



# Safety Data Sheet

## 1. IDENTIFICATION

### Product identifier

**Product Name** Aluminum Oxide

### Other means of identification

**SDS #** CMC-030

### Recommended use of the chemical and restrictions on use

**Recommended Use** Abrasive.

### Details of the supplier of the safety data sheet

#### **Supplier Address**

Composition Materials Co., Inc.  
249 Pepes Farm Road  
Milford, CT 06460  
1-203-874-6500 (Business)  
1-203-874-6505 (Fax)

### Emergency telephone number

**Emergency Telephone** INFOTRAC 1-352-323-3500 (International)  
1-800-535-5053 (North America)

## 2. HAZARDS IDENTIFICATION

**Appearance** Brown powder and grains

**Physical state** Solid

**Odor** Odorless

### Classification

Combustible dust

### Signal Word

Warning

### Hazard statements

May form combustible dust concentrations in air

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No	Weight-%
Aluminum Oxide	1344-28-1	90-95
Iron(III) oxide	1309-37-1	1-5
Aluminum Orthophosphate	7784-30-7	0.1-1

\*\*If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.\*\*

## 4. FIRST AID MEASURES

### Description of first aid measures

<b>General Advice</b>	Get medical attention if any discomfort develops.
<b>Eye Contact</b>	Flush eyes thoroughly with water for at least 15 minutes. Get medical attention if irritation develops or persists.
<b>Skin Contact</b>	Wash with soap and water. Get medical attention if irritation develops or persists.
<b>Inhalation</b>	Move to fresh air. Get medical attention if any discomfort continues.
<b>Ingestion</b>	Immediately rinse mouth and drink plenty of water. Get medical attention if irritation develops or persists.

### Most important symptoms and effects, both acute and delayed

<b>Symptoms</b>	Causes mild skin irritation. Irritation of eyes and mucous membranes. Irritation of nose and throat.
-----------------	--

### Indication of any immediate medical attention and special treatment needed

<b>Notes to Physician</b>	Treat symptomatically.
---------------------------	------------------------

## 5. FIRE-FIGHTING MEASURES

### Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media** No restrictions known.

### Specific Hazards Arising from the Chemical

Dust can form an explosive mixture with air.

### Explosion Data

**Sensitivity to Static Discharge** AVOID GENERATING DUST. Fine dust dispersed in air, in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

### Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal Precautions** Ensure adequate ventilation. Avoid inhalation of dust and contact with skin and eyes. Wear protective clothing as described in Section 8 of this safety data sheet.

### Environmental precautions

**Environmental precautions** Avoid release to the environment. Prevent further leakage or spillage if safe to do so. See Section 12 for additional Ecological Information.

**Methods and material for containment and cleaning up**

<b>Methods for Containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for Clean-Up</b>	Carefully sweep, scoop or vacuum and place in suitable container. Avoid generating dust or accumulating dust. Avoid dust dispersal in the air (i.e. cleaning dust surfaces with compressed air). Spilled material can be a slipping hazard. Eliminate flames, sparks, excessive temperatures and oxidizing agents. Non-sparking tools should be used.

**7. HANDLING AND STORAGE****Precautions for safe handling**

<b>Advice on Safe Handling</b>	Provide adequate ventilation. Use work methods which minimize dust production. Avoid inhalation of dust and contact with skin and eyes. Wear appropriate personal protective equipment. Do not add wet alumina to electrolysis cells. Observe good industrial hygiene practices. Avoid generation of dust. Avoid breathing dusts. Avoid contact with skin and eyes. Minimize dust generation and accumulation. Ensure that dust does not accumulate on surfaces.
--------------------------------	--

**Conditions for safe storage, including any incompatibilities**

<b>Storage Conditions</b>	Store in closed, properly labeled containers in a cool, ventilated area. Do not transfer contents to bottles or other unlabeled containers. Keep away from heat, open flames and oxidizing agents.
<b>Incompatible Materials</b>	Oxidizing agents.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Exposure Guidelines**

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Aluminum Oxide 1344-28-1	TWA: 1 mg/m <sup>3</sup> respirable particulate matter	TWA: 15 mg/m <sup>3</sup> total dust TWA: 5 mg/m <sup>3</sup> respirable fraction (vacated) TWA: 10 mg/m <sup>3</sup> total dust (vacated) TWA: 5 mg/m <sup>3</sup> respirable fraction	-
Iron(III) oxide 1309-37-1	TWA: 5 mg/m <sup>3</sup> respirable particulate matter	TWA: 10 mg/m <sup>3</sup> fume TWA: 15 mg/m <sup>3</sup> total dust TWA: 5 mg/m <sup>3</sup> respirable fraction (vacated) TWA: 10 mg/m <sup>3</sup> fume and total dust Iron oxide (vacated) TWA: 5 mg/m <sup>3</sup> respirable fraction regulated under Rouge	IDLH: 2500 mg/m <sup>3</sup> Fe dust and fume TWA: 5 mg/m <sup>3</sup> Fe dust and fume
Aluminum Orthophosphate 7784-30-7	TWA: 1 mg/m <sup>3</sup> respirable particulate matter	-	-

**Appropriate engineering controls**

<b>Engineering Controls</b>	Explosion-proof general and local exhaust ventilation. Use explosion proof electrical equipment for very high dust levels. Ensure ventilation and dust-handling systems prevent the escape of dust into work areas and there is no leakage from equipment. Eyewash stations. Showers.
-----------------------------	---

**Individual protection measures, such as personal protective equipment**

<b>Eye/Face Protection</b>	Wear goggles/face shield. Refer to 29 CFR 1910.133 for eye and face protection regulations.
<b>Skin and Body Protection</b>	Wear protective gloves and protective clothing. Wear appropriate thermal protective clothing, when necessary. Refer to 29 CFR 1910.138 for appropriate skin and body protection.
<b>Respiratory Protection</b>	Nuisance dust mask 3M type 8710 or equivalent. (Recommended). Refer to 29 CFR 1910.134 for respiratory protection requirements.
<b>General Hygiene Considerations</b>	Wash hands thoroughly after handling. Routinely wash work clothing and protective equipment to remove contaminants. Handle in accordance with good industrial hygiene and safety practice. Follow up on any medical surveillance requirements.

**9. PHYSICAL AND CHEMICAL PROPERTIES****Information on basic physical and chemical properties**

<b>Physical state</b>	Solid	<b>Odor</b>	Odorless
<b>Appearance</b>	Brown powder and grains	<b>Odor Threshold</b>	Not determined
<b>Color</b>	Brown		
<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks • Method</u></b>	
<b>pH</b>	9		
<b>Melting point / freezing point</b>	2040 °C / 3704 °F		
<b>Initial boiling point and boiling range</b>	No data available		
<b>Flash point</b>	No data available		
<b>Evaporation Rate</b>	Not determined		
<b>Flammability (Solid, Gas)</b>	Not determined		
<b>Flammability Limit in Air</b>			
<b>Upper flammability or explosive limits</b>	No data available		
<b>Lower flammability or explosive limits</b>	No data available		
<b>Vapor Pressure</b>	Not determined		
<b>Vapor Density</b>	No data available		
<b>Relative Density</b>	3.97 g/cm <sup>3</sup>	(20°C/68°F)	
<b>Water Solubility</b>	Insoluble in water		
<b>Solubility in other solvents</b>	Not determined		
<b>Partition Coefficient</b>	Not determined		
<b>Autoignition temperature</b>	No data available		
<b>Decomposition temperature</b>	Not determined		
<b>Kinematic viscosity</b>	Not determined		
<b>Dynamic Viscosity</b>	Not determined		
<b>Explosive Properties</b>	Dust can form an explosive mixture with air		
<b>Oxidizing Properties</b>	Not determined		

**10. STABILITY AND REACTIVITY****Reactivity**

Not reactive under normal conditions.

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of hazardous reactions**

None under normal processing.

**Hazardous Polymerization** Hazardous polymerization does not occur.**Conditions to Avoid**

Moisture.

**Incompatible materials**

Oxidizing agents.

**Hazardous decomposition products**

Metallic oxides.

**11. TOXICOLOGICAL INFORMATION****Information on likely routes of exposure****Product Information****Eye Contact** Avoid contact with eyes.**Skin Contact** Avoid contact with skin.**Inhalation** Do not inhale.**Ingestion** Do not ingest.**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Aluminum Oxide 1344-28-1	> 5000 mg/kg ( Rat )	-	-
Iron(III) oxide 1309-37-1	> 10000 mg/kg ( Rat )	-	-
3-aminopropyltriethoxysilane 919-30-2	= 1780 mg/kg ( Rat )	= 4290 mg/kg ( Rabbit )	> 16 ppm ( Rat ) 6 h > 5 ppm ( Rat ) 6 h

**Symptoms related to the physical, chemical and toxicological characteristics****Symptoms** Please see section 4 of this SDS for symptoms.**Delayed and immediate effects as well as chronic effects from short and long-term exposure****Skin corrosion/irritation** Causes mild skin irritation.**Carcinogenicity** Group 3 IARC components are "not classifiable as human carcinogens".

Chemical name	ACGIH	IARC	NTP	OSHA
Iron(III) oxide 1309-37-1		Group 3		

**Legend***IARC (International Agency for Research on Cancer)**Group 3 IARC components are "not classifiable as human carcinogens"***Numerical measures of toxicity****The following values are calculated based on chapter 3.1 of the GHS document****Oral LD50** 5,402.50 mg/kg

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

### Component Information

Chemical name	Algae/aquatic plants	Fish	Crustacea
Iron(III) oxide 1309-37-1		LC50: =100000mg/L (96h, Danio rerio)	
3-aminopropyltriethoxysilane 919-30-2		LC50: >934mg/L (96h, Danio rerio)	

### Persistence/Degradability

Not determined.

### Bioaccumulation

There is no data for this product.

### Mobility

Not determined

### Other adverse effects

Not determined

## 13. DISPOSAL CONSIDERATIONS

### Waste Treatment Methods

#### **Disposal of Wastes**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

#### **Contaminated Packaging**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

## 14. TRANSPORT INFORMATION

### Note

Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

### DOT

Not regulated

### IATA

Not regulated

### IMDG

Not regulated

## 15. REGULATORY INFORMATION

### International Inventories

Chemical name	TSCA	TSCA Inventory Status	DSL/NDSL	EINECS/ELI NCS	ENCS	IECSC	KECL	PICCS	AIC
Aluminum Oxide	X	ACTIVE	X	X	X	X	X	X	X
Iron(III) oxide	X	ACTIVE	X	X	X	X	X	X	X
3-aminopropyltriethoxysilane	X	ACTIVE	X	X	X	X	X	X	X
Aluminum Orthophosphate	X	ACTIVE	X	X	X	X	X	X	X

**Legend:**

- TSCA - United States Toxic Substances Control Act Section 8(b) Inventory*
- DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List*
- EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances*
- ENCS - Japan Existing and New Chemical Substances*
- IECSC - China Inventory of Existing Chemical Substances*
- KECL - Korean Existing and Evaluated Chemical Substances*
- PICCS - Philippines Inventory of Chemicals and Chemical Substances*
- AICS - Australian Inventory of Chemical Substances*

**US Federal Regulations**

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

**SARA 311/312 Hazard Categories**

<b>Acute health hazard</b>	No
<b>Chronic Health Hazard</b>	No
<b>Fire hazard</b>	No
<b>Sudden Release of Pressure Hazard</b>	No
<b>Reactive Hazard</b>	No

**SARA 313**

Chemical name	CAS No	Weight-%	SARA 313 - Threshold Values %
Aluminum Oxide - 1344-28-1	1344-28-1	90-95	1.0

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

**US State Regulations**

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Chemical name	New Jersey	Massachusetts	Pennsylvania
Aluminum Oxide 1344-28-1	X	X	X
Iron(III) oxide 1309-37-1	X	X	X
Aluminum Orthophosphate 7784-30-7	X		

**16. OTHER INFORMATION**

**Additional Product Information** Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, for safe handling.

<b><u>NFPA</u></b>	<b>Health hazards</b> 1	<b>Flammability</b> 0	<b>Instability</b> 0	<b>Special hazards</b> -
<b><u>HMIS</u></b>	<b>Health hazards</b> 1	<b>Flammability</b> 0	<b>Physical hazards</b> 0	<b>Personal Protection</b> Not determined

**Issue Date:** 24-Jan-2024  
**Revision Date:** 14-Jan-2025  
**Revision Note:** Regulatory update

**Disclaimer**  
 The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of Safety Data Sheet**