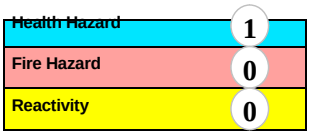
GARDENA, CA
NEW BRUNSWICK, NJ

Material Safety Data Sheet

NFPA	HMIS	Personal Protective Equipment
		
		See Section 15.

Section 1. Chemical Product and Company Identification

Common Name/ Trade Name	**Alundum R.R. Refractory Grain**
Manufacturer	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248
Commercial Name(s)	Alundum; Alumina
Synonym	Aluminia; Aluminum Trioxide; Dialuminum Trioxide; Alpha-alumina; Aluminum Oxide, Powder
Chemical Name	Aluminium Oxide
Chemical Family	Not available.
Chemical Formula	Al2O3
Supplier	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248

Catalog Number(s).	AL390
CAS#	1344-28-1
RTECS	BD1200000
TSCA	TSCA 8(b) inventory: Aluminum oxide
CI#	Not applicable.

IN CASE OF EMERGENCY
CHEMTREC (24hr) 800-424-9300

CALL (310) 516-8000

Section 2.Composition and Information on Ingredients

		Exposure Limits			
Name	**CAS #**	**TWA (mg/m^3)**	**STEL (mg/m^3)**	**CEIL (mg/m^3)**	**% by Weight**
1) Aluminum oxide	1344-28-1	5			100

Toxicological Data on Ingredients

Aluminum oxide
LD50: Not available.
LC50: Not available.

Section 3. Hazards Identification

Potential Acute Health Effects

Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.

Potential Chronic Health Effects

CARCINOGENIC EFFECTS: A4 (Not classifiable for human or animal.) by ACGIH.
MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Classified None. for human.
DEVELOPMENTAL TOXICITY: Not available.
The substance may be toxic to lungs.
Repeated or prolonged exposure to the substance can produce target organs damage.

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Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Skin Contact	In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
Serious Skin Contact	Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Serious Inhalation	Not available.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.
Serious Ingestion	Not available.

Section 5. Fire and Explosion Data

Flammability of the Product	Non-flammable.
Auto-Ignition Temperature	Not applicable.
Flash Points	Not applicable.
Flammable Limits	Not applicable.
Products of Combustion	Not available.
Fire Hazards in Presence of Various Substances	Not applicable.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.
Fire Fighting Media and Instructions	Not applicable.
Special Remarks on Fire Hazards	Chlorine Trifluoride reacts violently with Aluminum Oxide producing a flame.
Special Remarks on Explosion Hazards	Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Section 6. Accidental Release Measures

Small Spill	Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
Large Spill	Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

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Section 7. Handling and Storage

Precautions	Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If you feel unwell, seek medical attention and show the label when possible. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, acids.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8. Exposure Controls/Personal Protection

Engineering Controls	Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Personal Protection	Safety glasses. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
Exposure Limits	TWA: 10 (mg/m^3) from ACGIH (TLV) [United States] Inhalation Total. TWA: 10 (mg/m^3) [Canada] Inhalation Total. TWA: 5 (mg/m^3) from OSHA (PEL) [United States] Inhalation Respirable. TWA: 15 from OSHA (PEL) [United States] Inhalation Total. TWA: 10 [United Kingdom (UK)] Inhalation Total. TWA: 4 [United Kingdom (UK)] Inhalation Respirable. Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical state and appearance	Solid. (Solid crystalline powder.)	**Odor**	Odorless.
Molecular Weight	101.96 g/mole	**Taste**	Not available.
pH (1% soln/water)	Not applicable.	**Color**	White.
Boiling Point	2980℃ (5396℉)		
Melting Point	2000℃ (3632℉)-2072 C.		
Critical Temperature	Not available.		
Specific Gravity	4 (Water = 1)		
Vapor Pressure	Not applicable.		
Vapor Density	Not available.		
Volatility	Not available.		
Odor Threshold	Not available.		
Water/Oil Dist. Coeff.	Not available.		
Ionicity (in Water)	Not available.		
Dispersion Properties	Not available.		
Solubility	Insoluble in cold water, hot water. Solubility in Cold Water: 0.000098 g/100 mL. Practically insoluble in non-polar organic solvents. Slowly soluble in aqueous alkaline solution-forming hydroxides. Very slightly soluble in acid, alkali.		

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Section 10. Stability and Reactivity Data

Stability	The product is stable.
Instability Temperature	Not available.
Conditions of Instability	Incompatible materials, dust generation
Incompatibility with various substances	Reactive with oxidizing agents, acids.
Corrosivity	Non-corrosive in presence of glass.
Special Remarks on Reactivity	Chlorine Trifluoride reacts violently with Aluminum Oxide producing a flame. Ethylene oxide may polymerize violently when in contact with highly catalytic surfaces such as pure Aluminum Oxide. Reacts with hot chlorinated rubber.
Special Remarks on Corrosivity	Not available.
Polymerization	Will not occur.

Section 11. Toxicological Information

Routes of Entry	Inhalation. Ingestion.
Toxicity to Animals	LD50: Not available. LC50: Not available.
Chronic Effects on Humans	**CARCINOGENIC EFFECTS**: A4 (Not classifiable for human or animal.) by ACGIH. **TERATOGENIC EFFECTS**: Classified None. for human. May cause damage to the following organs: lungs.
Other Toxic Effects on Humans	Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.
Special Remarks on Toxicity to Animals	Not available.
Special Remarks on Chronic Effects on Humans	May cause cancer (tumorigenic) according to animal data. No human data found. Considered an equivocal tumorigenic agent by RTECS criteria.
Special Remarks on other Toxic Effects on Humans	Acute Potential Health Effects: Skin: May cause skin irritation by mechanical or frictional action. Eyes: Nuissance Dust. Dust may cause eye irritation by mechanical or frictional action Inhalation: Nuissance Dust. Material is irritating to mucous membranes and upper respiratory tract by mechanical action . Ingestion: It is expected to be a low hazard for normal industrial handling. Ingestion of very large amounts may cause gastrointestinal tract irritation and may interfere with phosphate absorption. Chronic Potential Health Effects: Inhalation: Prolonged or repeated inhalation may cause emphysema, pneumothorax, and may produce small pulmonary radiographic opacities, but are usually not fibrogenic. Some epidemiologic studies have shown excess nonmalignant pulmonary fibrosis or fibrotic changes in the lungs while other have not. May result in high levels of aluminum fibers in the lungs. Also, some reports attribute aluminum oxide exposure as causing pneumoconiosis. However, workers exposed to powdered alumina in the china industry for more than 15 years had no radiological signs of pneumoconiosis. Studies of persons chronically exposed to Aluminum Oxide dust have found a dose-dependent increase of aluminum concentrations in the blood and urine, indicating that systemic distribution of aluminum can occur from dust inhalation. Animal studies showed that the retention of aluminum in the lungs of rats depended on the exposure pattern, with more dust being retained with longer exposure to lower concentrations than from shorter times with higher doses. Ingestion or Inhalation: Aluminum can accumulate in the bone with consequent increased bone fragility and factures. This could be due to inhibition of parathyroid hormone.

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Section 12. Ecological Information

Ecotoxicity	Not available.
BOD5 and COD	Not available.
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	The product itself and its products of degradation are not toxic.
Special Remarks on the Products of Biodegradation	Not available.

Section 13. Disposal Considerations

Waste Disposal	Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14. Transport Information

DOT Classification	Not a DOT controlled material (United States).
Identification	Not applicable.
Special Provisions for Transport	Not applicable.
DOT (Pictograms)	

Section 15. Other Regulatory Information and Pictograms

Federal and State Regulations	Rhode Island RTK hazardous substances: Aluminum oxide Pennsylvania RTK: Aluminum oxide Minnesota: Aluminum oxide Massachusetts RTK: Aluminum oxide New Jersey: Aluminum oxide New Jersey spill list: Aluminum oxide California Director's list of Hazardous Substances: Aluminum oxide TSCA 8(b) inventory: Aluminum oxide SARA 313 toxic chemical notification and release reporting: Aluminum oxide
California Proposition 65 Warnings	California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: No products were found. California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: No products were found.
Other Regulations	EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances (EINECS No. 215-691-6). Canada: Listed on Canadian Domestic Substance List (DSL). China: Listed on National Inventory. Japan: Listed on National Inventory (ENCS). Korea: Listed on National Inventory (KECI). Philippines: Listed on National Inventory (PICCS). Australia: Listed on AICS.
Other Classifications	**WHMIS (Canada)** Not controlled under WHMIS (Canada). **DSCL (EEC)** Not available Not applicable.

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HMIS (U.S.A.)

Health Hazard	1
Fire Hazard	0
Reactivity	0
Personal Protection	E

National Fire Protection Association (U.S.A.)

WHMIS (Canada) (Pictograms)

DSCL (Europe) (Pictograms)

TDG (Canada) (Pictograms)

ADR (Europe) (Pictograms)

Protective Equipment

Gloves.

Lab coat.

Dust respirator. Be sure to use an approved/certified respirator or equivalent.

Safety glasses.

Section 16. Other Information

MSDS Code A3705

References

Other Special Considerations Major Uses: In production of aluminum; in the manufacture of abrasives, refractories, ceramics, electrical insulators, catalyst and catalyst supports, paper, spark plugs, crucibles and laboratory works; adsorbent (dessicant) for gases and water vapors; in chromatographic analysis; in fluxes; in light bulbs; in artificial gems; in heat resistant fibers

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CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.