



ARIHANT CHEMICAL CORPORATION & J.J ENTERPRISE

For paints / inks / plastic / Rubber industries Raw material available with us under self import / Manufacturing / Trading.

Material Safety Data Sheet: - Zirconium Aluminum

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

Supplier: Manufactures

Arihant Chemical Corporation.

24/5, Krishna kunj bldg, behind arora

:Arora cinema, opp. Sahakari bhandar

Sewari wadala road, Matunga (C.R) Mumbai- 40019.

CELLULAR:-9820142066 – 9029042066

info@arihantchemcorp.com or nilesh@arihantchemcorp.com

PREPARATION DATE: 01/02/07

REVISION DATE: 11/13/09

SECTION 2 - HAZARDS IDENTIFICATION

Emergency Overview

Regd Off: - Plot no 24 Block no .5, 1st floor, Behind Aurora cinema , opp Sahakari bhandar, Matunga (C.R) Mumbai – 400019

Administration /correspondence Office :- Plot No. 319, Room No.3, Ranchoddas Terrace building ,sir Bhalchandra Road, opp Hira House, Near Chhatre Maternity Hospital, Matunga (C.R) Mumbai – 400019 Tel :- +91 22 24148378 / 24146390

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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)
HMIS RATING:	1	0	0	* - Chronic Health Effect(s)

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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

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

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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*

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See Section 11 for Toxicological Information

1. NDA – No Data Available

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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, CO₂, 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.

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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.

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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

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COMPONENT EXPOSURE LIMITS:

Japan

- Aluminum oxide (1344-28-1): **TWAs:** (0.5 mg/m³ OEL respirable dust; 2 mg/m³ OEL total dust)

China

- Aluminum oxide (1344-28-1): **PC-TWAs:** (4 mg/m³ TWA total dust) | **PC-STEELs:** (8 mg/m³ 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) | **STEELs:** (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) | **STEELs:** (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) | **STEELs:** (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)

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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

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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 those 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/m3/5H/28W-I

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.

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SECTION 12 - ECOLOGICAL INFORMATION

ECOLOGICAL FATE: No information available for the product.

PERSISTENCE/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.

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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 Disruptors (COM (2001)262) - Candidate List of Substances

None Listed

EU - Endocrine Disruptors (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%

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Material Safety Data Sheet :- Zirconium Aluminum

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% ≥ 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

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Material Safety Data Sheet :- Zirconium Aluminum

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

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Material Safety Data Sheet :- Zirconium

Aluminum

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)

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Material Safety Data Sheet :- Zirconium Aluminum

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

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Material Safety Data Sheet :- Zirconium Aluminum

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

Aluminum

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

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Material Safety Data Sheet :- Zirconium

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

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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

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MSDS HISTORY:

MSDS REVISION SUMMARY:

Date	Changes
11/13/09	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.

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