



# SAFETY DATA SHEET

**MATERION**

## 1. Identification

<b>Name of the substance or mixture (trade name)</b>	<b>Alumina Ceramic</b>
<b>Synonyms</b>	Aluminum Oxide, Alumina, Al <sub>2</sub> O <sub>3</sub> , Durox AL, Durox UHP
<b>SDS No.</b>	C21
<b>Major recommended uses for the substance or mixture</b>	Not available.
<b>Specific restrictions for use of the substance or mixture</b>	Not available.

### Manufacturer/Importer/Distributor information

#### Manufacturer

<b>Company name</b>	Materion Brush Inc.
<b>Address</b>	6070 Parkland Boulevard Mayfield Heights, OH 44124 United States
<b>Telephone</b>	+1.216.383.4019
<b>Website</b>	www.materion.com
<b>E-mail</b>	Materion-PS@materion.com
<b>Emergency telephone number</b>	See Section 16.

## 2. Hazards identification

### Classification of the substance or mixture

The classification of the substance or mixture has been performed in accordance with ABNT NBR 14725-2.

<b>Physical hazards</b>	Not classified.	
<b>Health hazards</b>	Acute toxicity, inhalation	Category 4
	Carcinogenicity	Category 1A
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
<b>Environmental hazards</b>	Not classified.	

### GHS labeling elements, including precautionary statements

#### Hazard symbol(s)



#### Signal word

Danger

#### Hazard statement(s)

Harmful if inhaled. May cause respiratory irritation. May cause cancer.

#### Precautionary statement(s)

##### Prevention

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing dust/fume. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.

##### Response

IF INHALED: Call a POISON CENTER/doctor if you feel unwell. IF exposed or concerned: Get medical advice/attention.

##### Storage

Store locked up.

##### Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Other hazards which do not result in classification

None known.

#### Supplemental information

For further information, please contact the Product Stewardship Department at +1.216.383.4019.

**Other information** The Safety Information Sheet Chemicals of hazardous chemical can be obtained through phone, email or on the company website.

### 3. Composition/information on ingredients

#### Mixture

Common chemical name or technical name	CAS number	Concentration or concentration range
Aluminum Oxide	1344-28-1	94 - 99.9
Calcium Carbonate	1317-65-3	0 - 2
Kaolin	1332-58-7	0 - 2
Talc	14807-96-6	0 - 2

### 4. First-aid measures

#### First-aid measures

**Inhalation** Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Call a poison center or doctor/physician if you feel unwell.

**Skin contact** Rinse with water.

**Eye contact** Do not rub eyes. Rinse with water. Get medical attention if irritation develops and persists.

**Ingestion** Rinse mouth. Get medical attention if symptoms occur.

**Most important symptoms/effects, acute and delayed** Dusts may irritate the respiratory tract, skin and eyes.

**Personal protection for first-aid responders** IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible).

**Notes to physician** Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

### 5. Fire-fighting measures

#### Means of fire extinguishing

**Suitable extinguishing media** Water fog. Foam. Dry chemical powder. Carbon dioxide (CO<sub>2</sub>).

**Unsuitable extinguishing media** Do not use water jet as an extinguisher, as this will spread the fire.

**Specific hazards arising from the chemical** During fire, gases hazardous to health may be formed.

**Special fire fighting procedures** Move containers from fire area if you can do so without risk.

**Protective measures taken by firefighting crews** Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Specific methods** Use standard firefighting procedures and consider the hazards of other involved materials.

**General fire hazards** No unusual fire or explosion hazards noted.

### 6. Control measures for spills and leaks

#### Personal precautions, protective equipment and emergency procedures

**To be taken by those who are not involved in rendering emergency services** Avoid inhalation of dust.

**To be taken by those who are involved in rendering emergency services** Ensure adequate ventilation. Avoid inhalation of dust. Local authorities should be advised if significant spillages cannot be contained. Use personal protection recommended in Section 8 of the SDS.

**Environmental precautions** Avoid discharge into drains, water courses or onto the ground.

**Methods and materials for containment and cleaning up**

Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Collect dust using a vacuum cleaner equipped with HEPA filter. This product is miscible in water. Stop the flow of material, if this is without risk.

Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Following product recovery, flush area with water.

Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal.

Never return spills to original containers for re-use. Put material in suitable, covered, labeled containers. For waste disposal, see section 13 of the SDS.

**7. Handling and storage**

**Precautions for safe handling**

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Minimize dust generation and accumulation. Avoid breathing dust. Avoid prolonged exposure. Should be handled in closed systems, if possible. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

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

Store locked up. Store in tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

**8. Exposure controls/personal protection**

**Control parameters**

VENTILATION: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Whenever possible, the use of local exhaust ventilation or other engineering controls is the preferred method of controlling exposure to airborne particulate. Where utilized, exhaust inlets to the ventilation system must be positioned as close as possible to the source of airborne generation. Avoid disruption of the airflow in the area of a local exhaust inlet by equipment such as a man-cooling fan. Check ventilation equipment regularly to ensure it is functioning properly. Provide training on the use and operation of ventilation to all users. Use qualified professionals to design and install ventilation systems. Follow standard monitoring procedures.

**Occupational exposure limits**

**Brazil. OELs (Ordinance No. 3214, 6/8/78, NR-15, Annex 11 (supplemented with ACGIH))**

Components	Type	Value	Form
Kaolin (CAS 1332-58-7)	TWA	2 mg/m3	Respirable fraction.
Talc (CAS 14807-96-6)	TWA	2 mg/m3	Respirable fraction.

**US. ACGIH Threshold Limit Values (TLV)**

Components	Type	Value	Form
Kaolin (CAS 1332-58-7)	TWA	2 mg/m3	Respirable fraction.
Talc (CAS 14807-96-6)	TWA	2 mg/m3	Respirable fraction.

**Biological limit values**

No biological exposure limits noted for the ingredient(s).

<b>Appropriate engineering controls</b>	<p>VENTILATION: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.</p> <p>Whenever possible, the use of local exhaust ventilation or other engineering controls is the preferred method of controlling exposure to airborne particulate. Where utilized, exhaust inlets to the ventilation system must be positioned as close as possible to the source of airborne generation. Avoid disruption of the airflow in the area of a local exhaust inlet by equipment such as a man-cooling fan. Check ventilation equipment regularly to ensure it is functioning properly. Provide training on the use and operation of ventilation to all users. Use qualified professionals to design and install ventilation systems.</p>
<b>Personal protective measures</b>	
<b>Eyes and face protection</b>	Wear approved safety glasses, goggles, face shield and/or welder's helmet when risk of eye injury is present, particularly during operations that generate dust, mist or fume.
<b>Skin protection</b>	
<b>Hand protection</b>	Wear gloves to prevent contact with particulate or solutions. Wear gloves to prevent metal cuts and skin abrasions during handling.
<b>Other</b>	Protective overgarments or work clothing must be worn by persons who may become contaminated with particulate during activities.
<b>Respiratory protection</b>	When airborne exposures exceed or have the potential to exceed the occupational exposure limits, approved respirators must be used as specified by an Industrial Hygienist or other qualified professional. Respirator users must be medically evaluated to determine if they are physically capable of wearing a respirator. Quantitative and/or qualitative fit testing and respirator training must be satisfactorily completed by all personnel prior to respirator use. Users of tight fitting respirators must be clean shaven on those areas of the face where the respirator seal contacts the face. Use pressure-demand airline respirators when performing jobs with high potential exposures such as changing filters in a baghouse air cleaning device.
<b>Thermal hazards</b>	Not applicable.
<b>Hygiene measures</b>	Observe any medical surveillance requirements. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

## 9. Physical and chemical properties

### Appearance

<b>Physical state</b>	Solid.
<b>Form</b>	Various shapes.
<b>Color</b>	White. Off-white.
<b>Odor</b>	Not applicable.
<b>Odor threshold</b>	Not applicable.
<b>pH</b>	Not applicable.
<b>Melting point/freezing point</b>	3722 °F (2050 °C) / 3632 °F (2000 °C) estimated 3632 °F (2000 °C) estimated / Not applicable.
<b>Initial boiling point and boiling temperature range</b>	5390.6 °F (2977 °C) estimated
<b>Flash point</b>	Not applicable.
<b>Evaporation rate</b>	Not applicable.
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Explosive limit - lower (%)</b>	Not applicable. Not applicable.
<b>Explosive limit - upper (%)</b>	Not applicable.

	Not applicable.
Vapor pressure	-0.01 hPa estimated
Vapor density	Not applicable.
Relative density	Not applicable.
Solubility(ies)	
Solubility (water)	Not applicable.
Solubility (other)	Not applicable.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not applicable.
Viscosity	Not applicable.

#### Other physical and chemical parameters

Density	3.36 g/cm3 estimated
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.
Specific gravity	3.36 estimated

### 10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Acids. Chlorine.
Hazardous decomposition products	No hazardous decomposition products are known.

### 11. Toxicological information

#### Information on likely routes of exposure

Inhalation	Harmful if inhaled.
Skin contact	Dust or powder may irritate the skin.
Eye contact	Dust may irritate the eyes.
Ingestion	Expected to be a low ingestion hazard.

Symptoms: Dusts may irritate the respiratory tract, skin and eyes.

Acute toxicity: Harmful if inhaled.

Components	Species	Test Results
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Aluminum Oxide (CAS 1344-28-1)

#### Acute

#### Oral

LD50	Rat	> 5000 mg/kg
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\* Estimates for product may be based on additional component data not shown.

Skin irritation and corrosion: Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation: Direct contact with eyes may cause temporary irritation.

#### Respiratory or skin sensitization

Respiratory sensitization: Not a respiratory sensitizer.

Skin sensitization: This product is not expected to cause skin sensitization.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** May cause cancer.

**ACGIH Carcinogens**

Aluminum Oxide (CAS 1344-28-1)	A4 Not classifiable as a human carcinogen.
Kaolin (CAS 1332-58-7)	A4 Not classifiable as a human carcinogen.
Talc (CAS 14807-96-6)	A1 Confirmed human carcinogen.
	A4 Not classifiable as a human carcinogen.

**Brazil. OELs (Ordinance No. 3214, 6/8/78, NR-15, Annex 11 (amended through ACGIH))**

Aluminum Oxide (CAS 1344-28-1)	Group A4 Not classifiable as a human carcinogen.
Kaolin (CAS 1332-58-7)	Group A4 Not classifiable as a human carcinogen.
Talc (CAS 14807-96-6)	Group A4 Not classifiable as a human carcinogen.

**IARC Monographs. Overall Evaluation of Carcinogenicity**

Talc (CAS 14807-96-6)	2B Possibly carcinogenic to humans.
	3 Not classifiable as to carcinogenicity to humans.

**Toxic to reproduction** This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity - single exposure** May cause respiratory irritation.

**Specific target organ toxicity - repeated exposure** Not classified.

**Aspiration hazard** Not an aspiration hazard.

**Chronic effects** Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

## 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.

**Persistence and degradability** No data is available on the degradability of this product.

**Bioaccumulative potential** No data available.

**Partition coefficient n-octanol / water (log Kow)** Not available.

**Bioconcentration factor (BCF)** Not available.

**Mobility in soil** This product is miscible in water.

**Other adverse effects** No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## 13. Considerations on final disposal

**Recommended methods for final destination**

**Residual waste** Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging** Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

**Local disposal regulations** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

## 14. Transport information

**National regulations**

**ANTT**

Not regulated as dangerous goods.

**International regulations**

## IATA

Not regulated as dangerous goods.

## IMDG

Not regulated as dangerous goods.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not applicable.

## 15. Regulatory information

### Federal regulations

This product is not classified for Transportation in accordance with Resolution ANTT Resolution 5232, of December 14, 2016, as amended. This chemical product safety data sheet was prepared in accordance with the Brazilian Standard (ABNT NBR 14725-4: (Safety data sheet for chemicals (SDS))).

#### Chemical Products Controlled by the Federal Police (Ordinance No. 240)

Not applicable.

#### Chemical Products for the Manufacture and Synthesis of Narcotics and Psychotropic Subject to Control of the Ministry of Justice (Resolution No. 169 of 15 August 2017, Annex I, List D2)

Not listed.

#### Controlled products that must be reported to the Army (Decree No. 3655, Annex 1, as amended)

Not applicable.

#### Ozone depleting substances (Decree No. 99.280, Annexes A, B, C and E, as amended)

Not applicable.

#### POPs (Decree No. 5.472 promulgates the Stockholm Convention on persistent organic pollutants)

Not listed.

#### Use and physiological effects of chemical products (Decree No. 3665, Annex 3)

Not applicable.

### International regulations

#### Montreal Protocol

Not applicable.

#### Stockholm Convention

Not applicable.

#### Rotterdam Convention

Not applicable.

#### Kyoto protocol

Not applicable.

#### Basel Convention

Not applicable.

## 16. Other information

### Significant information, yet not specifically related to the previous sections

Transportation Emergency  
Call Chemtrec at:  
US: 800.424.9300  
International: 703.741.5970  
Spain: 900.868.538  
Switzerland: 0800.564.402  
Chemtrec's toll free, mobile-enabled number in Germany – 0800 1817059  
South Korea Toll-free Number – 080-880-0468

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**Legends and abbreviations**

ACGIH: American Conference of Governmental Industrial Hygienists.

ANTT: National Agency of Land Transport.

CAS: Chemical Abstract Service.

IARC: International Agency for Research on Cancer.

IATA: International Air Transport Association.

IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk.

IMDG: International Maritime Dangerous Goods.

MARPOL: International Convention for the Prevention of Pollution from Ships.

STEL: Short term exposure limit.

TWA: Time Weighted Average.

**Revision information**

This document has undergone significant changes and should be reviewed in its entirety.

**Disclaimer**

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