



Hummel Croton Inc.  
10 Harmich Road  
South Plainfield, NJ 07080

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MSDS



## Zirconium Powder

In case of Emergency Call Chemtrec®  
(U.S.) (800)-424-9300  
(International) (703)-527-3887

### Section I. Chemical Product and Company Identification

**Supplier:**

Hummel Croton Inc.  
10 Harmich Road  
South Plainfield, NJ 07080  
(908)-754-1800

**Chemical Name:** Zirconium Powder Suspended in Ethanol

**Synonym:** Zirconium Metal Powder

**CAS Number:** 7440-67-7

**Chemical Formula:** Zr

HMIS Rating

Health	1
Flammability	3
Reactivity	1

Personal Protection E

### Section II. Composition and Information on Ingredients

Material	CAS#	%	OSHA	ACGIH
Zirconium	7440-67-7	50% min.	5mg/m <sup>3</sup>	5mg/m <sup>3</sup>
Ethyl Alcohol	64-17-5	50% max.	1900mg/m <sup>3</sup>	1900mg/m <sup>3</sup>
Hafnium	7440-58-6	0.5-2.5%	0.5mg/m <sup>3</sup>	0.5mg/m <sup>3</sup>

### Section III Hazards Identification:

**Acute Health Effects:** Irritating to the skin and eyes on contact. Inhalation will cause irritation to the lungs and mucus membrane. Irritation to the eyes will cause watering and redness. Reddening, scaling, and itching are characteristics of skin inflammation. Follow safe industrial hygiene practices and always wear protective equipment when handling this compound.

**Chronic Health Effects:** This product has no known chronic effects. Repeated or prolonged exposure to this compound is not known to aggravate medical conditions.

**Accute Health Effects:** This product is not listed by NTP, IARC or regulated as a Carcinogen by OSHA.

### Section IV. First Aid Measures

**First Aid For Eye:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

**First Aid For Skin:** In case of contact, flush skin with water. Wash clothing before reuse. Call a physician if irritation occurs.

**First Aid For Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

**First Aid For Ingestion:** If swallowed, call a physician immediately.

### Section V. Fire and Explosion Data

**Flammability:** Non-Flamable

**Flash Points:** Not Applicable

**Auto-Ignition:** Not Applicable

**Flammable Limits:** Not Applicable

**Extinguishing Media:** Use approved class D extinguishers or smother with dry sand, dry ground limestone or dry clay. DO NOT USE WATER. Do not use carbon dioxide extinguisher on this material

**Fire Fighting Procedure:** Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. FLAMMABLE SOLID.

**Fire/Explosion Hazards:** Emits toxic fumes under fire conditions.

## Section VI. Accidental Release Measures

**Spill Or Leak Procedures:** Utilize recommended protective clothing and equipment. Clean spills in a manner that does not disperse dust into the air. Spill area can be washed with water. Collect wash water for approved disposal. Keep from entering water or ground water

## Section VII. Handling and Storage

**Storage Temperatures:** Store at ambient temperature

**Shelf Life:** Unlimited in tightly closed container.

**Special Sensitivity:** None

**Handling/Storage Precautions:** Avoid breathing dust. Avoid getting in eyes or on skin. Wash thoroughly after handling. Store in a dry place away from direct sunlight, heat and incompatible materials (see Section X). Reseal containers immediately after use. Store away from food and beverages.

**Additional Information:** Zirconium reacts with carbon tetrachloride, copper oxide, lead oxide, potassium chlorate and nitrate, borax, sulfates, tungstates, molybdates, alkali metal hydroxides, chromates, and dichromates. Its combustion in air is stimulated by the presence of limited amounts of water. Auto ignition temperature of dust cloud is 68°F. It will burn in an atmosphere of carbon dioxide. Zirconium metal powder is packaged with 50% ethanol. Do not handle dry! Handle only under a minimum of 50% ethanol or in protective argon atmosphere. Zirconium powders can autoignite in air when dry. It is extremely sensitive to shock, heat, friction and static electricity. Settled zirconium may form a hard cake, reslurry by rolling the shipping container on a ball-mill type roller for a minimum of 30 minutes. Do not attempt to remove zirconium if it has settled in the container. Friction can cause ignition if water content of the material is low. Routine inspection of product containers for possible leakage or drying is highly recommended.

## Section VIII. Exposure Controls/Personal Protection

**Eye Protection:** Safety glasses or goggles.

**Skin Protection:** PVC gloves with impervious boots, apron or coveralls. Employees should wash their hands and face before eating, drinking or using tobacco products.

**Respirator:** Work ambient concentrations should be monitored and if the recommended exposure limit is exceeded, a NIOSH/MSHA approved dust respirator must be worn.

**Ventilation:** Use local ventilation if dusting is a problem, to maintain air levels below the recommended exposure limit.

**Additional Protective Measures:** Emergency showers and eye wash stations should be available. Educate and train employees in the safe use and handling of hazardous chemicals.

## Section IX. Physical and Chemical Properties

**Physical Form:** Amorphous Powder Suspended in Ethanol

**Color:** Bluish-Black

**Odor:** Ethanol Odor

**Molecular Weight:** 91.22

**Boiling Point:** 3577°C

**Melting/Freezing Point:** 1845°C

**Solubility In Water:** Insoluble

**Specific Gravity:** 6.49

## Section X. Stability And Reactivity

**Stability:** Stable

**Hazardous Polymerization:** Will Not occur

**Incompatibilities:** Strong Acids, Strong Oxidizing Agents, Hydrogen Fluoride, Phosphorus, Oxygen, Lead, and Sensitive To Air

**Instable Conditions:** Excessive temperatures (see Incompatibilities).

**Decomposition Temperature:** Unknown

**Decomposition products:** Unknown

## Section XI. Toxicological Information

**RTECS Number:** Zirconium: ZH7070000 Ethanol: KQ6300000

**Routes of Exposure:** Eye contact. Ingestion. Inhalation. Skin contact.

**Toxicity Data:** To the best of our knowledge, the chemical, physical, and toxicological properties of Zirconium have not been thoroughly investigated. Ethanol Rat, oral LD50: 7060 mg/kg Rabbit oral LD50: 6300 mg/kg

**Chronic Toxic Effects:** This product has no known chronic effects. Repeated or prolonged exposure to this compound is not known to aggravate medical conditions.

**Acute Toxic Effects:** Irritating to the skin and eyes on contact. Inhalation will cause irritation to the lungs and mucus membrane. Irritation to the eyes will cause watering and redness. Reddening, scaling, and itching are characteristics of skin inflammation. Follow safe industrial hygiene practices and always wear protective equipment when handling this compound.

## Section XII. Ecological Information

**Ecotoxicity:** Not available at this time.

## Section XIII. Disposal Considerations

**Waste Disposal Method:** Waste disposal should be in accordance with existing federal, state and local environmental regulations.

## Section XIV. Transportation Information

**Proper Shipping Name:** Zirconium Suspended in a Flammable Liquid

**UN Number:** 1308

**Class:** 3

**P.G.:** II

**Label Code:** 3

## Section XV. Regulatory Information

**OSHA Status:** This product is hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200.

**TSCA Chemical Inventory:** This compound is on the EPA Toxic Substance Control Act (TSCA) inventory List

**California Proposition 65:** To the best of our knowledge, this product contains no levels of listed substances, which the state of California has found to cause cancer, birth defects or other reproductive effects.

**SARA 313 Title III:**

Section 302 Extremely Hazardous Substances: None

Section 311/312 Hazardous Categories: None

Section 313 Toxic Chemicals: None

## Section XVI. Other Information

**Prepared By:** Mark Dugan

**Date:** January 05, 2009

**Reason For Issue:** Updated Format

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