

## MATERIAL SAFETY DATA SHEET

### SECTION 1 – PRODUCT IDENTIFICATION

Product Name: **Aluminum Oxide Powder**  
Product Item: 411150  
Product Code: HA 1010

Supplier: **HAI Advanced Material Specialists, Inc.**  
**1688 Sierra Madre Circle**  
**Placentia, CA 92870**  
**(714)-414-0575**

Emergency Contact: 888-255-3924  
Chemical Family: Metal Oxide  
Formula:  $Al_2O_3$   
Molecular Weight: 101.96

### SECTION 2 – HAZARDOUS INGREDIENTS

IMPORTANT! This section covers the material from which these products are manufactured. Dust and gases produced when spraying with normal use of these products are covered in Section 5.

Material or Component	CAS #	Concentration	OSHA PEL	ACGIH TLV	Other Limits *
Aluminum Oxide	1344-28-1	0.0-100.0%	15 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	5 mg/m <sup>3</sup> resp
Material or Component	RTECS #	OSHA STEL	OSHA CEIL	ACGIH STEL	ACGIH CEIL
Aluminum Oxide	BD1200000	No data	No data	No data	No data

#### US EPA SARA TITLE III

Material or Component	CAS Number	Sec. 302 (EHS)	Sec. 304 RQ	Sec. 313 (TRI)
Aluminum Oxide	1344-28-1	No	No	Yes

### SECTION 3 – PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: [ ] Gas [ ] Liquid [X] Solid  
Melting Point: 2050°C  
Boiling Point: 2977°C  
Specific gravity (water=1): 4.0 g/cm<sup>3</sup>  
Vapor pressure (mmHg): 1 mm at 2158°C  
Vapor Density (Air=1): No data  
Evaporation rate (Butylacetate=1): No data  
Solubility in water: Insoluble  
Solubility Notes: Soluble in hot NaOH  
Percent volatile (vol.): No data  
Corrosion Rate: No data  
Appearance and odor: white powder, no odor.

## SECTION 4 – FIRE AND EXPLOSION HAZARD DATA

<u>Flash point:</u>	N/A	Method Used: Unknown
<u>Flammable limits:</u>	N/A	
<u>Explosive Limits:</u>	LEL: N/A	UEL: N/A
<u>Extinguishing Media:</u>	Non-combustible. USE: not applicable. Use suitable extinguishing medias for surrounding materials and type of fire.	
<u>Special fire fighting procedures:</u>	Firefighters must wear full face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. Fumes from fire are hazardous. Isolate runoff to prevent environmental pollution.	
<u>Unusual fire and explosion hazards:</u>	Aluminum oxide may have an exothermic reaction, above 200°C, with halocarbon vapors and may produce toxic hydrochloric acid and phosgene.	

## SECTION 5 – REACTIVITY DATA

<u>Stability:</u>	Unstable [ ]	Stable [ X ]
<u>Conditions to avoid - Instability:</u>	None	
<u>Incompatibility – Materials to avoid:</u>	Chlorine trifluoride, ethylene oxide, halocarbons, oxygen difluoride, sodium nitrate and vinyl acetate.	
<u>Hazardous decomposition products:</u>	Aluminum, hydrochloric acid and phosgene.	
<u>Hazardous polymerization:</u>	Will occur [ ]	Will not occur [ X ]
<u>Conditions to avoid – Hazardous polymerization:</u>	None	
<u>Product corrosive:</u>	Yes [ ]	No [ X ]

## SECTION 6 – HEALTH HAZARD DATA

### **Health Hazards (Acute and Chronic)**

Aluminum compounds have many commercial uses and are commonly found in industry. Many of these materials are active chemically and thus exhibit dangerous toxic and reactive properties. Inhalation of fine aluminum oxide particles is associated with Shaver's disease. (Sax, Dangerous Properties of Industrial Materials, eighth edition)

<u>Inhalation:</u>	Acute: Toxic by inhalation of dust. Inhalation of finely divided dust may cause coughing, mucous production and shortness of breath. Chronic: Inhalation of finely divided dust may cause lung damage affecting breathing capacity.
<u>Ingestion:</u>	Acute: No acute health effects recorded. Chronic: No chronic health effects recorded.
<u>Skin:</u>	Acute: No acute health effects recorded. Chronic: No chronic health effects recorded.
<u>Eye:</u>	Acute: Dust and powder may cause abbrasive irritation. Chronic: No chronic health effects recorded.
<u>Target Organs:</u>	May affect the lungs and respiratory system.

**Carcinogenicity:** NTP? [ No ] ARC Monographs? [ No ] OSHA Regulated? [ No ]

### **Carcinogenicity / other Information:**

Questionable carcinogen with experimental neoplastigenic and tumorigenic data by implantation.

### **Recommended Exposure Limits**

See "Section II"

### **LD 50 / LC 50**

No toxicity data recorded

### **Signs and Symptoms of Exposure**

Inhalation: May cause cough, mucous production and shortness of breath.  
Ingestion: No acute or chronic health effects recorded.  
Skin: No acute or chronic health effects recorded.  
Eye: May cause redness, itching, burning, and watering.

### **Medical Conditions Generally Aggravated by Exposure**

Pre-existing respiratory disorders.

### **Emergency and First Aid Procedures**

Inhalation: Remove victim to fresh air; keep warm and quiet; give oxygen if breathing is difficult and seek medical attention if symptoms persist.  
Ingestion: Not Applicable.  
Skin: Not Applicable.  
Eye: Flush eyes with lukewarm water, lifting upper and lower eyelids, for at least 15 minutes. Seek medical attention if irritation persists.

## **SECTION 7 - PRECAUTIONS FOR SAFE HANDLING AND USE/DISPOSAL**

### **Steps to be Taken in Case Material is Released or Spilled**

Wear appropriate respiratory and protective equipment specified in section 8-Control Measures. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for proper disposal.

### **Waste Disposal Method**

Dispose of in accordance with local, state and federal regulations.

**RCRA WASTE ID CODE** NA

### **Hazard Label Information**

Store in cool, dry place.  
Store in tightly sealed container.  
Wash thoroughly after handling.

### **Precautions to be Taken in Handling**

None.

### **Precautions to be Taken in Storing**

None

### **Other Precautions**

None

## **SECTION 8 - CONTROL MEASURES**

### **Protective Equipment Summary - Hazard Label Information:**

NIOSH approved respirator  
Impervious gloves  
Safety glasses

### **Respiratory Equipment (Specify Type)**

NIOSH - approved respirator

### **Eye Protection**

Safety glasses

**Protective Gloves**

Rubber or vinyl disposable gloves

**Other Protective Clothing**

Protective clothing not necessary for aluminum oxide

**Ventilation**

Local Exhaust: If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Special: None

Mechanical (Gen): No special ventilation requirements.

Other: None

**Work/Hygienic/Maintenance Practices**

Implement engineering and work practice controls to reduce and maintain concentration of exposure at low levels.

Use good housekeeping and sanitation practices.

Do not use tobacco or food in work area.

Wash thoroughly before eating and smoking.

Do not blow dust off clothing or skin with compressed air.

**SECTION 9 – OTHER**

Control of Substances Hazardous to Health Regulations  
EH40 Occupational Exposure Limits

Maximum Exposure Limit: NE

Occupational Exposure Standard: 10 mg/m<sup>3</sup> Total Inhalable Dust. 5 mg/m<sup>3</sup> Respirable Dust

**Land Transport (US DOT)**

**DOT Hazard Label:** Not regulated by DOT

**DOT Hazard Class:** Not regulated by DOT

**DOT Proper Shipping Name:** Not Hazardous

HAI Advanced Material Specialists, Inc. requests the users of this product to study this Material Safety Data Sheet (MSDS) and become aware of product hazards and safety information. To promote safe use of this product, a user should (1) notify its employees, agents, and contractors of the information on this MSDS and any product hazard and safety information, (2) furnish this same information to each of its customers for the product, and (3) request such customers to notify their employees and customers for the product of the product hazards and safety information.

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Abbreviations used: N/A=Not Applicable NE: Not Established