

# MATERIAL SAFETY DATA SHEET

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### IDENTIFICATION

**CHEMICAL NAME:** Zirconium isopropoxide, 10g/100ml in isopropanol

**CATALOG NUMBER:**Z202

**PURITY:** 99%

**FORMULA:**  $Zr(OC_3H_7)_4$

**FORMULA WEIGHT:**327.35

**TSCA:** not listed in the TSCA inventory

isopropanol: listed

**CHEMICAL FAMILY:** Metal alkoxide solution

### HAZARDOUS INGREDIENTS

**HAZARDOUS INGREDIENTS:** %

Title compound

10

**ACGIH(TLV):**5 MG/M3

**OSHA/PEL:** 8 HR TWA 5 MG/M3

Isopropanol

90

**ACGIH(TLV):** 400 ppm

**OSHA/PEL:** 400 ppm

### PHYSICAL DATA

**APPEARANCE AND ODOR:** Yellowish solution

**MELTING POINT:** No data

**BOILING POINT:** 82.3°C (isopropanol)

**VAPOR PRESSURE:** No data

**SPECIFIC GRAVITY:** No data

**SOLUBILITY IN WATER:** Reacts with water

### FIRE HAZARD

**FLASH POINT:** 72°F (isopropanol)

**AUTOIGNITION TEMPERATURE:** No data

**EXTINGUISHING MEDIA:** Flammable liquid. Use alcohol foam, carbon dioxide or dry chemical extinguishing agents. Water may be used to keep fire exposed containers cool.

**SPECIAL FIRE FIGHTING PROCEDURES:** Flammable liquid. Material readily ignited with flame, sparks, friction or heat. Burning material may release toxic and corrosive fumes. Vapors can flow along surfaces to distant ignition sources and flash back. Use normal fire fighting procedures which include wearing NIOSH/MSHA approved self-contained breathing apparatus, flame, and chemical resistant clothing; hats, boots, and gloves. Leave the area unless fitted with a self-contained breathing apparatus and fire protective clothing.

**UNUSUAL FIRE OR EXPLOSION HAZARDS:** Flammable liquid.

-----**HEALTH HAZARD**-----  
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**MODE OF ENTRY:**

**INHALATION:** Yes  
**SKIN CONTACT:** Yes  
**EYE CONTACT:** Yes  
**INGESTION:** Yes

**CARCINOGENCITY:**

**NTP:** Not known  
**IARC:** Not known  
**OSHA:** Not known

**EFFECTS OF OVEREXPOSURE:**

**INHALATION:** Exposure to high concentrations has a narcotic effect, producing symptoms of drowsiness, headache, staggering, unconsciousness, and possibly death.

**SKIN CONTACT:** May cause irritation with stinging and burning sensations. Causes defatting of the skin.

**EYE CONTACT:** Vapors may irritate the eyes. Splashes may cause severe irritation, possible corneal burns and eye damage.

**INGESTION:** Isopropyl alcohol may cause drowsiness, unconsciousness and death. Gastrointestinal pain, cramps, nausea, vomiting, and diarrhea may also result. The single lethal dose of isopropanol for a human adult is about 250 ml.

**EMERGENCY AND FIRST AID PROCEDURES:**

**INHALATION:** Remove the victim to fresh air and seek medical attention if coughing, shortness of breath or irritation persists.

**SKIN CONTACT:** Wash the affected area with soap and water for at least 5 minutes.

**EYE CONTACT:** Immediately flush eyes, including under eyelids, with large amounts of water for at least 15 minutes. Call a physician.

**INGESTION:** Give the victim plenty of water and seek immediate medical attention.

-----**REACTIVITY DATA**-----  
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**STABILITY:** Moisture-sensitive material.

**CONDITIONS TO AVOID:** Contact with ignition source or heat.

**INCOMPATIBILITY:** Moisture, heat, strong oxidizers, acetaldehyde, chlorine, ethylene oxide, hydrogen-palladium combination, nitroform, phosgene, hydrogen peroxide-sulfuric acid combination, potassium tert-butoxide, hypochlorous acid, isocyanates, oleum, perchloric acid, aluminum isopropoxide, crotonaldehyde.

**HAZARDOUS DECOMPOSITION PRODUCTS:** CO, CO<sub>2</sub>, zirconium oxide, and organic fumes

**HAZARDOUS POLYMERIZATION:** None

-----**ENVIRONMENTAL INFORMATION**-----  
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**SPILL OR LEAKAGE PROCEDURES:** Wearing full protective equipment, eliminate all sources of ignition. Cover spill with dry sand or vermiculite. Sweep up the mixture and dispose of properly.

**WASTE DISPOSAL:** Consult state, local, or federal EPA regulations for proper disposal.

-----**PROTECTION AND PRECAUTIONS**-----

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**VENTILATION REQUIREMENTS:** Glove bag or box with dry, inert atmosphere.

**RESPIRATORY PROTECTION:** NIOSH/MSHA approved respirator with an organic vapor cartridge.

**PROTECTIVE GLOVES:** Rubber

**EYE/FACE PROTECTION:** ANSI approved safety goggles

**HANDLING AND STORAGE:** Handle and store the material under an inert atmosphere of nitrogen or argon. Keep away from heat.

**OTHER PRECAUTIONS:** The material will react with air and moisture. Lab coat and apron, flame and chemical resistant coveralls, eyewash capable of sustained flushing, safety drench shower and hygienic facilities for washing.

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The information herein is believed to be accurate and reliable as of the date compiled. However, Chemat Technology, Inc. makes no representation, warranty or guarantee of any kind with respect to the information on this data sheet or any use of the product based upon this information.

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