

# Safety Data Sheet

Alumina Trihydrate

MSDS No. 9605.51

Date of Preparation: 12/10/96

Revision: 8/10/17

## 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<sub>2</sub>O<sub>3</sub>·3H<sub>2</sub>O

**Recommended Use:** refractory material, abrasive, fire retardant and smoke suppressant for plastics, ceramic material.

**Manufacturer:** The R. J. Marshall Company

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**Date Revised:** 8/10/17

**Preparer:** Stephanie Nichols

## 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:** None

## Section 3 - Composition / Information on Ingredients

Ingredient Name	CAS Number	EC Number	Weight	H phrases	R phrases
Alumina Trihydrate	21645-51-2	244-492-7	100%	None	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:** None

## Section 5 - Fire-Fighting Measures

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

**Unsuitable Extinguishing Media:** None

**Special hazards arising from the chemical:** None.

**Hazardous Combustion Products:** None.

**Fire-Fighting Instructions:** None

## 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:** None.

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

## Section 7 - Handling and Storage

**Precautions for safe handling:** Avoid generating dust during handling.

**Conditions for safe storage, including any incompatibilities:** Keep container tightly closed. Store in dry place.

## Section 8 - Exposure Controls / Personal Protection

**Engineering Controls:**

**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:** Wear tightly fitting safety goggles or safety glasses with side shields.

**Hand Protection:** Protective gloves are recommended.

**Glove material:** Nitrile rubber

**Layer thickness:** 0.11 mm

**Breakthrough time:** >480 min

**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.

Ingredient	OSHA PEL		ACGIH TLV	
	TWA	STEL	TWA	STEL
Alumina Trihydrate	none estab.	none estab.	none estab.	none estab.
Nuisance Dust	15 mg/m <sup>3</sup> total, 5 mg/m <sup>3</sup> respirable		none estab.	none estab.

## Section 9 - Physical and Chemical Properties

**Physical State:** white powder

**Appearance and Odor:** white odorless powder

**Odor Threshold:** n/e

**pH:** 8-9 (20% solution)

**Freezing/Melting Point:** Decomposes before melting.

**Boiling Point:** n/a

**Flash Point:** Not applicable.

**Flash Point Method:** Not flammable.

**Evaporation Rate:** n/a

**Flammability:** Not flammable.

**Upper/lower flammability or explosive limits:** n/a

**Vapor Pressure:** n/e

**Vapor Density (Air=1):** n/a

**Relative Density:** 2.42

**Water Solubility:** Insoluble

**Other Solubilities:** Soluble in alkaline aqueous solutions or in HCL, H<sub>2</sub>SO<sub>4</sub>, 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:** >200C

**Viscosity:** n/a

## 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:** n/a

## 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 <sub>50</sub> : 7.6 mg/l	Rat	Acute	Analogue
Skin Corrosion	Not corrosive	Rabbit	Acute	Analogue
Skin Irritation	Not irritating	Rabbit	Acute	Analogue
Eye Irritation	Not irritating	Rabbit	Acute	Analogue
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 <sup>3</sup>	Rat	Sub-chronic	Analogue

Carcinogenicity: No evidence of carcinogenic effects.

Mutagenicity: No evidence of any mutagenic effects.

Reproductive toxicity: No evidence of any reproductive toxicity effects.

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

## Section 12 - Ecological Information

**Eco-toxicity:**

Fish toxicity: LC<sub>50</sub>>100 mg/l in Salmo trutta.

Invertebrate toxicity: EC<sub>50</sub>>100 mg/l in Daphnia Magna

Algae toxicity: EC<sub>50</sub> >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

### 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

OSHA Specifically Regulated Substance (29CFR 1910.????)

**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

S-phrases:

S8: Keep container dry.

S36/37/39: Wear suitable protective clothing, gloves, and eye protection.

WEEE: Waste Electrical and Electronic Equipment

VOC: Volatile Organic Compounds

RoHS: Restriction of Hazardous Substances

## Section 16 - Other Information

**Prepared By:** Stephanie Nichols

**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			

<b>HMIS</b>
<b>H</b> 0
<b>F</b> 0
<b>R</b> 0
<b>PPE</b> † E
†Sec. 8

Note: This includes all EXP ATH blends.

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