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

## Zirconium Hydride Safety Data Sheet

### 1. Product and Company

Product name: Zirconium Carbide  
Synonym: None  
CAS-No.: 7704-99-6  
Company: Hummel Croton Inc.  
10 Harmich Rd.  
South Plainfield, NJ 07080  
Telephone: 908-754-1800  
Fax: 908-754-1815

HMIS Rating	
Health	1
Flammability	3
Reactivity	1
Personal Protection	E

Emergency telephone number

Emergency Phone #: Chemtrec US: 800-424-9300  
Chemtrec International: 703-527-3887

### 2. Hazards

#### GHS Label elements

GHS Classification: Flammable solids (Category 1), H228  
Skin irritation (Category 2), H315  
Eye irritation (Category 2A), H319  
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

Pictogram(s)



Signal word **DANGER**

Hazard statement(s)

- H228 Flammable solid.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.

Precautionary statement(s)

- P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- P240 Ground/bond container and receiving equipment.
- P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
- P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
- P264 Wash skin thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P271 Use only outdoors or in a well-ventilated area.
- P280 Wear protective gloves/ eye protection/ face protection.
- P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
- P304 + P340 + P312 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.
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P332 + P313 If skin irritation occurs: Get medical advice/ attention.
- P337 + P313 If eye irritation persists: Get medical advice/ attention.
- P362 Take off contaminated clothing and wash before reuse.
- P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
- P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
- P501 Dispose of contents/ container to an approved waste disposal plant.

**Hazards not otherwise classified (HNOC) or not covered by GHS**

None

**3. Composition/Ingredients**

**Substance**

Formula: ZrH<sub>2</sub>  
 Molecular weight: 93.24 g/mol  
 CAS-No.: 7704-99-6

Material	CAS	%	OSHA	ACGIH
Zirconium Hydride	7704-99-6	100%	5 mg/m <sup>3</sup> as Zr	5 mg/m <sup>3</sup> as Zr

**4. First Aid**

**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.

## 5. Fire Data

Flammability: Non-Flammable

Flash Point: 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.

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

Fire/Explosion Hazards: This material, like most materials in powder form, is capable of creating a dust explosion. Emits toxic fumes under fire conditions.

## 6. Accidental Release

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.

## 7. Handling And Storage

Storage Temperatures: Store at ambient temperature.

Shelf Life: Unlimited in tightly sealed 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. Reseal containers after use. Store away from food and beverages.

## 8. Exposure Controls/Personal Protection

Eye Protection: Safety glasses or goggles.

Skin Protection: PVC gloves with impervious boots, apron or coveralls. Wash hands and face before eating, drinking or using tobacco.

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

## 9. Physical And Chemical Properties

Physical Form: Fine Metallic Powder

Color: Gray to Black

Odor: Odorless

Molecular Weight: 93.23 g/mol  
Boiling Point: Not Established  
Melting/Freezing Point: Not Established  
Solubility In Water: Insoluble  
Specific Gravity: 5.600

## 10. Stability And Reactivity

Stability: Stable  
Hazardous Polymerization: Will not occur.  
Incompatibilities: Strong oxidizing agents and acids. May decompose on exposure to moist air or water.  
Instable Conditions: Excessive temperatures (see incompatibilities).  
Decomposition Temperature: Not known.  
Decomposition Products: Liberates flammable/explosive hydrogen gas.

## 11. Toxicological Information

RTECS Number: ZH8015000  
Routes of Exposure: Eye contact. Ingestion. Inhalation. Skin contact.  
Toxicity Data: To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.  
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.

## 12. Ecological Information

Ecotoxicity: Not available at this time.

## 13. Disposal Considerations

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

## 14. Transportation Information

Proper Shipping Name: Zirconium Hydride  
UN Number: 1437  
Class: 4.1  
P.G.: II  
Label Code: 4.1

## 15. 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 320 Extremely Hazardous Substances: None

Section 311/312 Hazardous Categories: None

Section 313 Toxic Chemicals: None

## **16. Other Information**

Prepared By: Michael Richard

Date: June 3, 2015

Reason For Issue: GHS Compliance

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