

Safety Data Sheet

CALCINED ALUMINA

SDS No. 9601.11

Date of Preparation: 7/16/96

Revision: 1/27/15

Section 1 - Chemical Product and Company Identification

Product/Chemical Name: Calcined Alumina

Synonyms: Aluminum Oxide, Alumina

General Use: Manufacture of abrasives, refractory material, aluminum production, ceramic materials.

Manufacturer: The R. J. Marshall Company

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Section 2 - Hazards Identification

Classification of the substance or mixture:

These products are not classified as dangerous according to Regulation (EC) No. 1272/2008.

These products are not classified according to EU Directive 67/548/EEC or 1999/45/EC.

These products are not listed by NTP, IARC, or regulated by OSHA as a carcinogen.

These products are not classified as dangerous substances or mixtures according to the Global Harmonized System.

Label Elements:

Signal Word: Not applicable

Pictogram: Not applicable

Hazard Statements: None

Precautionary Statements: P261: Avoid breathing dust.

P280: Wear eye protection.

P285: In case of inadequate ventilation wear respiratory protection.

P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do-continue rinsing.

P302 + P352: IF ON SKIN: Wash with soap and water.

Section 3 - Composition / Information on Ingredients

Ingredient Name	CAS Number	Weight %
Alumina Oxide	1344-28-1	>98

Section 4 - First Aid Measures

Inhalation: If overcome by high dust concentrations, remove to a ventilated area. Seek medical attention for any symptoms that may develop.

Eye Contact: Flush eyes thoroughly 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: Rinse mouth with plenty of water. Get medical attention if symptoms occur.

Most important symptoms and effects, both acute and delayed:

Potential acute health effects:

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.

Overexposure signs/symptoms:

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.

Indication of any immediate medical attention and special treatment needed: No specific treatment. Treat symptomatically.

Section 5 - Fire-Fighting Measures

Suitable extinguishing media: Use extinguishing agent suitable for surrounding fire.

Unsuitable extinguishing media: None known.

Specific hazards arising from the chemical: None

Advice for fire-fighters: Fire-fighters should wear appropriate protective equipment.

Section 6 - Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures: Avoid dust formation. In case of exposure to high levels of airborne dust, wear a personal respirator in compliance with and approved by appropriate governmental regulations and authorities.

Environmental precautions: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers.

Methods and materials for containment and cleaning up: Recover product and place into appropriate containers for disposal or recycling. Preferable method is by using a vacuum device, if available, otherwise by broom and shovel.

Section 7 - Handling and Storage

Precautions for safe handling: Avoid generating dust during handling. Use appropriate PPE. Avoid breathing dust. Workers should wash hands and face before eating, drinking, and smoking.

Conditions for safe storage, including any incompatibilities: Keep material dry and in closed containers when possible. Material is incompatible with ethylene oxide and chlorine trifluoride.

Section 8 - Exposure Controls / Personal Protection

Control Parameters:

Ingredient	OSHA PEL		ACGIH TLV	
	TWA	STEL	TWA	STEL
Alumina Oxide	15 mg/m ³ total dust 5 mg/m ³ respirable fraction	none estab.	none estab.	none estab.

Derived No Effect Levels (DNEL): 3 mg/m³ respirable 8 hour TWA
6.2 mg/kg bw/day, Short term Oral
15.6 mg/m³, Short term Inhalation

Predicted No Effect Concentration (PNEC): No information available.

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:

Respiratory Protection: Avoid inhaling the dust. In case of concentrations above the exposure limits, suitable certified respirator must be worn.

Protective Clothing/Equipment: Wear safety glasses with full side shields. Wear suitable gloves. No special protective clothing is required.

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: 8-10
Freezing/Melting Point: 3722°F (2050°C)
Boiling Point: 5396°F (2980°C)
Flash Point: None
Evaporation Rate: Not applicable.
Flammability: Not flammable.
Upper/lower flammability or explosive limits: Not available.

Vapor Pressure: not applicable
Vapor Density (Air=1): not applicable
Relative Density: 3.97
Water Solubility: Insoluble
Partition coefficient: n-octanol/water; not applicable
Auto-ignition temperature: Not applicable
Decomposition temperature: Not applicable
Viscosity: not applicable

Section 10 - Stability and Reactivity

Reactivity: None under normal processing.
Chemical Stability: This product is stable at room temperature in closed containers under normal storage conditions.
Possibility of hazardous reactions: None under normal processing.
Conditions to avoid: None known.
Incompatible materials: Ethylene oxide and chlorine trifluoride.
Hazardous decomposition: None known.

Section 11- Toxicological Information

Information on the likely routes of exposure: Not available

Potential acute health effects:

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: Not available.

Acute Toxicity: No known significant effects or critical hazards.

Oral: LD50 >5000 mg/kg bw (rat)

Dermal: conclusive but not sufficient for classification

Inhalation: LC50 = 7.6 mg/l (rat)

Irritation/Corrosion:

Skin/Eyes/Respiratory: No significant irritation expected other than possible mechanical irritation.

Sensitization:

Skin/Respiratory: Non-irritating.

Mutagenicity: No mutagenic effect.

Carcinogenicity: No carcinogenic effect.

Reproductive toxicity: Not considered to be toxic to the reproductive system.

Teratogenicity: No teratogenic effect.

Specific Target organ toxicity (single exposure): not available

Specific Target organ toxicity (repeated exposure): not available

Aspiration Hazard: not available

Section 12 - Ecological Information

Ecotoxicity: Aluminum oxide and its various chemical forms, such as alpha, beta, gamma, alumina hydrate, and aluminum hydroxide do not present any hazard for the environment.

Type	Value	Species	Exposure	Test Substance
Fish Toxicity	LC ₅₀ > 100 mg/l	Salmo trutta	96 hours	Aluminum oxide
Invertebrate Toxicity	EC ₅₀ > 100 mg/l	Daphnia magna	48 hours	Aluminum oxide
Algae Toxicity	EC ₅₀ > 100 mg/l	Selenastrum capricornutum	72 hours	Aluminum oxide

Persistence/biodegradability: not applicable for inorganic substances

Bioaccumulation: No data available.

Mobility: Not mobile under normal environmental conditions. May be leached from the ground at low pH (<5.5) or high pH (>8.5).

Results of PBT and vPvB assessment: Does not meet the criteria for PBT or vPvB.

Other adverse effects: None known.

Section 13 - Disposal Considerations

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

Section 14 - Transport Information

UN Number: not regulated

UN Proper Shipping Name: not regulated

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.

Canada TDGR: Not regulated **European ADR:** Not regulated **IMO:** Not regulated **ICAO:** Not regulated

IATA: Not regulated **RID:** Not regulated

Packing group: not regulated

Environmental hazards: None known.

Transport in bulk according to Annex II of Marpol 73/78 and the IBC code: not available

Special precautions: Always transport in closed containers that are upright and secure.

Additional information: HTSUS code: 2818.20.0000 (US)

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 Title III:

Section 302 Extremely Hazardous Substance: Not listed

Section 304 emergency Release Reporting: None

Section 311/312 Hazardous Categories: Immediate (acute).

Section 313 Toxic Categories: None

OSHA Regulations:

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

TSCA

This substance or all of its components are on the Chemical Substances Inventory of the Toxic Substance Control Act (TSCA Inventory [USA]). Please note that this product is not subject to any legal reporting requirements under these acts.

US State Regulations:

California Proposition 65: Not listed
 Cal-OSHA workplace airborne contaminant: Listed
 Coalition of Northeast Governors (CONEG)-Toxics in Packaging Clearinghouse (TPCH): Compliant
 Idaho air contaminant: Listed
 Illinois Toxic Substances Disclosure to Employees List: Listed
 Massachusetts Right to Know List: Listed
 Massachusetts Hazardous Substance Code: F9
 Minnesota Hazardous Substance List: Listed Code: A Carcinogen: No
 New Jersey Right to Know List: Listed-Substance No. 2891
 Pennsylvania Right to Know List: Listed
 Pennsylvania Hazardous Substance List (Chapter 323 Appendix A): Listed Code: E
 Rhode Island Hazardous Substance List: Listed
 Texas air contaminant with health effects screening level: Listed (as a synonym)
 Washington air contaminant: Listed limit TWA 10 mg/m³

INTERNATIONAL REGULATIONS

Australia AICS: Listed

Canada DSL: Listed

Canada WHMIS: Not controlled.

Canada NPRI: Not subject to reporting.

Canada IDL: Listed

Canada Hazard Symbol: Not applicable

China IECSC: Listed

Europe EINECS: Listed (#215-691-6).

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

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

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

Europe Directive 2002/95/EC (RoHS): Compliant

EU Regulation (EC) No. 1907/2008 (REACH)

Annex XIV-List of Substances subject to authorization; substances of very high concern: Not applicable.

Annex XVII-Restrictions on the manufacture, placing on the market, and use of certain dangerous substances, mixtures, and articles: not applicable.

Seveso II Directive: Not controlled

Japan ENCS: Listed: 1-23

Korea KECI: Listed KE-01012

New Zealand NZIoC: Listed

Philippines PICCS: Listed

Taiwan NECI: Listed

NFPA ratings: Health:1 Flammability: 0 Reactivity: 0

HMIS codes: Health:1 Flammability: 0 Reactivity: 0

Section 16 - Other Information

Prepared By: Stephanie Nichols

Revision Notes: 1/27/15

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

B25	B50	B65	B75	B200	B400	B500	B501	B550
B600	B700	B800	1285	1290	GB50	GB75	GB400	GB600

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