

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION

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|---------------------------|-----------------|--------------------------|---------------|
| Trade Name: | Yttrium Carbide | Chemical Nature: | Metal Carbide |
| Molecular Formula: | YC ₂ | Molecular Weight: | 112.93 |
| CAS#: | 12071-35-1 | TSCA: | Listed |

II HAZARDOUS INGREDIENTS

| | |
|---|--------------------------------------|
| Hazardous Ingredients: Yttrium Carbide | %: 100.0 |
| TLV: 1 mg/m ³ (for yttrium) | OSHA PEL: 1 mg/m ³ |
| HMIS Hazard Rating: Health: 1 | Flammability: 2 |
| | Reactivity: 1 |

III PHYSICAL DATA

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|---------------------------------|--|--------------------------|--------------------------|
| Boiling Point 760 mm Hg: | N/D | Vapor Pressure: | N/A |
| Melting Point: | N/D | Density: | 4.13 |
| % Volatiles by Volume: | N/A | Evaporation Rate: | N/D (H ₂ O=1) |
| Appearance and Odor: | Yellow pieces, no odor | | |
| Reaction With Water: | Decomposes in water with evolution of a mixture of hydrocarbons. | | |

IV FIRE AND EXPLOSION HAZARDS DATA

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| Flash Point (Method used): N/A | Autoignition Temperature: N/A |
| Flammable Limits: Upper: N/A Lower: N/A | Flammability: A potentially flammable solid |

Extinguishing Media: Agent for metal fires (like G-1 powder, MET-L-X or TEC)
Special Fire Fighting Procedures: Do not use water

Unusual Fire & Explosion Hazard: A potentially flammable solid
Toxicity Data: No Data

V HEALTH HAZARD INFORMATION

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|---------------------------------|------------------------------------|
| Personal Protection: Yes | Routes of Entry: Inhalation |
|---------------------------------|------------------------------------|

Effects of Over Exposure (Acute and Chronic):

Inhalation: Yttrium and compounds have caused pulmonary irritation in test animals. Diffuse pulmonary fibrosis has also been reported.

Dermal/Eye Contact: Mild irritation to the skin and eye.

Other: No data specifically for this chemical. Yttrium compounds have been reported to produce liver injury in test animals. As a lanthanide, yttrium may affect blood clotting time.

Medical Conditions Generally Aggravated by Exposure: Chronic respiratory disease may be aggravated by exposure.

Carcinogenicity: None

EMERGENCY AND FIRST AID PROCEDURES:

INGESTION: Induce vomiting. Seek medical attention.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. Get medical attention. (problem for dust only).

SKIN: Flush with soap and water.

EYES: Flush with plenty of water for at least 15 minutes.

VI REACTIVITY DATA

Stability: Unstable

Conditions Contributing to Instability: None

Incompatibility (Material to Avoid): Strong acids, strong oxidizers, moisture.

Hazardous Decomposition Products (Thermal and Other): Acetylene gas in contact with moisture.

Hazardous Polymerization: Will not occur

Hazardous Decomposition Products: Acetylene gas in contact with moisture.

Conditions to Avoid: Moisture

VII SPILL OR LEAK PROCEDURES

Steps to Be Taken If Spilled or Released: Absorb with sand or inert material. Neutralize. Sweep or scoop up and remove.

Waste Disposal Method: In accordance with Local, State and Federal Waste Disposal Regulations. React and neutralize the YC_2 by the slow and careful ordered addition of water and $NaHSO_4$. The neutral product can now be washed down the drain with ample water supply.

VIII SPECIAL PROTECTION INFORMATION

Respiratory Protection (Specify Type): If dust is being generated, air purifying respirator should be worn.

Ventilation: Local Exhaust: Handle in dry-box or glove-bag if possible, to prevent contact with air or moisture.

Mechanical(General): Not Recommended

Protective Gloves: Neoprene

Eye Protection: Goggles

Other Protective Equipment/Practices: Normal lab wear

IX SPECIAL PRECAUTIONS

Precautions to Be Taken in Handling and Storing: Wash thoroughly after handling. Keep container closed. Store in a tightly closed container. Empty container may contain hazardous residues. Keep dry; flammable solid.

Transportation Requirements:

DOT Class: Flammable Solid (N.O.S)

UN Number: 1325

IMCO Class: 4.3

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