SAFETY DATA SHEET

1. Identification

Product identifier **BROWN FUSED ALUMINUM OXIDE**

Other means of identification

Synonyms ALOMAXRCST, BTRCST, MAXCALRCST

Recommended use Abrasives.

Recommended restrictions -

Manufacturer/Importer/Supplier/Distributor information

Company Identification Composition Materials Co., Inc.
249 Pepes Farm Road
Milford, CT 06460

Telephone 203-874-6500

e-mail info@compomat.com

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The product does not meet the criteria for classification.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Substances

Chemical name	Common name and synonyms	CAS number	%
Aluminum oxide		1344-28-1	≥ 92
Impurities: SiO2+Fe2O3+Na2O+CaO+MgO+TiO2		NA	≤ 8

Additional components

Chemical name	CAS number	%
Iron oxide	1309-37-1	0.4 - 1.1
3-Aminopropyltriethoxysilane	919-30-2	< 0.5
Aluminium orthophosphate		0.05 - 0.15

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume. For more detailed chemical composition, refer to the certificate of analysis.

4. First-aid measures

Inhalation Move to fresh air. Get medical attention if any discomfort continues.

Skin contact Wash with soap and water. Get medical attention if irritation develops or persists.

Eye contact Flush eyes thoroughly with water for at least 15 minutes. Get medical attention if irritation develops or persists.

Ingestion Immediately rinse mouth and drink plenty of water. Get medical attention if irritation develops and persists.

Most important symptoms/effects, acute and delayed Irritation of eyes and mucous membranes. Irritation of nose and throat.

Indication of immediate medical attention and special treatment needed Treat symptomatically.

General information Get medical attention if any discomfort develops.

5. Fire-fighting measures

Suitable extinguishing media Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media No restrictions known.

Specific hazards arising from the chemical None known.

Special protective equipment and precautions for firefighters Self-contained breathing apparatus, operated in positive pressure mode and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions Move containers from fire area if you can do it without risk.

General fire hazards The product is not flammable.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures 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.

Methods and materials for containment and cleaning up Recover and recycle, if practical. Sweep up or vacuum up spillage and collect in suitable container for disposal. Do not vacuum clean unless vacuum cleaners are equipped with HEPA filter.

Environmental precautions Avoid release to the environment. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling 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.

Conditions for safe storage, including any incompatibilities Store in a dry place.

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Material	Type	Value	Form
BROWN FUSED ALUMINUM OXIDE	PEL	5 mg/m3	Respirable fraction.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Material	Type	Value	Form
		15 mg/m3	Total dust.

Components	Type	Value	Form
Aluminum oxide (CAS 1344-28-1)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.

Additional components	Type	Value	Form
Iron oxide (CAS 1309-37-1)	PEL	10 mg/m3	Fume.

US. ACGIH Threshold Limit Values

Material	Type	Value	Form
BROWN FUSED ALUMINUM OXIDE	TWA	1 mg/m3	Respirable fraction.

Components	Type	Value	Form
Aluminum oxide (CAS 1344-28-1)	TWA	1 mg/m3	Respirable fraction.

Additional components	Type	Value	Form
Iron oxide (CAS 1309-37-1)	TWA	5 mg/m3	Respirable fraction.

US. NIOSH: Pocket Guide to Chemical Hazards

Additional components	Type	Value	Form
Iron oxide (CAS 1309-37-1)	TWA	5 mg/m3	Dust and fume.

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

Exposure guidelines No exposure standards allocated.

Appropriate engineering controls Provide sufficient ventilation for operations causing dust formation. If engineering measures are not sufficient to maintain concentrations of dust particulates below the Occupational Exposure Limit (OEL), suitable respiratory protection must be worn.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear goggles/face shield.

Skin protection

Hand protection Wear protective gloves. Suitable gloves can be recommended by the glove supplier.

Skin protection

Other Wear suitable protective clothing.

Respiratory protection In case of inadequate ventilation or risk of inhalation of dust, use suitable respiratory equipment with particle filter. Seek advice from local supervisor.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Wash hands 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

Appearance

Physical state Solid.

Form Powder and grains.

Color Red

Odor Odorless

Odor threshold Not available.

pH 9

Melting point/freezing point 3704 °F (2040 °C)

Initial boiling point and boiling range Not available.

Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	3.97 g/cm3 at 20 °C
Solubility(ies)	
Solubility (water)	Insoluble
Partition coefficient (n-octanol/water)	Not applicable.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.

10. Stability and reactivity

Reactivity	The product is stable and non reactive under normal conditions of storage and transport.
Chemical stability	Stable at normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur. Hazardous reactions do not occur.
Conditions to avoid	Moisture. Contact with incompatible materials.
Incompatible materials	None known.
Hazardous decomposition products	Decomposition of this product may yield metallic oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Dust may irritate respiratory system.
Skin contact	Dust may irritate skin.
Eye contact	Dust may irritate the eyes.
Ingestion	Ingestion may cause irritation and malaise.
Symptoms related to the physical, chemical and toxicological characteristics	Irritation of eyes and mucous membranes. Irritation of nose and throat.

Information on toxicological effects

Acute toxicity Ingestion may cause irritation and malaise.

Product	Species	Test Results
BROWN FUSED ALUMINUM OXIDE		
Acute		
Inhalation		
LC50	Rat	> 2.3 mg/l, 4 hours
Oral		
LD50	Rat	> 5000 mg/kg

Components	Species	Test Results
Aluminum oxide (CAS 1344-28-1)		
Acute		
Inhalation		
LC50	Rat	> 2.3 mg/l, 4 hours
Oral		
LD50	Rat	> 5000 mg/kg

Additional components	Species	Test Results
Aluminium orthophosphate		
Oral		
LD50	Rat	4640 mg/kg
3-Aminopropyltriethoxysilane (CAS 919-30-2)		
Acute		
Dermal		
LD50	Rabbit	3800 mg/kg
Oral		
LD50	Rat	1780 mg/kg
Iron oxide (CAS 1309-37-1)		
Acute		
Oral		
LD50	Rat	> 10000 mg/kg

Skin corrosion/irritation May cause irritation through mechanical abrasion.

Serious eye damage/eye irritation May cause irritation through mechanical abrasion.

Respiratory or skin sensitization

Respiratory sensitization Not classified.

Skin sensitization Not a skin sensitizer.

Germ cell mutagenicity Test data conclusive but not sufficient for classification.

Carcinogenicity Test data conclusive but not sufficient for classification.

IARC Monographs. Overall Evaluation of Carcinogenicity

Iron oxide (CAS 1309-37-1) 3 Not classifiable as to carcinogenicity to humans.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

Reproductive toxicity Test data conclusive but not sufficient for classification.

Specific target organ toxicity - single exposure Test data conclusive but not sufficient for classification.

Specific target organ toxicity - repeated exposure Test data conclusive but not sufficient for classification.

Aspiration hazard Not classified.

Further information Prolonged and repeated overexposure to dust can lead to pneumoconiosis.

12. Ecological information

Ecotoxicity The product is not expected to be hazardous to the environment.

Product		Species	Test Results
BROWN FUSED ALUMINUM OXIDE			
Aquatic			
Algae	EC50	Green algae (Selenastrum capricornutum)	> 100 mg/l, 72 hours
Crustacea	EC50	Daphnia magna	> 100 mg/l, 48 hours
Fish	LC50	Salmo trutta	> 100 mg/l, 96 hours

Persistence and degradability	The product is not biodegradable.
Bioaccumulative potential	The product is not bioaccumulating.
Mobility in soil	Aluminum oxide is not mobile in the environment, unless it comes into contact with an aqueous environment with a pH below 5.5 or above 8.5.
Mobility in general	The product is insoluble in water.
Other adverse effects	Not expected to be harmful to aquatic organisms.

13. Disposal considerations

Disposal instructions	Dispose in accordance with all applicable regulations.
Hazardous waste code	Not regulated.
Waste from residues / unused products	Recover and recycle, if practical. Dispose of in accordance with local regulations.
Contaminated packaging	Offer rinsed packaging material to local recycling facilities. Dispose of in accordance with local regulations.

14. Transport information

DOT

Not regulated as dangerous goods.

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 available.

15. Regulatory information

US federal regulations

This product is not known to be a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
All components are on the U.S. EPA TSCA Inventory List.

CERCLA/SARA Hazardous Substances - Not applicable.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical	Yes

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Aluminum oxide	1344-28-1	≥ 92

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Aluminum oxide (CAS 1344-28-1)
Iron oxide (CAS 1309-37-1)

US. New Jersey Worker and Community Right-to-Know Act

Aluminum oxide (CAS 1344-28-1)
Iron oxide (CAS 1309-37-1)

US. Pennsylvania Worker and Community Right-to-Know Law

Aluminum oxide (CAS 1344-28-1)
Iron oxide (CAS 1309-37-1)

US. Rhode Island RTK

Aluminum oxide (CAS 1344-28-1)

US. California Proposition 65

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date 05-April-2012

Revision date 21-October-2015

Version # 02

HMIS® ratings
Health: 1
Flammability: 0
Physical hazard: 0

NFPA ratings

List of abbreviations
LD50: Lethal Dose, 50%.
LC50: Lethal Concentration, 50%.

References
IUCLID
Chemical safety report.

Disclaimer The information in the sheet was written based on the best knowledge and experience currently available.