

MATERIAL SAFETY DATA SHEET

Flammability: 0 Health: 0
Reactivity: 0 Hazard: 0

Date: 5/21/99
SUPERSEDES: 1/05/99

SECTION I - PRODUCT NAME -

PRODUCT TRADE NAME OR COMMON NAME: - BROWN ALUMINUM OXIDE

Code 2023, 2321, 1200

CHEMICAL FAMILY OR PRODUCT TYPE: Refractory Oxide

SECTION II - COMPOSITION

CHEMICAL NAME	APPRX %	COMMON NAME	REG* (Y/N)	CAS #	P.E.L. (mg/m ³)	TLV (mg/m ³)	CARCIN. (Y/N)
Al ₂ O ₃	90-100	Aluminum Oxide	Y	1344-28-1	10	10	N
TiO ₂	0-4	Titania	Y	13483-67-7	5	5	N

All ingredients are listed under TSCA

*Materials are regulated by OSHA 29 CFR 1910.1200. Hazard Communication Standard, and/or the Massachusetts General Law Chapter 111F, Right to Know Regulations.

SECTION III - PHYSICAL AND CHEMICAL DATA

BOILING POINT: N/A	MELTING POINT: 1900 °C	SPECIFIC GRAVITY: 3.9
VAPOR PRESSURE: N/A	% VOLATILE BY VOL.: N/A	VAPOR DENSITY: N/A
EVAPORATION RATE: N/A	Solubility in Water: NONE	ALCOHOL SOL.: NONE
Solubility in other solvent: N/A		Appearance and odor: Granular, gray brown to red brown, no odor

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

Flash Point: N/A (Method used): N/A	Flammable limits: LEL N/A UEL N/A
Extinguishing Media: N/A	
Special Fire Fighting Procedures: None	
Explosion Potential: NONE	

SECTION V - HEALTH, FIRST AID AND MEDICAL DATA

Primary Route(s) of Entry	Acute and Chronic Health effects and effects of overexposure	FIRST AID AND MEDICAL INFORMATION
Inhalation	Acute: May cause coughing, shortness of breath Chronic: May affect breathing capacity.	Remove to fresh air. Apply artificial respiration as needed. Obtain first aid or medical assistance.
Ingestion	No known adverse effects, but ingestion not recommended.	Obtain first aid or medical assistance, if needed.
Skin contact & absorption	Not absorbed through skin; may cause abrasions.	Obtain first aid or medical assistance if needed.
Eye	May irritate eyes.	Wash with large amounts of water; Obtain medical assistance, if needed.
Other potential health risks	None known	N/A

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SECTION VI - CORROSIVITY AND REACTIVITY DATA

STABILITY: UNSTABLE: STABLE: X POLYMERIZATION: May occur Will Not Occur X
INCOMPATIBILITY (MATERIALS TO AVOID): Inert
DECOMPOSITION PRODUCTS: Inert
CONDITIONS TO BE AVOIDED: Inert

SECTION VII - STORAGE, HANDLING AND USE PROCEDURES

NORMAL STORAGE AND HANDLING: Handle with adequate ventilation for nuisance dust. See OSHA 29CFR1910.94(Ventilation) and 29CFR1910.1000 (Air Contaminants).
NORMAL USE: Same as above
STEPS TO BE TAKEN IN CASE OF LEAKS OR SPILLS: Normal cleanup procedures. Respirators may be required.
WASTE DISPOSAL METHOD: Standard landfill methods consistent with applicable Federal, State and local law.

SECTION VIII - PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE): As needed, approved dust respirator. See OSHA 29CFR1910.34	
VENTILATION	Local: Recommended
	Mechanical (General): Recommended
	Other: NAIF
PROTECTIVE GLOVES:	As desired by user.
EYE PROTECTION:	Recommended. See OSHA 29CFR1910.133
OTHER EQUIPMENT:	NAIF
MEASURES TO BE TAKEN DURING REPAIR AND MAINTENANCE OF CONTAMINATED EQUIPMENT: See Section VII and VIII	

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Under section 25249.6 of the California safe drinking water act, we are required to identify trace amounts of thorium oxide in our products. These products contain thorium oxide in amounts below the reporting requirements of the Federal Hazard Communication Standard and the Nuclear Regulatory Commission.
OTHER PRECAUTIONS: NAIF

FOR COMPANY USE

THE INFORMATION AND RECOMMENDATIONS SET FORTH HEREIN ARE TAKEN FROM SOURCES BELIEVED TO BE ACCURATE AS OF THE DATE HEREOF; HOWEVER SAINT-GOBAIN INDUSTRIAL CERAMICS INC. MAKES NO WARRANTY WITH RESPECT TO THE ACCURACY OF THE INFORMATION OR THE SUITABILITY OF THE RECOMMENDATIONS, AND ASSUMES NO LIABILITY TO ANY USER THEREOF.

** NAIF = NO APPLICABLE INFORMATION FOUND

*** N/A = NOT APPLICABLE