



Safety Data Sheet

Spray Dried Yttria Stabilized Zirconia Powder "Ready To Press" (RTP)

SECTION 1: Identification

Product identifier

Product name	Spray Dried Yttria Stabilized Zirconia Powder (RTP)
Substance name	Yttria Stabilized Zirconia $X(Y_2O_3) \bullet Y(ZrO_2)$
Other names / synonyms	Yttria Stabilized Zirconia RTP, YTZP; (YTZP2000, YTZP4000), PSZ

Recommended use of the chemical and restrictions on use

For forming pressed compacts and fired ceramic components.

Supplier's details

Name	Superior Technical Ceramics
Address	600 Industrial Park Road St. Albans, Vermont 05478 USA
Telephone	802-527-7726
Fax	802-527-1181

Emergency phone number(s)

802-527-7726

SECTION 2: Hazard identification

Classification of the substance or mixture

Not a hazardous substance or mixture

GHS label elements, including precautionary statements

Not a hazardous substance or mixture

Other hazards which do not result in classification

Not a hazardous substance or mixture

SECTION 3: Composition/information on ingredients

Components

1. Zirconium oxide

Concentration	79 - 97 %
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Other names / synonyms	Zirconium oxide
CAS no.	1314-23-4

2. Yttrium oxide

Concentration	0 - 10 %
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Other names / synonyms	Yttrium Oxide
CAS no.	1314-36-9
3. Hafnium Oxide	
Concentration	0 - 1 %
Other names / synonyms	Hafnium Oxide
CAS no.	12055-23-1
2. Organic Binders	
Concentration	3 - 10 %
Other names / synonyms	Organic Binders

SECTION 4: First-aid measures

Description of necessary first-aid measures

If inhaled	Move to fresh air and consult with local medical personnel if discomfort persists.
In case of skin contact	Wash affected area with soap and water and consult with local medical personnel if irritation persists.
In case of eye contact	Flush with tepid water for a minimum of 15 minutes and consult with local medical personnel if discomfort persists.
If swallowed	Administer water to dilute, but not if person is unconscious. Consult with local medical personnel if discomfort persists.

SECTION 5: Fire-fighting measures

Suitable extinguishing media

Use any means suitable for extinguishing surrounding fire.

Specific hazards arising from the chemical

Possible Class A fire hazard – combustible vapors can develop in the headspace over the product. Flash point is 220°C (428°F).

Special protective actions for fire-fighters

Use protective clothing and breathing equipment appropriate for the surrounding fire and to protect against the dust that may be dispersed in the air.

Further information

Releases CO and CO₂ in a fire and at temperatures >220°C (428°F).

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Sweep up any spills and place in containers for disposal or reclaim. Vacuuming or wet sweeping may be used to avoid excessive dust.

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Methods and materials for containment and cleaning up
Any dust from machining should be wet mopped or dry vacuumed.

SECTION 7: Handling and storage

Precautions for safe handling
Store in a cool dry place. Any dust should be wet mopped.

SECTION 8: Exposure controls/personal protection

Control parameters

1. Inert or Nuisance Dust, Total dust*
PEL (Inhalation): 15 mg/m³ (OSHA)
OSHA Annotated Table Z-3, www.osha.gov

2. Inert or Nuisance Dust, Respirable fraction*
PEL (Inhalation): 5 mg/m³ (OSHA)
OSHA Annotated Table Z-3, www.osha.gov

*All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by this limit, which is the same as the Particulates Not Otherwise Regulated (PNOR) limit in Table Z1

Appropriate engineering controls
Local or general exhaust ventilation recommended.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection
Safety goggles in the presence of airborne dust.

Skin protection
Polymer gloves for prolonged dust exposure.

Respiratory protection
NIOSH/MSHA approved respirator for dust when exposure limit is exceeded.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance/form	White, Flowable Powder
Odor	Odorless
Odor threshold	N/A
pH	N/A
Melting point	N/A
Initial boiling point and boiling range	N/A
Flash point	N/A
Evaporation rate	N/A
Flammability (solid, gas)	N/A
Upper/lower flammability limits	N/A
Upper/lower explosive limits	N/A

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Vapor pressure	N/A
Vapor density	N/A
Relative density	>1.2 g/cc
Solubility(ies)	Organic Portion Soluble in Water
Partition coefficient: n-octanol/water	N/A
Auto-ignition temperature	N/A
Decomposition temperature	N/A
Viscosity	N/A
Explosive properties	N/A
Oxidizing properties	N/A

SECTION 10: Stability and reactivity

Chemical stability

Stable

Hazardous decomposition products

CO and CO₂ in a fire and at temperatures >220°C (428°F).

SECTION 11: Toxicological information

No Applicable Information Found

SECTION 12: Ecological information

No Applicable Information Found

SECTION 13: Disposal considerations

Disposal of the product

This material is not hazardous per 40 CFR 261. Consultation with federal, state and local officials is recommended before disposal.

SECTION 14: Transport information

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

SECTION 15: Regulatory information

US FEDERAL

TSCA

CAS# 1314-23-4 Zirconium Oxide is listed on the TSCA inventory.

CAS# 1314-36-9 Yttrium Oxide is listed on the TSCA inventory.

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CAS# 12055-23-1 Hafnium Oxide is listed on the TSCA inventory.

SARA Section 302 Extremely Hazardous Substances

Substance Not Listed.

Section 313

Substance Not Listed.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

US STATE

No Applicable Information Found

California Prop 65

No components on list.

SECTION 16: Other information

Further information/disclaimer

Although reasonable care has been taken to provide accurate and current information in preparation of this document, Superior Technical Ceramics extends no warranties, makes no representation and assumes no responsibility for any loss, damage, or injury of any kind which may result from reliance of information provided in this document by any person.

Preparation Information

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