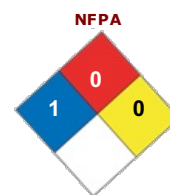




SAFETY DATA SHEET

SECTION 1 : IDENTIFICATION

Product Name: Calcia/Magnesia Stabilized Zirconia Compositions; Comp. 3004,3055, 3036,3088
Product Code: 2007
SDS Manufacturer Number: 2007
Manufacturer Name: Zircoa Inc.
Address: 31501 Solon Road
Solon, Ohio 44139 -3526
USA
Website: www.zircoa.com
General Phone Number: +1 440 248 0500
General Fax Number: +1 440 349 7209
Distributor Name: Zircoa GmbH
Address: Hagenauer Strasse 47
Wiesbaden, D-65203
Germany
General Phone Number: +49-611-335497-0
General Fax Number: +49-611-335497-55
Website: www.zircoa.com
SDS Creation Date: April 22, 2013
SDS Revision Date: April 22, 2013



HMIS	
Health Hazard	1
Fire Hazard	0
Reactivity	0
Personal Protection	X

SECTION 2 : HAZARD(S) IDENTIFICATION

GHS Pictograms:



GHS Class: Eye Damage, Category 1.
Skin Irritant, Category 2. Specific Target Organ Toxicity, Category 3.

Hazard Statements: Causes serious eye damage.
Causes skin irritation. May cause respiratory irritation.

Precautionary Statements: Wash hands thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
Take off contaminated clothing and wash it before reuse.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a POISON CENTER or doctor/physician.
IF ON SKIN: Wash with plenty of soap and water.
Avoid breathing dust/fume/gas/mist/vapours/spray.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.
Use only outdoors or in a well-ventilated area.
Store locked up.
Dispose of contents/container in accordance with Local, State, Federal and Provincial regulations.

Emergency Overview: WARNING! Harmful. Irritant.

Route of Exposure: Eyes. Skin. Inhalation. Ingestion.

Potential Health Effects:

Eye: Can cause severe eye injury.

Skin: Causes skin irritation.

Inhalation: Prolonged or excessive inhalation may cause respiratory tract irritation.

Ingestion: Harmful if swallowed. Ingestion can cause nausea, vomiting, diarrhea and gastrointestinal irritation.

Target Organs: Eyes. Skin. Respiratory system. Digestive system.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Ingredient Percent	EC Num.
Zirconium dioxide	1314-23-4	95 - 99 by weight	215-227-2
Magnesium Oxide	1309-48-4	0 - 10 by weight	215-171-9
Calcium Oxide	1305-78-8	0 - 10 by weight	215-138-9
Hafnium oxide	12055-23-1	1 - 2 by weight	235-013-2

SECTION 4 : FIRST AID MEASURES

Eye Contact:	Immediately flush eyes with plenty of water for 15 to 20 minutes. Get medical attention, if irritation or symptoms of overexposure persists.
Skin Contact:	Immediately wash skin with soap and plenty of water. Get medical attention if irritation develops or persists.
Inhalation:	If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Consult a physician if necessary.
Ingestion:	Flush mouth immediately with copious amounts of water to remove residual material. Seek medical attention.

SECTION 5 : FIRE FIGHTING MEASURES

Flammable Properties:	This product will not burn.
Flash Point:	Not determined.
Lower Flammable/Explosive Limit:	Not determined.
Upper Flammable/Explosive Limit:	Not determined.
Fire Fighting Instructions:	Evacuate area of unprotected personnel. Use cold water spray to cool fire exposed containers to minimize risk of rupture. Do not enter confined fire space without full protective gear. If possible, contain fire run-off water.
Extinguishing Media:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Protective Equipment:	As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.
NFPA Ratings:	
NFPA Health:	1
NFPA Flammability:	0
NFPA Reactivity:	0

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Personnel Precautions:	Evacuate area and keep unnecessary and unprotected personnel from entering the spill area.
Environmental Precautions:	Avoid runoff into storm sewers, ditches, and waterways.
Methods for containment:	This material will settle out of the air. Prevent from spreading by covering, diking or other means.
Methods for cleanup:	Shovel or sweep up for re-use or disposal. Avoid creating dusty conditions. Provide ventilation. Clean up spills immediately observing precautions in the protective equipment section.

SECTION 7 : HANDLING and STORAGE

Handling:	Use only in accordance with directions. Avoid dust formation.
Storage:	No special procedures are required. Keep product in its packaging until use to minimize potential dust generation.
Work Practices:	Handle in accordance with good industrial hygiene and safety practices.
Hygiene Practices:	Wash thoroughly after handling.

SECTION 8: EXPOSURE CONTROLS, PERSONAL PROTECTION

Engineering Controls:	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Good general ventilation should be sufficient to control airborne levels. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
Eye/Face Protection:	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.
Skin Protection Description:	Wear appropriate protective gloves and other protective apparel to prevent skin contact. Consult manufacturer's data for permeability data.
Respiratory Protection:	A NIOSH approved air-purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.
Other Protective:	Facilities storing or utilizing this material should be equipped with an eyewash and a deluge shower safety station.

PPE Pictograms:



EXPOSURE GUIDELINES

Zirconium dioxide :

Guideline ACGIH: TLV-TWA: 5 mg/m³
TLV-STEL: 10 mg/m³ as zirconium compounds

Magnesium Oxide :

Guideline ACGIH: TLV-TWA: 10 mg/m³ Inhalable fraction (I)

Calcium Oxide :

Guideline ACGIH: TLV-TWA: 2 mg/m³

Hafnium oxide :

Guideline ACGIH: TLV-TWA: 0.5 mg/m³ as Hafnium

Amorphous Silica :

Guideline OSHA: OSHA PEL-TWA 0.1 mg/m³

Notes : Only established PEL and TLV values for the ingredients are listed.

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

Physical State Appearance:	Dry, granular or powder.
Color:	White to yellow
Odor:	Odorless.
Boiling Point:	Approximately 3910 °C (7000°F)
Melting Point:	Approximately 2200 °C (4000°F)
Specific Gravity:	5.4-5.7
Solubility:	Insoluble in water.
Vapor Density:	Data not available.
Vapor Pressure:	Not determined.
Percent Volatile:	Data not available.
Evaporation Rate:	negligible.
Flash Point:	Not determined.

SECTION 10 : STABILITY and REACTIVITY

Chemical Stability:	Stable under recommended handling and storage conditions.
Hazardous Polymerization:	Hazardous polymerization does not occur.
Conditions to Avoid:	Dust dispersion in air. Avoid contact with incompatible materials.
Incompatible Materials:	Strong acids or reducing agents.
Special Decomposition Products:	Product is stable to at least 4000°F.

SECTION 11 : TOXICOLOGICAL INFORMATION

Amorphous Silica :

RTECS Number: VV7315000

SECTION 12 : ECOLOGICAL INFORMATION

Ecotoxicity:	This material is not expected to biodegrade.
Environmental Fate:	No environmental information found for this product.

SECTION 13 : DISPOSAL CONSIDERATIONS

Waste Disposal:	Dispose of in accordance with Local, State, Federal and Provincial regulations.
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SECTION 14 : TRANSPORT INFORMATION

DOT Shipping Name:	Non regulated.
DOT Hazard Class:	Non regulated.

IATA Shipping Name: Non regulated.

IMDG UN Number : Non regulated.

SECTION 15 : REGULATORY INFORMATION

SARA: This product does not contain any chemicals which are subject to the reporting requirements of the Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III (40CFR, Part 372).

California PROP 65: The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):
This product does not contain any Proposition 65 chemicals.

Canada WHMIS: Xi - Irritant.

EU Class: Irritant.
In accordance to Regulation (EC) No 1272/2008 on the classification, labelling and packaging of substances and mixtures.

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

Safety Phrase: S37 - Wear suitable gloves.

Zirconium dioxide :

TSCA Inventory Status: Listed

Canada DSL: Listed

EC Number: 215-227-2

Magnesium Oxide :

Canada DSL: Listed

EC Number: 215-171-9

Calcium Oxide :

Canada DSL: Listed

EC Number: 215-138-9

Hafnium oxide :

TSCA Inventory Status: Listed

Canada DSL: Listed

EC Number: 235-013-2

Amorphous Silica :

Canada DSL: Listed

EC Number: 262-373-8

SECTION 16 : ADDITIONAL INFORMATION

HMIS Ratings:

HMIS Health Hazard:	1
HMIS Fire Hazard:	0
HMIS Reactivity:	0
HMIS Personal Protection:	X

SDS Creation Date: April 22, 2013

SDS Revision Date: April 22, 2013

Disclaimer: The information given in the Data Sheet is based on our current knowledge and designed only as a guidance for safe handling, storage and the use of the substance. It is not a specification nor does it guarantee any specific properties and shall not establish legally valid contractual relationship. All chemicals should be handled only by competent personnel, within a controlled environment.

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