAEL: No observed adverse effect level
 NZIoC: New Zealand Inventory of Chemicals
 PBT: Persistent, Bio-accumulative, and Toxic Substance
 PICCS: Philippine Inventory of Chemicals and Chemical Substances
 RID: European agreement concerning the international transportation of hazardous good by rail
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 REACH: Registration, Evaluation, Authorization, and Restriction of Chemicals
 RoHS: Restriction of Hazardous Substances
 TLV@/TWA: Threshold limit value-time weighted average
 TLV@/STEL: Threshold limit value-short-time exposure limit
 TSCA: Toxic Substances Control Act (USA)
 VOC: Volatile Organic Compounds
 vPvB: very Persistent and very Bio-accumulative
 WEEE: Waste Electrical and Electronic Equipment

HMIS
H 0
F 0
R 0
PPE † E
†Sec. 8

Section 16 - Other Information

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Revision Notes: updated throughout

Product Grades Available from the R. J. Marshall Company (this list may be incomplete):

DF40	OFI	A202 (A,W)	AH170(A,C,V)	DGXW1
DF45	OFIII	A203H	AH190	DGXW2
DF74	OFV	A204(A,W)	AH255(A,W)	EM107
DF80	OFVS	A205(A)	AH270(A,C,V, W)	EXT DF 168
DF80S	OFVI	A206(A,H,W)	AH280(A,C,V,W)	ATH-A
DF85	OF7	A208(A)	AH285W	ATH-B
DF111	OF136	A210(A)	AH290(A,C,V,W)	DT1080
DF119	OF250	A210SP	AH290S	KX-1
DF121	OF255A	A212(A)	AH298(A,C)	DT1186
DF132	OF300	A245(W)	AH330(A,C,V,W)	STM1410
DF161	OF500	A236HL	AH331(A)	AC470AN
DF174	OF505	A200SB1	AH430(A,C,H,V,W)	AC480AN
DF211(A)	OF600	RC802(A)	AH610	
DF221			AH690	
DF225	OP500C	A102	AH171(A)	
DF230	OR150	A104	AH271(A)	
DF240	OR250	A105	AH281(A)	
DF270	OR255A	A106	AH291(A)	
DF315	RC822	A108	AH331(A)	
DF320A	A4555	A110	AH431(A)	
DF325(C,W)	8515	A112	AH691	
DF420	HF136	A130	AF330(A)	
DF1045		A145		
DF1051	MX100	A104A	MAXTOOL710	
DF2040	MX104		MAXTOOL815	
DFG	MX200			

Note: This includes all EXP ATH blends.

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