SAFETY DATA SHEET
RIGIDIZER

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

Product Name: Colloidal Alumina Rigidizer

Other Names:
Rigidizer
Alumina Rigidizer
3000°F Rigidizer
Single part, colloidal alumina suspension

Recommended Use: Generally used to increase the durability and surface erosion resistance of blanket and board products.

Distributor/Manufacturer:

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525 Silver Lake Rd
Dingmans Ferry, PA 18328
Emergency Contact: Jeff Optiz
Product Stewardship: 518.701.6722

24hr Emergency Contact Info:

CHEMTREC US Transportation:	800.424.9300
CHEMTREC International Transportation:	703.741.5500

SECTION 2 - HAZARDS IDENTIFICATION

Hazard Classification(s):
Skin irritation, eye effects, category 2 respiratory sensitizer (if dust from dried material is generated).

Signal word, symbols, hazard and precautionary statements:

Hazard Pictogram

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Signal Word
Warning

Precautionary Statement(s):
May cause skin, eye, and respiratory tract irritation.

Caution:
Handling or machining of products treated with these products may produce respirable dust particles. Dust may irritate eyes, skin and respiratory tract.

Inhalation:
Dust may cause irritation or soreness of throat and nose.

Eye Contact:
These materials and dust from dried material may cause temporary irritation or inflammation.

Skin Contact:
May cause temporary dryness, irritation or rash.

Ingestion:
Ingestion is unlikely. May cause gastrointestinal disturbances. Never induce vomiting without the advice of a physician.

Medical Conditions Aggravated by Exposure:
Respiratory effects may be aggravated by smoking. Pre-existing respiratory problems may be aggravated by dust.

SECTION 3 - COMPOSITION

Chemical Name	Common Name	CAS#	% By Weight
Aluminium(III) oxide	Alumina	1344-28-1	> 99

SECTION 4 - FIRST AID MEASURES

Description of necessary measures, subdivided according to the different routes of exposure, i.e., inhalation, skin, and eye contact, and ingestion.

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Inhalation:
Remove to fresh air. Rinse mouth to clear throat and expel liquid. Blow nose to evacuate liquid or dust. Consult a physician if irritation persists.

Eye Contact:
Products can by physical irritants to eyes. Do not rub eyes. Keep hands or contaminated body parts away from eyes. Remove contact lenses. Flush with water. If irritation persists, consult a physician.

Skin Contact:
Products are irritants. Wash with soap and water. For dryness, a skin cream may be helpful. Do not apply anything to a rash. Consult a physician if irritation persists.

Ingestion:
Drink plenty of water. Do not induce vomiting without advice of a physician. Seek medical attention.

Medical Conditions Aggravated by Exposure:
Respiratory effects may be aggravated by smoking. Pre-existing respiratory problems may be aggravated by dust.

Notes to Physicians:
Aluminum Oxide dusts have caused no systemic or pathological problems. The material is inert in the body. Some individuals may experience allergic sensitivity reactions. These are generally limited to mild occupational dermatitis. Chronic inhalation may result in pleural plaques not associated with cancers. Other effects principally derived from physical abrasion. These products contain a small percentage of amorphous silica, however, not in sufficient quantity to produce free crystalline silica upon heating. Dusts are therefore considered of the inert (nuisance) type and would not be expected to cause permanent damage to tissues on inhalation unless the exposure is severe. Chronic exposure may produce radioplaque deposits in the pulmonary system with little or no parenchymal reactions. Some individuals may exhibit allergenic reactions ranging from asthmatic symptoms to benign pneumoconiosis.

SECTION 5 - FIRE FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media.
Use extinguishing agent suitable for surrounding combustible materials.

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Specific hazards arising from the chemical
(e.g., nature of any hazardous combustion products).
Non-combustible products, class of reaction to fire is zero. Packaging and surrounding materials may be combustible.

Special protective equipment and precautions for fire-fighters.

NFPA Codes: Flammability: 0 Health: 1 Reactivity: 0 Special: 0

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Spill Procedures:
Liquid materials should be cleaned up using sponge, mop, or cloth. Clean up procedures should minimize formation of airborne dusts. Remove dust by vacuuming using HEPA filtration where possible.

Release into Air:
Prevent release of airborne particulates where possible. Do not blow dust around. Not a regulated hazardous substance. See Section 8 for appropriate engineering controls.

Release into Water:
Release into water is not appropriate. Not a regulated hazardous substance.

SECTION 7 - HANDLING AND STORAGE

Storage:
These materials should be stored in a sealed container.

Normal Use:
Materials are stable under normal use and are not expected to produce significant hazardous by-products or emissions.

Machining and Cutting:
After dried, these materials may produce respirable and nuisance dusts when machined or cut. See Section 8 for exposure controls and personal protection during machining or installation procedures.

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High Temperature Conditions:

Service significantly above the product design temperature may increase friability and the possibility of generating airborne dust. While not considered problematic during use, such dust may complicate removal activities. It is recommended that product use be carefully matched to design parameters.

After Service:

Appropriate ventilation and respiratory protection should be provided in compliance with OSHA standards. Strict adherence to recommended safe work practices is advised. Product removal must consider possible pickup on contaminants found where used and the possibility of usage above designed temperatures. See Section 8 for appropriate respiratory protection during removal of material the subject of this SDS.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Guidelines.

COMPONENTS	OSHA PEL	NIOSH REL	ACGIH TLV	MFG REG
Aluminum Oxide	5 mg/m^3 PEL (resp. dust) 15 mg/m^3 (total dust)		10 mg/m^3 Inhalable particulate w/ no asbestos and < 1% crystalline silica	None established

Engineering Controls.

Dust suppressing control technologies such as local exhaust ventilation, point of generation dust collection, down draft work stations, emission controlling tool designs, and materials handling equipment are effective means of minimizing airborne particulate emissions while machining products treated with these materials.

Personal Protective Equipment.

Eye Protection:

Wear safety glasses with side shields or chemical goggles to prevent eye contact. Do not wear contact lenses unless chemical goggles are also worn. Do not touch eyes with soiled body parts or materials. Have eye washing facilities readily available where eye contact can occur.

Skin Protection:

Wear personal protective equipment (e.g gloves), as necessary to prevent skin irritation. Washable or disposable clothing may by used. If possible, do not take unwashed clothing home. If soiled work clothing must be taken home, employees should be informed on best practices to minimize non-work dust exposure (e.g., vacuum cloths before leaving the work

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area, wash work clothing separately, and rinse washer before washing other household clothes.)

Respiratory Protection:
When engineering and/pr administrative controls are insufficient to maintain workplace concentrations below a regulatory OEL, the use of appropriate respiratory protection, pursuant to the requirements of OSHA 1910.134 and 29 CFR 1926.103, is recommended. The evaluation of workplace hazards and the identification of appropriate respiratory protection is best performed, on a case by case basis, by a qualified Industrial Hygienist.

These products are generally not hazardous during normal use. These guidelines are provided for special circumstances involved in machining use and or after service removals. See Section 7 for after service and Section 13 for disposal recommendations.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Light green liquid	**pH:**	4.2
Odor:	Slightly Acidic	**Vapor pressure:**	Not applicable
Odor thresold:	None	**Vapor density:**	Not applicable
Melting point:	> 3400°F | 1871°C (Dried)	**Relative density:**	1.18
Initial boiling point / range:		**Solubility:**	Not applicable
Flash point:	Not applicable	**Auto-ignition temperature:**	Not applicable
Evaporation rate:	Not applicable	**Decomposition temperature:**	Not applicable
Flammability:	Not applicable	**Viscosity:**	Not applicable
Upper/lower flammability or explosive limits:	Not applicable	**Partition coefficient (n-octanol/water):**	Not applicable

*These materials should not be allowed to freeze

SECTION 10 - STABILITY AND REACTIVITY

Reactivity:	Non-reactive
Chemical stability:	As supplied product is stable and inert
Possibility of hazardous reactions or polymerization:	None
Conditions to avoid:	Please refer to handling and storage in Section 7
Chemical Incompatibilities:	Powerful oxidizers; fluorine, chlorine trifluoride, manganese trioxide, oxygen difluoride, etc.
Hazardous decomposition products:	None

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SECTION 11 - TOXICOLOGICAL INFORMATION

Exposure Routes and Effects.

Inhalation:

Dust may cause temporary irritation or soreness of throat and nose. Dust should not be inhaled as it may cause permanent lung injury (silicosis).

Eye Contact:

These materials may cause temporary irritation or inflammation.

Skin Contact:

May cause temporary dryness, irritation or rash.

Ingestion:

Ingestion is unlikely. May cause gastrointestinal disturbances. Never induce vomiting without the advice of a physician.

Medical Conditions Aggravated by Exposure:

Respiratory effects may be aggravated by smoking. Pre-existing respiratory problems may be aggravated by dust.

Toxicology: Aluminum Oxide

Acute Toxicity Estimate:	LD_{50} : 4320 mg/kg
Carcinogenicity by ACGIH	Group A4 - Not classifiable as a human carcinogen

Description of Symptoms: See Exposure Routes and Effects, Hazard Statement(s) and Precautionary Statement(s) sections above.

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity Information:	No information available
Distribution:	Aluminum oxide is naturally occurring and widely distributed in igneous rock. Secondary deposits in sedimentary rock may be found.
Chemical Fate Information:	The relative inertness of these materials indicates that they may be highly persistent in the environment. No information regarding any negative effects of this persistence has been noted.

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SECTION 13 - DISPOSAL CONSIDERATIONS

Disposal:

This product is not classified as a hazardous waste according to Federal regulation (40 CFR 261). Check local, regional, state or provincial regulations for applicable requirements for disposal. Any processing, use, alteration or chemical additions to the product, as purchased, may alter the disposal requirements. Under Federal regulations, it is the waste generator's responsibility to properly characterize a waste material, to determine if it is a "hazardous" waste.

Empty Containers:

Product packaging may contain product residue. Do not reuse.

SECTION 14 - TRANSPORT INFORMATION

UN Number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group, if applicable:	Not applicable
Environmental hazards (e.g., Marine pollutant (Yes/No))	Not a marine pollutant
Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)	Not applicable
Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance wither within or outside their premises	Not applicable

Canadian TDG Hazard Class & PIN: Not regulated

Not classified as dangerous goods under ADR (road), RID (train) or IMDG (ship).

SECTION 15 - REGULATORY INFORMATION

Key statutory and regulatory classifications or listings for the product, as manufactured, which may impact product storage, use, handling or disposal.

Regulated Constituents: Aluminum Oxide

SARA Title III Constituent:	Listed none
SARA de Minimus Concentration:	1.0% N/A
N.J. Right to Know:	Listed none
Penn. Right to Know:	Listed none
Mass. Right to Know:	Listed none

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SARA Note:

The listed substance requires reporting under Section 313 of SARA Title III of the Emergency Planning and Community Right to Know Act, annually if above the de Minimum Concentration and threshold quantity.

New Jersey Right to Know Note: The listed substance is found on the New Jersey Hazardous substance list and is subject to reporting under SARA and the New Jersey Worker and Community Right to know Act.

Pennsylvania Right to Know Note: The listed substance is subject to reporting under the Commonwealth of Pennsylvania's Worker and Community Right to Know Act. Form HSSF submissions due annually on April 1.

Mass. Right to Know Note: Items on the Massachusetts List of Hazardous Substances require specific hazard labeling in the workplace.

WHMIS Status: Aluminum oxide (CAS no. 1344-28-1) is subject to disclosure under the Hazardous Products Act.

Special Precautions:

A. After Service Information: After normal use at elevated temperatures, alumina and amorphous silica (commonly found in many refractory products) will react to form non-hazardous mullite and alpha alumina. If this material is used as a binder or hardening agent on otherwise classified as hazardous materials special care should be taken as removal of these products may generate respirable dust and airborne hazardous materials.

B. SARA Section 313 Supplier Notification: This product contains the following toxic chemicals subject to the reporting requirements of the Superfund Amendments and Reauthorization Act of 1986 Section 313 (40 CFR 372): Aluminum oxide (CAS no. 1344-28-1).

C. If confined, limited air space and ventilation conditions exist, in-plant monitoring should be done to insure compliance.

SECTION 16 - OTHER INFORMATION

Effective Date:	July 1, 2017	Revision Date:	October 2, 2019
Revision Summary:	Company address updated	SDS Prepared By:	CeraMaterials

Disclaimer

The information presented herein is presented in good faith and believed to be accurate as the effective date of this Safety Data Sheet. Employers may use this SDS to supplement other information gathered by them in their efforts to assure the health and safety of their employees and the proper use of the product. This summary of the relevant data reflects professional judgement; employers should note that information perceived to be less relevant has not been included in this SDS. Therefore, given the summary nature of this document, CeraMaterials does not extend any warranty (expressed or implied), assume any responsibility, or make any representation regarding the completeness of this information or its suitability for the purposes envisioned by the user.

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