

Safety Data Sheet for Chemical Products

PRODUCT: BROWN FUSED ALUMINUM OXIDE

1. Identification of the substance and the company

1.1. Identification of the substance or preparation

Product Name: ALOMAXRCST, BTRCST, MAXCALRCST.

Molecular formula: Al_2O_3 (α -alumina)

Use of the substance or preparation - Abrasives.

1.2. Company Identification

Elfusa Geral de Eletrofusão Ltda.

501, Julio Michelazzo,

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Fax: +55.19.3634.2329

Personal responsible for the MSDS:

qualidade@elfusa.com.br

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1.3. Emergency Telephone

Elfusa Geral de Eletrofusão Ltda

Telephone: +55.19.3634.2300

2. Hazard identification

2.1. Classification of substance/preparation – No

specify toxicity described for Al_2O_3 (Crude and Grains).

Al_2O_3 is not officially listed as a hazardous substance.

2.2. Precautionary Statements

P261 – Avoid breathing dust.

P280 – Wear eye protection.

P285 – In case of inadequate ventilation wear respiratory protection.

P305+P351+P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P302+P352 – IF ON SKIN: Wash with plenty of soap and water.

2.3. Information related to particular dangers for human health

• **Eye Contact:** Contact with eyes may cause irritation.

• **Skin Contact:** Contact with skin may cause irritation

• **Inhalation:** May cause irritation of respiratory tract

• **Ingestion:** Ingestion may cause irritation to mucous membranes.

2.4. Information related to particular dangers for environment

- According to ACGIH Al_2O_3 is insoluble or compounded of poorly soluble particles not otherwise specified (PNOS).

2.5. Other adverse effects – Avoid dust generation.

3. Composition/Information on ingredients

Chemical Name	CAS	EINECS	% by Weight
Aluminum Oxide ¹	1344-28-1	215-691-6	92.0 - 98.5
Titanium Oxide	13463-67-7	236-675-5	1.0 - 4.5
Silicon Dioxide	7631-86-9	231-545-4	0.15 - 1.5
Iron Oxide	1309-37-1	215-168-1	0.15 - 1.5
¹ Non fibrous			
Addition			
Iron Oxide	1309-37-1	215-168-1	0.40 - 1.1
Aluminium phosphate	7784-30-7	232-056-9	0.05 - 0.15
Silane	$H_2NCH_2-CH_2-CH_2Si(OCH_2CH_3)_3$		< 1.0

4. First aid measures

4.1. Inhalation - No special action required. Remove person to fresh air, if signs/symptoms develop, seek medical attention.

4.2. Skin contact - Mechanical irritation may occur, wash affected area thoroughly with soap and water. If signs/symptoms persist, seek medical attention.

4.3. Eye contact – Contact with eyes may cause tearing and redness. Rinse eyes with large amounts of water, if signs/symptoms persist, seek medical attention.

4.4. Ingestion - Ingestion is an unlikely route of exposure. Leave decision to induce vomiting to qualified medical personnel, since particulates may be aspirated into the lungs.

4.5. Note to Physician - Not Available.

5. Fire fight measures

5.1. General Information - Not inflammable.

5.2. Suitable extinguishing media - Use extinguishing suitable media for ordinary combustible materials. Class A extinguishing agents.

5.3. Extinguishing media not to be used for safety reasons - None known.

5.4. Special exposure hazards arising from the substance - Not available.

6. Accidental release measure

6.1. Personal Safety Precautions - Avoid dust generation and contact with skin and eyes. Limit dust formation, use disposal dust protection mask (P2 as a minimum), and see also section 7 and 8.

6.2. Environmental Precautions - Ensure material is properly disposed of.

6.3. Methods for cleaning up - Collect spilled material mechanically and place in a suitable, compatible, properly labeled container. Avoid dust generation. Ensure adequate ventilation and dispose of material

in accordance with all applicable local, state and national legislation.

7. Handling and storage

7.1. Handling

Precautions for safe handling: minimize dust generation. Wash hands before eating, drinking or smoking.

Precautions against fire and explosion: no danger of fire and dust explosion.

7.2. Storage

Conditions of storage rooms and vessels: No especial precautionary measures.

Advice of storage of Incompatible materials: None

Further information of storage: None, store in the original container in a cool, dry well ventilated area, keep containers tightly sealed.

8. Exposure controls and personal protection

8.1. Exposure limit values

Chemical Name	CAS	EINECS	% by Weight	OSHA PEL (Exposure Guidelines)	
				Total (TWA)	Respirable (TWA)
Aluminum Oxide ¹	1344-28-1	215-691-6	92.0 – 98.5	15 mg/m ³	5 mg/m ³
Titanium Oxide	13463-67-7	236-675-5	1.0 - 4.5	15 mg/m ³	5 mg/m ³
Silicon Dioxide	7631-86-9	231-545-4	0.15 – 1.5	15 mg/m ³	5 mg/m ³
Iron Oxide	1309-37-1	215-168-1	0.15 – 1.5	10 mg/m ³	5 mg/m ³

¹Non fibrous

8.2. Exposure control

8.2.1. Occupational exposure control - Production facilities should be provided with running drinking water, local and general aspiration system. In facilities, where Aluminum Oxide is handled, eating and food storage are not permitted.

8.2.2. Environmental exposure control - In air and wastewater the product does not form any toxic compounds in the presence of other substance or factors.

8.3. Personal Protection

8.3.1. Respiratory protection - Avoid breathing dust. Assess exposure concentrations of all materials involved in the workplace. If concentrations exceed the exposure limits listed in Exposure Guidelines or irritation or other symptoms experienced, follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149.

8.3.2. Hand protection - Wear protective gloves. Avoid skin contact.

8.3.3. Eye protection - Avoid eye contact, always wear appropriate protective glasses or chemical safety goggles.

8.3.4. Skin protection - Wear appropriate protective clothing. Avoid skin contact.

8.3.5. General safety and hygienic measure - Observe personal hygienic regulations. Do not eat, drink and smoke during work. Wash thoroughly hands and uncovered body parts with soap and water after handling and before eating or drinking. Treatment with skin lotion can be used.

9. Physical and chemical properties

9.1. General Information

Appearance	Powder	Colour	Red
Physical State	Solid	Odour	Odourless

9.2. Physical-Chemical properties

Melting Point	2.040 °C	Partition coefficient n-octanol/water	Not applicable
Flashpoint	Not applicable	Specific Gravity	~3.97 g/cm ³
Flammability	Not applicable	Bulk Density	Not applicable
Ignition temperature	Not applicable	Solubility in water	Insoluble
Auto Ignition	Not applicable	pH Value	9
Oxidizing properties	Not applicable	Explosive limits	Not applicable

9.3. Other Information

Viscosity: not applicable.

Volatile Organic Chemical (VOC): not applicable.

10. Stability and reactivity

10.1. General Information - The material is stable, none hazardous reactions known.

10.2. Conditions to avoid – Avoid dust generation.

10.3. Materials to avoid - Not applicable.

10.4. Hazardous decomposition products – There are no restriction in the regular use of this material.

11. Toxicological information

11.1. General Information - No hazardous effects known, if used under normal conditions.

11.2. Toxicity Acute:

Acute oral toxicity: LD 50/rat > 5.000 mg/kg.

Acute inhalation toxicity: No data available.

Acute thermal toxicity: No data available.

11.3. Target Organs and System: Breathing system.

11.4. Irritant action

11.4.1. Skin - Person with sensitive skin may suffer irritation during permanent or repeated exposure.

11.4.2. Eye - No irritating to the rabbit eye according to EEC labeling regulations.

11.4.3. Sensibilizing action - Undetermined.

11.4.4. Embryotoxic action - Undetermined.

- 11.4.5. **Gonadotoxic action** - Undetermined.
- 11.4.6. **Teratogenic action** - Undetermined.
- 11.4.7. **Carcinogenic action** -Not classifiable as human carcinogen.
- Mutagenic activity** – Not available.

12. Ecological Information

- 12.1. **Ecotoxicity** - No harmful effects on water organisms anticipated.
- 12.2. **Mobility** - No environmental problems known.
- 12.3. **Persistence and degradability** - Chemically inert and insoluble in water, separation by mechanical processes.
- 12.4. **Bioaccumulation** - No potentials known.
- 12.5. **Results of PBT assessment** - No PBT substance.
- 12.6. **Other adverse effect** - No environmental problems expected, if handled and treated in accordance with standard industrial practice.

13. Disposal Consideration

- 13.1. **Waste from Residues** - Not classified as hazardous waste, disposal should be in accordance with local, state and national legislation.
- 13.2. **Packing** - Packaging has to be emptied entirely, recycling of used packaging is recommended in accordance with local, state and national legislation.
- 13.3. **End Use**: Recycle all aluminum oxide articles and components where possible. Dispose in accordance with local, state and national legislation.

14. Transport information

- 14.1. **Land transport**
 - GGVS/ADR**: Not classified as dangerous for transportation.
 - GGVE/RID**: Not classified as dangerous for transportation.
- 14.2. **Inland waterways - GGVBisch/ADNR**: Not classified as dangerous for transportation.
- 14.3. **Sea transport - GGVSee/IMDG**: Not classified as dangerous for transportation.
- 14.4. **Airtransport - ICAO-TI/I AT**: Not classified as dangerous for transportation.

15. Regulatory information

- TSCA** – Aluminum Oxide is listed on the TSCA inventory under CAS# 1344-28-1.
- RCRA** – Aluminum Oxide is not classified as a hazardous material under RCRA or its regulations, 40 CFR 261.
- CERCLA** – Aluminum Oxide is not classified as a hazardous substance under CERCLA regulations, 40 CFR 302.
- SARA** - Aluminum Oxide is not an extremely hazardous substance in Section 302 and is not a toxic chemical subject to the requirements of 313.

16. Other information

It is not required any special procedure to collect the material. This electrofused material is not recommended for using in food, medicine and cosmetic products. The improper use of our products exempts Elfusa of any responsibility. All data showed in this document are typical, small variations may occur. To obtain the most recent version of this document, please visit the company website.

Abbreviations:

- TLV-TWA**: Threshold Limits Value-Time Weighted Average (8 hours)
- ACGIH**: American Conference of Governmental Industrial Hygienists
- PNOS**: Particles Not Otherwise Specified
- CAS**: Chemical Abstract Services
- EINECS**: European Inventory of Existing Commercial Chemical Substance
- OSHA**: Occupational Safety and Health Administration
- TWA**: Time Weighted Average
- IMDG**: International Maritime Dangerous Good Codes
- IATA**: International Air Transport Association
- RID**: International Rule for Transport of Dangerous Substance by Railway.
- ADR**: Agreement on Dangerous Goods by Road
- TSCA**: Toxic Substances Control Act
- RCRA**: Resource Conservation and Recovery Act
- CERCLA**: Comprehensive Environmental Response, Compensation, and Liability Act
- SARA**: Superfund Amendments and Reauthorization Act

Disclaimer

The information provided in this Safety Data Sheet is believed to be the best of our knowledge at the date of this publication. This information is given in good faith and it can be used as guidance for safe, handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information is related 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.