

ALFAA44887

## Aluminum oxide, Refractory Brushable Paint, Water-based

### SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

**产品描述:** 氧化铝, 耐温涂料, 水基  
**Product Description:** Aluminum oxide, Refractory Brushable Paint, Water-based

**Cat No. :** 44887

**Supplier**  
Alfa Aesar  
Avocado Research Chemicals, Ltd.  
Shore Road  
Port of Heysham Industrial Park  
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United Kingdom  
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**Emergency Telephone Number**  
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**E-mail address**  
uktech@alfa.com  
www.alfa.com  
Product Safety Department

**Recommended Use**  
Laboratory chemicals.  
**Uses advised against**  
No Information available

### SECTION 2. HAZARD IDENTIFICATION

**Physical State**  
Liquid Viscous liquid

**Appearance**  
White

**Odor**  
No information available

**Emergency Overview**  
Causes serious eye damage. Causes skin irritation. May be corrosive to metals.

#### Classification of the substance or mixture

Substances/mixtures corrosive to metal	Category 1
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 1

#### Label Elements



**Signal Word**

**Danger**

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**Hazard Statements**

H290 - May be corrosive to metals  
 H318 - Causes serious eye damage  
 H315 - Causes skin irritation

**Precautionary Statements****Prevention**

P234 - Keep only in original container  
 P264 - Wash face, hands and any exposed skin thoroughly after handling  
 P280 - Wear protective gloves/protective clothing/eye protection/face protection

**Response**

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water  
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 P310 - Immediately call a POISON CENTER or doctor/physician  
 P362 - Take off contaminated clothing and wash before reuse  
 P390 - Absorb spillage to prevent material damage

**Storage**

P406 - Store in corrosion resistant polypropylene container with a resistant liner

**Disposal**

P501 - Dispose of contents/ container to an approved waste disposal plant

**Physical and Chemical Hazards**

May be corrosive to metals.

**Health Hazards**

Corrosive. Causes eye burns. Causes skin irritation. Causes serious eye damage.

**Environmental hazards**

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants. Will likely be mobile in the environment due to its water solubility. The product is water soluble, and may spread in water systems.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	CAS-No	Weight %
Aluminum oxide	1344-28-1	55
Water	7732-18-5	37
Boehmite (Al(OH)O)	1318-23-6	5
Nitric acid	7697-37-2	3

**SECTION 4. FIRST AID MEASURES****General Advice**

If symptoms persist, call a physician.

**Eye Contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

**Skin Contact**

Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

**Inhalation**

Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

**Ingestion**

Clean mouth with water and drink afterwards plenty of water.

**Most important symptoms and effects**

Causes eye burns. Causes severe eye damage.

# SAFETY DATA SHEET

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**Self-Protection of the First Aider**

No special precautions required.

**Notes to Physician**

Treat symptomatically.

**SECTION 5. FIRE-FIGHTING MEASURES**
**Suitable Extinguishing Media**

Not combustible.

**Extinguishing media which must not be used for safety reasons**

No information available.

**Specific Hazards Arising from the Chemical**

Thermal decomposition can lead to release of irritating gases and vapors.

**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.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**
**Personal Precautions**

Ensure adequate ventilation. Use personal protective equipment as required.

**Environmental Precautions**

Should not be released into the environment. See Section 12 for additional Ecological Information.

**Methods for Containment and Clean Up**

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

Refer to protective measures listed in Sections 8 and 13.

**SECTION 7. HANDLING AND STORAGE**
**Handling**

Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid ingestion and inhalation. Do not get in eyes, on skin, or on clothing.

**Storage**

Keep container tightly closed in a dry and well-ventilated place.

**Specific Use(s)**

Use in laboratories

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**
**Control Parameters**

Component	China	Taiwan	Hong Kong	The United Kingdom
Aluminum oxide	TWA: 4 mg/m <sup>3</sup>	-	TWA: 10 mg/m <sup>3</sup>	STEL: 30 mg/m <sup>3</sup> 15 min STEL: 12 mg/m <sup>3</sup> 15 min TWA: 10 mg/m <sup>3</sup> 8 hr TWA: 4 mg/m <sup>3</sup> 8 hr
Nitric acid	-	TWA: 2 ppm TWA: 5.2 mg/m <sup>3</sup>	TWA: 2 ppm TWA: 5.2 mg/m <sup>3</sup> STEL: 4 ppm	STEL: 1 ppm 15 min STEL: 2.6 mg/m <sup>3</sup> 15 min

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			STEL: 10 mg/m <sup>3</sup>	
Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	European Union
Aluminum oxide	TWA: 1 mg/m <sup>3</sup>	(Vacated) TWA: 10 mg/m <sup>3</sup> (Vacated) TWA: 5 mg/m <sup>3</sup> TWA: 15 mg/m <sup>3</sup> TWA: 5 mg/m <sup>3</sup>		
Boehmite (Al(OH)O)	TWA: 1 mg/m <sup>3</sup>			
Nitric acid	TWA: 2 ppm STEL: 4 ppm	(Vacated) TWA: 2 ppm (Vacated) TWA: 5 mg/m <sup>3</sup> (Vacated) STEL: 4 ppm (Vacated) STEL: 10 mg/m <sup>3</sup> TWA: 2 ppm TWA: 5 mg/m <sup>3</sup>	IDLH: 25 ppm TWA: 2 ppm TWA: 5 mg/m <sup>3</sup> STEL: 4 ppm STEL: 10 mg/m <sup>3</sup>	STEL: 1 ppm (15min) STEL: 2.6 mg/m <sup>3</sup> (15min)

**Exposure Controls****Engineering Measures**

None under normal use conditions. Ensure that eyewash stations and safety showers are close to the workstation location. .

**Personal protective equipment**

**Eye Protection** Goggles (European standard - EN 166)

**Hand Protection** Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Natural rubber	See manufacturers	-	EN 374	(minimum requirement)
Nitrile rubber	recommendations			
Neoprene				
PVC				

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

**Skin and body protection** Long sleeved clothing

**Respiratory Protection** No protective equipment is needed under normal use conditions.

**Large scale/emergency use** Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced  
**Recommended Filter type:** Particle filter 2

**Small scale/Laboratory use** Maintain adequate ventilation

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls** No information available.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance** White  
**Physical State** Liquid Viscous liquid

**Odor** No information available  
**Odor Threshold** No data available

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<b>pH</b>	No information available	
<b>Melting Point/Range</b>	No data available	
<b>Softening Point</b>	No data available	
<b>Boiling Point/Range</b>	No information available	
<b>Flash Point</b>	No information available	<b>Method -</b> No information available
<b>Evaporation Rate</b>	No data available	
<b>Flammability (solid,gas)</b>	Not applicable	Liquid
<b>Explosion Limits</b>	No data available	
<b>Vapor Pressure</b>	23 hPa @ 20 °C	
<b>Vapor Density</b>	No data available	(Air = 1.0)
<b>Specific Gravity / Density</b>	No data available	
<b>Bulk Density</b>	Not applicable	Liquid
<b>Water Solubility</b>	Miscible	
<b>Solubility in other solvents</b>	No information available	
<b>Partition Coefficient (n-octanol/water)</b>		
<b>Component</b>	<b>log Pow</b>	
Nitric acid	-2.3	
<b>Autoignition Temperature</b>	No data available	
<b>Decomposition Temperature</b>	No data available	
<b>Viscosity</b>	No data available	
<b>Explosive Properties</b>	No information available	
<b>Oxidizing Properties</b>	No information available	

## SECTION 10. STABILITY AND REACTIVITY

<b>Stability</b>	Stable under normal conditions.
<b>Hazardous Reactions</b>	None under normal processing.
<b>Hazardous Polymerization</b>	No information available.
<b>Conditions to Avoid</b>	None known.
<b>Materials to avoid</b>	Strong bases. Water.

**Hazardous Decomposition Products** Nitrogen oxides (NOx). Fumes of aluminum or aluminum oxide.

## SECTION 11. TOXICOLOGICAL INFORMATION

## Product Information

(a) acute toxicity;  
Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Aluminum oxide	> 5000 mg/kg ( Rat ) (OECD Guideline 401)		> 2.3 mg/l 4 h (OECD Guideline 403)
Water	-	-	-
Boehmite (Al(OH)O)	LD50 > 5050 mg/kg ( Rat )		LC50 > 5.09 mg/L ( Rat ) 4 h
Nitric acid			LC50 = 2500 ppm. (Rat) 1h

(b) skin corrosion/irritation; Category 2

(c) serious eye damage/irritation; Category 1

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**(d) respiratory or skin sensitization;**

**Respiratory** No data available  
**Skin** No data available

**(e) germ cell mutagenicity;** No data available**(f) carcinogenicity;** No data available

The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	EU	UK	Germany	IARC
Aluminum oxide			Cat. 2	

**(g) reproductive toxicity;** No data available**(h) STOT-single exposure;** No data available**(i) STOT-repeated exposure;** No data available**Target Organs** No information available.**(j) aspiration hazard;** No data available**Symptoms / effects, both acute and delayed** No information available**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity effects**

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Boehmite (Al(OH)O)	LC50: > 100 mg/L, 96h semi-static (Pimephales promelas) LC50: > 100 mg/L, 96h semi-static (Oncorhynchus mykiss)	EC50: > 100 mg/L, 48h (Daphnia magna)		

**Persistence and Degradability**

**Persistence** Miscible with water, Persistence is unlikely, based on information available.  
**Degradability** Not relevant for inorganic substances.

**Bioaccumulative Potential** Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Boehmite (Al(OH)O)		50 - 231
Nitric acid	-2.3	No data available

**Mobility in soil**

The product is water soluble, and may spread in water systems Will likely be mobile in the environment due to its water solubility Highly mobile in soils

**Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

**Persistent Organic Pollutant**

This product does not contain any known or suspected substance

**Ozone Depletion Potential**

This product does not contain any known or suspected substance

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## SECTION 13. DISPOSAL CONSIDERATIONS

<b>Waste from Residues/Unused Products</b>	Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.
<b>Contaminated Packaging</b>	Dispose of this container to hazardous or special waste collection point.
<b>Other Information</b>	Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not flush to sewer.

## SECTION 14. TRANSPORT INFORMATION

Road and Rail Transport

<b>UN-No</b>	UN1760
<b>Proper Shipping Name</b>	Corrosive liquid, n.o.s
<b>Technical Shipping Name</b>	(NITRIC ACID)
<b>Hazard Class</b>	8
<b>Packing Group</b>	III

IMDG/IMO

<b>UN-No</b>	UN1760
<b>Proper Shipping Name</b>	Corrosive liquid, n.o.s
<b>Technical Shipping Name</b>	(NITRIC ACID)
<b>Hazard Class</b>	8
<b>Packing Group</b>	III

IATA

<b>UN-No</b>	UN1760
<b>Proper Shipping Name</b>	Corrosive liquid, n.o.s
<b>Technical Shipping Name</b>	(NITRIC ACID)
<b>Hazard Class</b>	8
<b>Packing Group</b>	III

**Special Precautions for User** No special precautions required

## SECTION 15. REGULATORY INFORMATION

**International Inventories**

X = listed, China (IECSC), Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), Japan (ENCS), Australia (AICS), Korea (ECL).

Component	The Inventory of Hazardous Chemicals (2015 Edition)	List of dangerous goods GB 12268 - 2012	Taiwan Toxic Chemicals Inventory	IECSC	EINECS	TSCA	DSL	PICCS	ENCS	AICS	KECL
Aluminum oxide	-	-	X	X	215-691-6	X	X	X	X	X	KE-01012
Water	-	-	X	X	231-791-2	X	X	X	X	X	KE-35400
Boehmite (Al(OH)O)	-	-	X	X	215-284-3	X	-	-	X	-	KE-03475
Nitric acid	X	X	X	X	231-714-	X	X	X	X	X	KE-2591

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## National Regulations

## SECTION 16. OTHER INFORMATION

**Prepared By** Health, Safety and Environmental Department  
**Revision Date** 27-Dec-2020  
**Revision Summary** SDS authoring systems update, replaces ChemGes SDS No. 2,072.

**Training Advice**

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Legend

<b>CAS</b> - Chemical Abstracts Service	<b>TSCA</b> - United States Toxic Substances Control Act Section 8(b) Inventory
<b>EINECS/ELINCS</b> - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances	<b>DSL/NDSL</b> - Canadian Domestic Substances List/Non-Domestic Substances List
<b>PICCS</b> - Philippines Inventory of Chemicals and Chemical Substances	<b>ENCS</b> - Japanese Existing and New Chemical Substances
<b>IECSC</b> - Chinese Inventory of Existing Chemical Substances	<b>AICS</b> - Australian Inventory of Chemical Substances
<b>KECL</b> - Korean Existing and Evaluated Chemical Substances	<b>NZIoC</b> - New Zealand Inventory of Chemicals
<b>WEL</b> - Workplace Exposure Limit	<b>TWA</b> - Time Weighted Average
<b>ACGIH</b> - American Conference of Governmental Industrial Hygienists	<b>IARC</b> - International Agency for Research on Cancer Predicted No Effect Concentration (PNEC)
<b>DNEL</b> - Derived No Effect Level	<b>LD50</b> - Lethal Dose 50%
<b>RPE</b> - Respiratory Protective Equipment	<b>EC50</b> - Effective Concentration 50%
<b>LC50</b> - Lethal Concentration 50%	<b>POW</b> - Partition coefficient Octanol:Water
<b>NOEC</b> - No Observed Effect Concentration	<b>vPvB</b> - very Persistent, very Bioaccumulative
<b>PBT</b> - Persistent, Bioaccumulative, Toxic	
<b>ADR</b> - European Agreement Concerning the International Carriage of Dangerous Goods by Road	<b>ICAO/IATA</b> - International Civil Aviation Organization/International Air Transport Association
<b>IMO/IMDG</b> - International Maritime Organization/International Maritime Dangerous Goods Code	<b>MARPOL</b> - International Convention for the Prevention of Pollution from Ships
<b>OECD</b> - Organisation for Economic Co-operation and Development	<b>ATE</b> - Acute Toxicity Estimate
<b>BCF</b> - Bioconcentration factor	<b>VOC</b> (volatile organic compound)

**Key literature references and sources for data**

<https://echa.europa.eu/information-on-chemicals>  
 Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

**Physical hazards** On basis of test data  
**Health Hazards** Calculation method  
**Environmental hazards** Calculation method

**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**