



HEALTH	1
FLAMMABILITY	0
PHYSICAL HAZARD	0
PERSONAL PROTECTION  +  + 	

## (MATERIAL) SAFETY DATA SHEET

### SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**MATERIAL NAME(S): ALUMINA ZIRCONIA**

**SYNONYMS: AZ, ZIRCONIA ALUNDUM, ZF®, ZS®, STONEBLAST®, MCA1360®, AZ-25®**

**PRODUCT CODES:** 1500, 1524, 1525, 1526, 1530, 9925

**PRODUCT USE:** Abrasive material used in surface preparation and the manufacturing of bonded abrasive products.

**PRODUCT DESCRIPTION:** STEEL GRAY TO BLUE GRAY GRANULES WITH NO ODOR

**CHEMICAL NAME:** Alumina Zirconia  
**CHEMICAL FAMILY:** No Data Available  
**CAS NUMBER:** No Data Available  
**EINECS:** No Data Available  
**MOLECULAR FORMULA:** No Data Available

#### Company Identification

SAINT-GOBAIN CERAMIC MATERIALS  
1 New Bond Street  
Mail Stop 525-203  
Worcester, MA 01615-0137  
United States

**WEB ADDRESS:** [www.abrasivematerials.saint-gobain.com](http://www.abrasivematerials.saint-gobain.com)

**EMAIL:** [cermatworcester@saint-gobain.com](mailto:cermatworcester@saint-gobain.com)

#### Phone Numbers

**Technical Information:** 1-800-243-0028 (Customer Service)

*Emergency: 1(800) 535-5053 - INFOTRAC, INC.*

**PREPARATION DATE:** 01/02/07

**REVISION DATE:** 11/13/09

### SECTION 2 - HAZARDS IDENTIFICATION

#### Emergency Overview

This product may cause irritation to the eyes and skin, and may cause temporary irritation to the respiratory system. Avoid inhalation, skin and eye contact as mechanical irritation may occur. Wear appropriate personal protective equipment as described in Section 8.

**GHS**

**WARNING !**

Causes eye irritation. May cause skin irritation. May cause respiratory irritation.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Wash thoroughly after handling.

Wear protective gloves and eye/face protection - Safety Glasses.

Avoid breathing dust, fume, gas, mist, vapors and/or spray.

Store container tightly closed in a well-ventilated place.

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



*This product is considered Hazardous under 29 CFR 1910.1200 (Hazard Communication).*

*In Canada, these products are considered Hazardous under the Workplace Hazardous Materials Information System (WHMIS). This product is considered Dangerous under the EU Directive 1999/45/EC. According to the Globally Harmonized Standard for Classification and Labeling (GHS) this product is considered Hazardous.*

**NFPA/HMIS RATINGS:**

	<u>Health</u>	<u>Fire</u>	<u>Reactivity</u>	<u>Degree of Hazard</u>
NFPA RATING:	1	0	0	0 - Minimal (Insignificant)
				1 - Slight
				2 - Moderate
				3 - Serious (High)
				4 - Severe (Extreme)
				* - Chronic Health Effect(s)
HMIS RATING:	1	0	0	

PHYSICAL FORM: Solid in granular form

COLOR: Steel gray to blue gray

ODOR: None

HAZARDS: Irritant, Mechanical Irritant

OSHA: Irritant

WHMIS: Class D - Poisonous and Infectious Materials - Division 2 - Subdivision B



EU: Irritant (Xi), R36/37/38

GHS: Skin Irritation - Category 3, Eye Irritation - Category 2B, Specific Target Organ Systemic Toxicity Single Exposure, Category 3

ROUTE OF ENTRY: Inhalation, Skin/Dermal, Eye/Ocular

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Pre-existing conditions which may be aggravated by mechanical irritants upon inhalation, skin or eye contact.

POTENTIAL HEALTH EFFECTS:

INHALATION:

ACUTE (IMMEDIATE): Temporary irritation of nose and throat may occur. Inhalation may cause coughing and shortness of breath.

CHRONIC (DELAYED): Prolonged inhalation of this product may affect breathing capacity.

SKIN:

ACUTE (IMMEDIATE): Irritation of the skin may occur in some individuals. May cause skin abrasions.

CHRONIC (DELAYED): No data available

EYE:

ACUTE (IMMEDIATE): Irritation or redness may occur. Abrasive action may cause damage to the outer surface of the eye.

CHRONIC (DELAYED): No data available

INGESTION:

ACUTE (IMMEDIATE): No known adverse effects, but ingestion not recommended.

CHRONIC (DELAYED): No data available

MUTAGENIC EFFECTS: None known

CARCINOGENIC EFFECTS: No carcinogenic effects expected. IARC, NTP, and OSHA do not list this product or its constituents as carcinogens.

REPRODUCTIVE EFFECTS: None known

OTHER HEALTH EFFECTS: None known

POTENTIAL ENVIRONMENTAL EFFECTS: None known

See Section 12 for Ecological Information

## SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

### Composition/Information on Ingredients

Chemical Name	CAS	%(weight)	UN;EINECS	LD50/LC50	EU Classification & R Phrases
Aluminum oxide	1344-28-1	70% TO 80%	215-691-6	NDA*	NDA*
Zirconium oxide	1314-23-4	20% TO 30%	215-227-2	NDA*	NDA*
Hafnium oxide	12055-23-1	0% TO 1%	12055-23-1	NDA	NDA*

*This product is considered Hazardous under 29 CFR 1910.1200 (Hazard Communication).*

*In Canada, these products are considered Hazardous under the Workplace Hazardous Materials Information System (WHMIS). This product is considered Dangerous under the EU Directive 1999/45/EC. According to the Globally Harmonized Standard for Classification and Labeling (GHS) this product is considered Hazardous.*

See Section 11 for Toxicological Information

- NDA – No Data Available

## SECTION 4 - FIRST AID MEASURES

**INHALATION:** Get medical attention if symptoms occur. Remove to fresh air.

**SKIN:** Get medical attention if symptoms occur. Immediately flush skin with soap and plenty of water.

**EYE:** If contact with eyes directly, flush with gently flowing fresh water thoroughly. Do not rub or scratch your eyes. Get medical attention if symptoms occur.

**INGESTION:** Get medical attention if symptoms occur. Do not induce vomiting.

**ANTIDOTES:** No data available

**NOTES TO PHYSICIAN:** No data available

See Section 2 for Potential Health Effects

## SECTION 5 - FIRE FIGHTING MEASURES

**FIRE HAZARD:** This product is not considered flammable and will not support combustion.

**EXTINGUISHING MEDIA:**

**LARGE FIRES:** Water spray, fog or regular foam or approved method for the surrounding fire

**SMALL FIRES:** Dry chemical, CO<sub>2</sub>, water spray or regular foam or approved method for the surrounding fire.

**UNSUITABLE EXTINGUISHING MEDIA:** No data available

**FIREFIGHTING PROCEDURES:** Use appropriate methods for surrounding fire.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** This product is non-flammable and will not support combustion.

**HAZARDOUS COMBUSTION PRODUCTS:** May produce metal oxide fumes when heated under fire conditions.

**PROTECTION OF FIREFIGHTERS:** Wear protective pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.

**FLASH POINT:** N/A

**FLASH POINT TEST TYPE:** N/A

**EXPLOSION LIMITS**

**UPPER:** N/A      **LOWER:** N/A

**AUTOIGNITION TEMPERATURE:** No Data Available

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

**PERSONAL PRECAUTIONS:** Do not touch or walk through spilled material. Prevent dust cloud.

**EMERGENCY PROCEDURES:** As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.

**ENVIRONMENTAL PRECAUTIONS:** Prevent entry into waterways, sewers, basements or confined areas.

**CONTAINMENT/CLEAN-UP MEASURES:**

**LARGE SPILLS:** Cover powder spill with plastic sheet or tarp to minimize spreading.

**SMALL DRY SPILLS:** With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.

## SECTION 7 - HANDLING AND STORAGE

**HANDLING:** Avoid breathing dusts generated from this product. Use this product with sufficient ventilation to control airborne dust concentrations. Wash thoroughly after handling. Avoid creating dusts.

**STORAGE:** Keep dry. Store in a tightly closed container. Keep container closed when not in use.

**SPECIAL PACKAGING MATERIALS:** No data available.

**INCOMPATIBLE MATERIALS OR IGNITION SOURCES:** No data available.

**OTHER INFORMATION:** This product contains trace quantities of naturally occurring radioactive material (NORM). The low level of radioactivity in AZ grains is attributed to the naturally occurring raw material zircon sand that has trace quantities of naturally occurring radioactive uranium and thorium. The Uranium and Thorium level in the sand used for producing AZ grains is below 500 parts per million (ppm), which is the threshold level established by the United States Nuclear Regulatory Commission for exempt quantities of source material.

Under section 25249.5 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.

## SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

PPE:



**RESPIRATORY PROTECTION:** A properly fitted dust respirator should be used when: high dust levels are encountered exceeding the occupational exposure limits; or if irritation occurs.

**EYE/FACE PROTECTION:** Safety glasses with side shields should be worn at a minimum.

**HANDS PROTECTION:** Protective gloves recommended.

**SKIN/BODY PROTECTION:** Protective gloves are recommended.

**GENERAL INDUSTRIAL HYGIENE CONSIDERATIONS:** In accordance with good industrial hygiene practices, precautions should be taken to avoid contact. If contact occurs, wash hands, face and other potentially exposed areas immediately after handling material (especially before eating, drinking, or smoking).

**ENGINEERING MEASURES/CONTROLS:** Use local exhaust or general dilution ventilation or other suppression methods to maintain dust levels below exposure limits.

**EXPOSURE LIMITS/GUIDELINES:** Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.

**ENVIRONMENTAL EXPOSURE CONTROLS:** No data available

**COMPONENT EXPOSURE LIMITS:**

### Japan

- Aluminum oxide (1344-28-1): **TWAs:** (0.5 mg/m<sup>3</sup> OEL respirable dust; 2 mg/m<sup>3</sup> OEL total dust)

### China

- Aluminum oxide (1344-28-1): **PC-TWAs:** (4 mg/m<sup>3</sup> TWA total dust) | **PC-STELs:** (8 mg/m<sup>3</sup> STEL total dust)

### Germany

- Aluminum oxide (1344-28-1): **Carcinogens:** (Category 2 (considered to be carcinogenic for man, fibre dust))

### Korea

- Aluminum oxide (1344-28-1): **TWAs:** (10 mg/m3 TWA)

**Canada - New Brunswick**

- Aluminum oxide (1344-28-1): **TWAs:** (10 mg/m3 TWA particulate matter containing no asbestos and < 1% crystalline silica) | **Carcinogens:** (A4 - Not Classifiable as a Human Carcinogen)

**Canada - Northwest Territories**

- Aluminum oxide (1344-28-1): **TWAs:** (10 mg/m3 TWA; 5 mg/m3 TWA respirable mass; 10 mg/m3 TWA total mass) | **STELs:** (20 mg/m3 STEL)

**Canada - Nunavut**

- Aluminum oxide (1344-28-1): **TWAs:** (10 mg/m3 TWA; 5 mg/m3 TWA respirable mass; 10 mg/m3 TWA total mass) | **STELs:** (20 mg/m3 STEL)

**Canada - Ontario**

- Aluminum oxide (1344-28-1): **TWAEVs:** (10 mg/m3 TWAEV total dust)

**Canada - Quebec**

- Aluminum oxide (1344-28-1): **TWAEVs:** (10 mg/m3 TWAEV Al total dust, containing no asbestos and less than 1% crystalline silica)

**Canada - Yukon**

- Aluminum oxide (1344-28-1): **TWAs:** (30 mppcf TWA; 10 mg/m3 TWA) | **STELs:** (20 mg/m3 STEL)

**France**

- Aluminum oxide (1344-28-1): **TWAs (VMEs):** (10 mg/m3 VME) |

**US STATE CALIFORNIA**

- Aluminum oxide (1344-28-1): **PELs:** (10 mg/m3 PEL total dust; 5 mg/m3 PEL respirable fraction, listed under Particulates not otherwise regulated)

**United States - OSHA**

- Aluminum oxide (1344-28-1): **TWAs (Final PELs):** (15 mg/m3 TWA total dust; 5 mg/m3 TWA respirable fraction) | **TWAs (Vacated PELs):** (10 mg/m3 TWA total dust; 5 mg/m3 TWA respirable fraction)

**SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**

PHYSICAL FORM: Solid in granular form

APPEARANCE/DESCRIPTION: Steel gray to blue gray granules with no odor.

COLOR: Steel gray to Blue gray		ODOR: None	
TASTE: No data available (NDA)		ODOR THRESHOLD: NDA*	
BOILING POINT:	NDA*	VAPOR PRESSURE:	NDA*
MELTING POINT/FREEZING POINT:	1900 °C(3452 °F)	VAPOR DENSITY:	NDA*
SPECIFIC GRAVITY:	4.2 to 4.3	EVAPORATION RATE:	NDA*
DENSITY:	35.049 to 35.8835 lbs/gal	VOC (WT.):	NDA*
BULK DENSITY:	NDA*	VOC (VOL.):	NDA*
WATER SOLUBILITY:	Insoluble	VOLATILES (WT.):	NDA*
SOLVENT SOLUBILITY:	NDA*	VOLATILES (VOL.):	NDA*
VISCOSITY:	NDA*	FLASH POINT:	NDA*
HALF-LIFE:	NDA*	FLASH POINT TEST TYPE:	NDA*
OCTANOL/WATER PARTITION COEFFICIENT:	NDA*	UEL:	NDA*

COEFFICIENT OF WATER/OIL DISTRIBUTION:	NDA*	LEL:	NDA*
BIOACCUMULATION FACTOR:	NDA*	AUTOIGNITION:	NDA*
PH:	NDA*		

\*NDA – No Data Available

## SECTION 10 - STABILITY AND REACTIVITY

STABILITY: Stable

HAZARDOUS POLYMERIZATION: Hazardous polymerization will not occur.

CONDITIONS TO AVOID: Avoid creating dusts.

INCOMPATIBLE MATERIALS: None known.

HAZARDOUS DECOMPOSITION PRODUCTS: None known.

## SECTION 11 - TOXICOLOGICAL INFORMATION

ACUTE TOXICITY: Irritation/mechanical irritation may be observed in the upper respiratory system, eyes, and skin. This product has not been tested as a separate entity therefore the hazards must be evaluated on the basis of the individual ingredients, and these hazards must be assumed to be additive in the absence of complete information. The hazards described in this document have been evaluated on a threshold of 1.0% for all hazardous ingredients and 0.1% for all carcinogens.

Component Name	Concentration	CAS	Data
Aluminum oxide	70% TO 80%	1344-28-1	ihl-rat TCLo:200 mg/m <sup>3</sup> /5H/28W-1

CARCINOGENIC EFFECTS: No carcinogenic effects expected.

Component Carcinogenicity Information:

- Aluminum oxide (70 TO 80%)
  - ACGIH: A4 – Not Classifiable as a Human Carcinogen
  - Canada - New Brunswick - Occupational Exposure Limits – Carcinogens – Not Classifiable as a Human Carcinogen
  - Germany - DFG - Recommended Exposure Limits - Carcinogens – Not Classifiable as a Human Carcinogen
- Thorium oxide (*trace*)
  - NTP (National Toxicology Program) - Report on Carcinogens - Known Human Carcinogens
  - U.S. - California - Proposition 65 - Carcinogens List

OTHER INFORMATION: This product contains trace quantities of naturally occurring radioactive material (NORM). The low level of radioactivity in this material is attributed to the naturally occurring raw material zircon sand that has trace quantities of naturally occurring radioactive uranium and thorium. The Uranium and Thorium level in the sand used for producing this material is below 500 parts per million (ppm), which is the threshold level established by the United States Nuclear Regulatory Commission for exempt quantities of source material.

## SECTION 12 - ECOLOGICAL INFORMATION

ECOLOGICAL FATE: No information available for the product.

PERSISTANCE/DEGRADABILITY: No information available for the product.

BIOACCUMULATION POTENTIAL: No information available for the product.

MOBILITY IN SOIL: No information available for the product.

## SECTION 13 - DISPOSAL CONSIDERATIONS

PRODUCT: Material, if discarded, is not expected to be a characteristic hazardous waste under RCRA. Wastes must be tested using methods described in 40 CFR Part 261 to determine if it meets applicable definitions of hazardous wastes. Dispose of in accordance with local, state, federal, and international regulations.

## SECTION 14 - TRANSPORTATION INFORMATION

U.S. DOT 49 CFR 172.101:

SHIPPING NAME: Not Regulated for Transport

TDG - CANADA - TRANSPORT OF DANGEROUS GOODS:

SHIPPING NAME: Not Regulated for Transport

ADR - EUROPE TRANSPORT OF DANGEROUS GOODS BY ROAD/INLAND WATERWAY:

SHIPPING NAME: Not Regulated for Transport

## SECTION 15 - REGULATORY INFORMATION

SARA HAZARD CLASSIFICATIONS:

Acute Health: Yes Chronic Health: No Fire: No Pressure: No Reactive: No

RISK & SAFETY PHRASES:

R36/37/38: Irritating to eyes, respiratory system and skin.

S24/25: Avoid contact with skin and eyes.

S22: Do not breathe dust.

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S46 - If swallowed, seek medical advice immediately and show this container or label.

S2 - Keep out of the reach of children.

S8: Keep dry.

### Canada

#### Labor

Canada - List of Prohibited and Restricted Cosmetic Ingredients (The Cosmetic Ingredient Hotlist)

None Listed

Canada - WHMIS - Classifications of Substances

- Aluminum oxide (1344-28-1) 80 to 70% Uncontrolled product according to WHMIS classification criteria
- Zirconium oxide (1314-23-4) 30 to 20% Uncontrolled product according to WHMIS classification criteria

Canada - WHMIS - Ingredient Disclosure List

- Aluminum oxide (1344-28-1) 80 to 70% 1 %

### Europe

#### Environment

EU - European Pollutant Emission Register (EPER) (2000/479/EC) - Threshold Quantities

None Listed

EU - Plant Protection Products (Directive 91/414/EEC) - Active Substances

None Listed

EU - Integrated Pollution Prevention and Control Directive (IPPC) (2008/1/EC) - Polluting Substances To Be Considered

None Listed

**EU - Seveso II Directive (96/82/EC) - Qualifying Quantities for Major Accident Notification**

None Listed

**EU - Seveso II Directive (96/82/EC) - Qualifying Quantities for Safety Report Requirements**

None Listed

**Other**

**EU - CLP (1272/2008) - Annex VI - Table 3.2 - Classification**

None Listed

**EU - CLP (1272/2008) - Annex VI - Table 3.2 - Concentration Limits**

None Listed

**EU - CLP (1272/2008) - Annex VI - Table 3.2 - Labelling**

None Listed

**EU - CLP (1272/2008) - Annex VI - Table 3.2 - Notes - Substances and Preparations**

None Listed

**EU - CLP (1272/2008) - Annex VI - Table 3.2 - Safety Phrases**

None Listed

**EU - Endocrine Disrupters (COM (2001)262) - Candidate List of Substances**

None Listed

**EU - Endocrine Disrupters (COM (2001)262) - List of Evaluated Substances and their Exposure Concern**

None Listed

**EU - Existing Substance Regulation (793/93/EEC) - Evaluation of Existing HPV Chemicals**

- Aluminum oxide (1344-28-1) 80 to 70%
- Zirconium oxide (1314-23-4) 30 to 20%

**EU - Export and Import Restrictions (689/2008) - Chemicals Qualifying for PIC Notification**

None Listed

**EU - Export and Import Restrictions (689/2008) - Chemicals Subject to the PIC Procedure under the Rotterdam Convention**

None Listed

**EU - Export and Import Restrictions (689/2008) - Chemicals Subject to Export Notification Procedure**

None Listed

**Japan**

**Labor**

**Japan - ISHL Dangerous Substances**

None Listed

**Japan - ISHL Designated Carcinogens**

None Listed

**Japan - ISHL Harmful Substances Prohibited for Manufacture**

None Listed

**Japan - ISHL Harmful Substances Requiring Workers to Subject to Medical Exams**

None Listed

**Japan - ISHL Harmful Substances Subject to Obtaining Permission for Manufacturing**

None Listed

**Japan - ISHL Harmful Substances Whose Names Are to be Indicated on the Label**

None Listed

**Japan - ISHL Prevention of Lead Poisoning**

None Listed

**Japan - ISHL Mutagens - Existing Chemicals**

None Listed

**Japan - ISHL Mutagens - New Chemicals**

None Listed

**Japan - ISHL Notifiable Substances**

- Aluminum oxide (1344-28-1) 80 to 70%  $\geq 1$  % weight

**Japan - ISHL Prevention of Organic Solvent Poisoning**

None Listed

**China**

**Environment**

**China - Ozone Depleting Substances - First Schedule**

None Listed

**China - Ozone Depleting Substances - Second Schedule**

None Listed

**China - Ozone Depleting Substances - Third Schedule**

None Listed

**Other**

**China - Annex I & II - Controlled Chemicals Lists**

None Listed

**China - Classification and Labeling of Dangerous Chemical Substances Commonly Used - Hazardous Categories**

None Listed

**China - Dangerous Goods List**

None Listed

**Germany**

**Labor**

**Germany - Immission Control - Qualifying Quantities for Major Accident Prevention**

None Listed

**Germany - Immission Control - Qualifying Quantities for Safety Reporting**

None Listed

**Germany - TRGS 505 - Specific Lead Regulations**

None Listed

**Germany - TRGS 511 - Specific Ammonium Nitrate Regulations**

None Listed

**Korea**

**Labor**

**Korea - MOE - Harmful Substances**

None Listed

**Korea - ISHA - Harmful Substances Prohibited for Manufacturing, Importing, Transferring, or Supplying**

None Listed

**Korea - ISHA - Harmful Substances Requiring Permission**

None Listed

**Korea - ISHA - Name, Toxicity and Protective Measures of New Chemical Substances**

None Listed

**Environment**

**Korea - MOE - Toxic Chemicals Control Act (TCCA) - Observational Chemicals**

None Listed

**Other**

**Korea - MOE - Toxic Chemicals Control Act (TCCA) - Prohibited Chemicals**

None Listed

**Korea - MOE - Toxic Chemicals Control Act (TCCA) - Restricted Chemicals**

None Listed

**Korea - MOE - Toxic Chemicals Control Act (TCCA) - Toxic Chemicals**

None Listed

**US STATE CALIFORNIA**

**Environment**

**U.S. - California - Priority Toxic Pollutants - Human Health Criteria**

None Listed

**U.S. - California - Priority Toxic Pollutants - Saltwater Criteria**

None Listed

**U.S. - California - Proposition 65 - Carcinogens List**

None Listed

**U.S. - California - Proposition 65 - Developmental Toxicity**

None Listed

**U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)**

None Listed

**U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)**

None Listed

**U.S. - California - Proposition 65 - Reproductive Toxicity - Female**

None Listed

**U.S. - California - Proposition 65 - Reproductive Toxicity - Male**

None Listed

**US STATE MASSACHUSETTS**

**Labor**

**U.S. - Massachusetts - Right To Know List**

- Aluminum oxide (1344-28-1) 80 to 70%
- Zirconium oxide (1314-23-4) 30 to 20%

**Environment**

**U.S. - Massachusetts - Toxics Use Reduction Act**

- Aluminum oxide (1344-28-1) 80 to 70% 313 chemical (fibrous forms)

**US STATE NEW JERSEY**

**Environment**

**U.S. - New Jersey - Control and Prohibition of Air Pollution by Toxic Substances**

None Listed

**U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances**

- Aluminum oxide (1344-28-1) 80 to 70% (fibrous forms)

**U.S. - New Jersey - Environmental Hazardous Substances List**

- Aluminum oxide (1344-28-1) 80 to 70% SN 2891 TPQ 500 lb (fibrous forms)

**U.S. - New Jersey - Primary Drinking Water Standards - Action Levels - ALs**

None Listed

**U.S. - New Jersey - Primary Drinking Water Standards - Maximum Contaminant Levels - MCLs**

None Listed

**U.S. - New Jersey - Right to Know Hazardous Substance List**

- Aluminum oxide (1344-28-1) 80 to 70% sn 2891

**U.S. - New Jersey - Secondary Drinking Water Standards - Recommended Upper Limits (RULs)**

None Listed

**U.S. - New Jersey - Special Health Hazards Substances List**

None Listed

**U.S. - New Jersey - TCPA - Extraordinarily Hazardous Substances (EHS)**

None Listed

**U.S. - New Jersey - Water Quality - Ground Water Quality Criteria**

None Listed

**U.S. - New Jersey - Water Quality - Practical Quantitation Levels (PQLs)**

None Listed

**US STATE PENNSYLVANIA**

**Labor**

**U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List**

- Aluminum oxide (1344-28-1) 80 to 70%

**U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances**

None Listed

**U.S. - Pennsylvania - RTK (Right to Know) List**

- Aluminum oxide (1344-28-1) 80 to 70% Environmental hazard

**US STATE RHODE ISLAND**

**Labor**

**U.S. - Rhode Island - Hazardous Substance List**

- Aluminum oxide (1344-28-1) 80 to 70% Toxic

**United States**

**Labor**

**U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals**

None Listed

**U.S. - OSHA - Specifically Regulated Chemicals**

None Listed

**Environment**

**U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants**

None Listed

**U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs**

None Listed

**U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs**

None Listed

**U.S. - CERCLA/SARA - Section 313 - Emission Reporting**

- Aluminum oxide (1344-28-1) 80 to 70% 1.0 % de minimis concentration (fibrous forms)

**U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing**

None Listed

**U.S. - EPA - Priority PBT List**

None Listed

**U.S. - EPA - Voluntary Children's Chemical Evaluation Program**

None Listed

**U.S. - FIFRA - Listing of Pesticide Chemicals (40 CFR 180)**

- Aluminum oxide (1344-28-1) 80 to 70% Section number 180.910}

**U.S. - FIFRA - Pesticide Product Other Ingredients**

- Aluminum oxide (1344-28-1) 80 to 70% List 4B - Inert Ingredients

**U.S. - FIFRA - Pesticides Classified for Restricted Use**

None Listed

**Inventory - United States - Section 8(b) Inventory (TSCA)**

- Hafnium oxide (12055-23-1) 1 to %
- Aluminum oxide (1344-28-1) 80 to 70%
- Zirconium oxide (1314-23-4) 30 to 20%

**Canada - British Columbia**

**Environment**

**Canada - British Columbia - Ozone Depleting Substances**

None Listed

**Canada - Manitoba**

**Environment**

**Canada - Manitoba - Ozone Depleting Substances and Other Halocarbons - Class 1**

None Listed

**Canada - Manitoba - Ozone Depleting Substances and Other Halocarbons - Class 2**

None Listed

**Canada - Northwest Territories**

**Other**

**Canada - Northwest Territories - Ozone Depleting Substances and Halocarbon Alternatives**

None Listed

**Canada - Nova Scotia**

**Environment**

**Canada - Nova Scotia - Ozone Layer Protection Regulations**

None Listed

**Canada - Ontario**

**Environment**

**Canada - Ontario - Airborne Contaminant Reporting - Table 2A**

None Listed

**Canada - Ontario - Airborne Contaminant Reporting - Table 2B**

None Listed

**Canada - Ontario - Drinking Water Standards - Aesthetic Objectives (AO)**

None Listed

**Canada - Ontario - Drinking Water Standards - Interim Maximum Acceptable Concentrations (IMAC)**

None Listed

**Canada - Ontario - Drinking Water Standards - Maximum Acceptable Concentration (MAC)**

None Listed

**Canada - Ontario - Drinking Water Standards - Operational Guidelines (OG)**

None Listed  
**Canada - Ontario - Ozone Depleting Substances - Ozone Depletion Factor**  
 None Listed  
**Canada - Ontario - Ozone Depleting Substances - Solvents - Class 1**  
 None Listed  
**Canada - Ontario - Ozone Depleting Substances - Solvents - Class 2**  
 None Listed  
**Canada - Ontario - Ozone Depleting Substances - Solvents - Class 3**  
 None Listed

**Canada - Yukon**

**Environment**

**Canada - Yukon - Ozone Depleting Substances and Other Halocarbons**  
 None Listed

**SECTION 16 - OTHER INFORMATION**

PREPARATION DATE: 1/02/07  
 REVISION DATE: 11/13/09

DISCLAIMER: Reasonable care has been taken in the preparation of this information, but the supplier gives no warranty of merchantability or of fitness for a particular purpose. Any product purchased is sold on the assumption the purchaser will make his own tests to determine the quality and suitability of the product. Supplier expressly disclaims any and all liability for incidental and/or consequential property damage arising out of the use of this product. No information provided shall be deemed to be a recommendation to use any product in conflict with any existing patent rights. Read the Material Safety Data Sheet before handling product.

MSDS HISTORY:

MSDS REVISION SUMMARY:

Date	Changes
11/13/09	<ul style="list-style-type: none"> <li>Section 2 – GHS (v. 2007) Classifications, EU and the latest adaptations to Annex VI Directives 67/548/EEC and 99/45/EC, Canadian (WHMIS) the Workplace Hazardous Materials Information System Classification, OSHA 29 CFR 1910.1200 (Hazard Communication) Classifications.</li> </ul>

*This is the end of the (M)SDS.*