Zirconium Carbide
Safety Data Sheet

1. Product and Company

Product name: Zirconium Carbide
Synonym: None
CAS-No.: 12070-14-3
Company: Hummel Croton Inc.
          10 Harmich Rd.
          South Plainfield, NJ 07080
Telephone: 908-754-1800
Fax: 908-754-1815

Emergency telephone number

Emergency Phone #: Chemtrec US: 800-424-9300
                  ChemTel International: +1-813-248-0585

2. Hazards

GHS Label elements

GHS Classification: Flammable solids (Category 1), H228
                   Acute toxicity, Oral (Category 4), H302
                   Acute toxicity, Inhalation (Category 4), H332
                   Acute toxicity, Dermal (Category 4), H312

Pictogram(s)

Signal word DANGER

Hazard statement(s)
H228  Flammable solid.
H302 + H312 + H332  Harmful if swallowed, in contact with skin or if inhaled

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/protective clothing/eye protection/face protection.
P301 + P312  IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P302 + P352  IF ON SKIN: Wash with plenty of soap and water.
P304 + P340  IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312  Call a POISON CENTER or doctor/physician if you feel unwell.
P322  Specific measures (see supplemental first aid instructions on this label).
P330  Rinse mouth.
P363  Wash contaminated clothing before reuse.
P370 + P378  In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
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: ZrC
Molecular weight: 103.23 g/mol
CAS-No.: 12070-14-3

<table>
<thead>
<tr>
<th>Material</th>
<th>CAS</th>
<th>%</th>
<th>OSHA</th>
<th>ACGIH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zirconium Carbide</td>
<td>12070-14-3</td>
<td>100%</td>
<td>5 mg/m³ as Zr</td>
<td>5 mg/m³ as Zr</td>
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</tbody>
</table>

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: Sand, dry powder type agents designed for metal powder fires.
   Fire Fighting Procedure: Do not apply water to burning material. Full emergency equipment with self-contained breathing apparatus must be worn by firefighters. During a fire, irritating and toxic gases and aerosols may be generated by thermal decomposition and combustions. Fire/Explosion Hazards: Dust and fumes from this product may be a fire and explosion hazard when exposed to high temperatures of ignition sources. Particle size and dispersion in air determine reactivity.

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: Powder
   Color: Gray to Black
   Odor: Odorless
   Molecular Weight: 102.23 g/mol
   Boiling Point: Not Established
Melting/Freezing Point: 3420°C  
Solubility In Water: Insoluble  
Specific Gravity: 6.73

10. Stability And Reactivity

Stability: Stable  
Hazardous Polymerization: Will not occur. 
Incompatibilities: Evolves flammable hydrogen gas on contact with acids and bases. 
Instable Conditions: Excessive temperatures (see incompatibilities). 
Decomposition Temperature: Not known. 
Decomposition Products: May produce oxides of zirconium and carbon.

11. Toxicological Information

RTECS Number: Not Established  
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 prolong 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 Carbide  
UN Number: 3178  
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: March 21, 2018
   Reason For Issue: Emergency Contact Update

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