



# MATERIAL SAFETY DATA SHEET



Basic Carbide Corporation 900 Main Street Lowber, PA 15660 Ph 724-446-1630

**Chemical Name :** Cemented Carbide Product with Cobalt or Nickel Binder

**Trade Name and Synonyms:** All Basic Carbide Grades - BC -

**Chemical Family:** Refractory Metal Carbide **Molecular Weight:** N/A

## PHYSICAL DATA

<b>Appearance and Odor:</b>	Dark Grey Metal/No Odor		
<b>Boiling Point</b>	N/A	<b>Specific Gravity (H<sub>2</sub>O) = 1):</b>	11.0 to 15.5
<b>Vapor Pressure (mm Hg):</b>	N/A	<b>Percent Volatile by Volume:</b>	0
<b>Vapor Density (Air = 1):</b>	N/A	<b>Evaporation Rate:</b>	N/A
<b>Solubility in Water:</b>	Insoluble	<b>How Best Monitored:</b>	Air sample

## HAZARDOUS INGREDIENTS

Material	Percent by weight	OSHA PEL	ACGIH TLV	CAS #
Tungsten Carbide (limits for Tungsten dust)	75-97%*	5mg/m <sup>3</sup>	5mg/m <sup>3</sup>	12070-12-1
Cobalt	3-25%*	.1mg/m <sup>3</sup>	.02mg/m <sup>3</sup>	7440-48-4
Tantalum Carbide (limits for Tantalum dust)	0-.5%*	5mg/m <sup>3</sup>	5mg/m <sup>3</sup>	12070-06-3
Nickel Carbide (limits for Nickel dust)	6-15%*	1mg/m <sup>3</sup>	1.5mg/m <sup>3</sup>	7440-02-0

\* Depends on grade specifications

## HEALTH HAZARD DATA

### Routes of Exposure:

Grinding cemented carbide product will produce dust of potentially hazardous ingredients which can be inhaled, swallowed or come in contact with the skin or eyes.

### Effects of Overexposure:

Inhalation	Dust from grinding can cause irritation of the nose and throat. It also has the potential for causing transient or permanent respiratory disease, including occupational asthma and interstitial fibrosis, in a small percentage of exposed individuals. It is reported that cobalt dust is the most probable cause of such respiratory diseases. Symptoms include productive cough, wheezing, shortness of breath, chest tightness and weight loss. Interstitial fibrosis (lung scarring) can lead to permanent disability or death. Certain pulmonary conditions may be aggravated by exposure.
Skin Contact	Can cause irritation or an allergic skin rash due to cobalt sensitization.
Eye Contact	Can cause irritation.
Ingestion	Reports outside the industry suggest that ingestion of significant amounts of cobalt has the potential for causing blood, heart and other organ problems.

**CHEMICAL NAME: Cemented Carbide Product with Cobalt binder.**

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## HEALTH HAZARD DATA, cont.

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**Emergency and First Aid Procedures:** Applicable for dusts or mists

Inhalation	If symptoms of pulmonary involvement develop ( coughing, wheezing, shortness of breath, etc.), remove from exposure and seek medical attention.
Skin Contact	If irritation or rash occurs, thoroughly wash affected area with soap and water and isolate from exposure. If irritation or rash persists, seek medical attention.
Eye Contact	If irritation occurs , flush with copious amounts of water. If irritation persists, seek medical attention.
Ingestion	If substantial quantities are swallowed, dilute with a large amount of water, induce vomiting and seek medical attention.

**Carcinogenic Assessment (NTP Annual Report, IARC Monographs, other):**

The National Toxicology Program (NTP) found there was sufficient evidence of carcinogenicity of nickel in experimental animals and limited evidence for the carcinogenicity of nickel in humans. The International Agency for Research on Cancer (IARC) found that there was inadequate evidence that metallic cobalt and metallic nickel are carcinogenic to humans but since there was sufficient evidence that they are carcinogenic to animals, IARC concluded that metallic cobalt and metallic nickel are possibly carcinogenic to humans. IARC and NTP found there was inadequate data for the carcinogenicity of chromium and trivalent chromium compounds. Cobalt has not been classified as a known or suspected carcinogen by NPT or OSHA. Nickel and chromium have not been classified as a known or suspected carcinogen by OSHA

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## FIRE AND EXPLOSION HAZARD DATA

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**Flash Point:** N/A    **Test Method Used:** N/A    **Flammable Limits:** N/A    **LEL:** N/A    **UEL:** N/A

Hard Cemented Carbide Product is not a fire hazard. Dusts generated in grinding operations may ignite if allowed to accumulate and subjected to an ignition source.

**Extinguishing Media:** For powder fires smother with dry sand, dry dolomite, ABC type fire extinguisher, or flood with water.

**Special Fire Fighting Procedures:** For a powder fire confined to a small area, use a respirator approved for toxic dusts and fumes. For a large fire, firefighters should use self-contained breathing apparatus. Unusual Fire and Explosion Hazards: Dusts may present a fire or explosion hazard rate favoring conditions of particle size, dispersion and strong ignition source. However, this is not expected to be a problem under normal handling conditions

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## REACTIVITY DATA

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<b>Stability:</b> Unstable Stable <b>X</b>	<b>Conditions to Avoid:</b> N/A
<b>Incompatibility:</b> Contact of dust with strong oxidizers may cause fire or explosions	<b>Materials to Avoid:</b> Strong Acids
<b>Hazardous Decomposition Products:</b> None	
<b>Hazardous Polymerization:</b> May Occur Will Not Occur <b>X</b>	<b>Conditions to Avoid:</b> N/A

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## **SPILL OR LEAK PROCEDURES**

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**Steps to be taken in Case Material is Released or Spilled:** Ventilate area of spill. Clean up using methods which avoid dust generation such as vacuum (with appropriate filter to prevent airborne dust levels which exceed the PEL or TLV), wet dust mop or wet clean-up. If airborne dust is generated, use an appropriate NIOSH approved respirator.

**Waste Disposal Method:** Dispose of in accordance with appropriate government regulations. May be sold as scrap for reclaim.

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## **SPECIAL PROTECTION INFORMATION**

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**Respiratory Protection:** Use an appropriate NIOSH approved respirator if airborne dust concentrations exceed the appropriate PEL or TLV. All appropriate requirements set forth in 29 CFR 1910.134 should be met

**Ventilation:** Use local exhaust ventilation which is adequate to limit personal exposure to airborne dust to levels which do not exceed the PEL or TLV. If such equipment is not available use respirators as specified above.

**Protective Gloves:** Protective Gloves or Barrier cream are recommended when contact with dust or mist is likely. Prior to applying the barrier cream or using protective gloves, wash thoroughly.

**Eye Protection:** Safety glasses with side shields or goggles should be worn

**Other Protective Equipment:** N/A

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## **SPECIAL PRECAUTIONS**

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**Precautions to be Taken in Handling and Storage:** Maintain good housekeeping procedures to prevent dust accumulation during grinding. Avoid dust inhalation and direct skin contact with dust.

Do not strike or impact product with hardened steel hammer or similar device because of possible fracture/shattering of product. Product should be pressed if inserted into another metal part or product.

**Other Precautions:** Clean up using methods which avoid dust generation such as vacuum ( with appropriate filter to prevent airborne dust levels which exceed the PEL or TLV), wet dust mop or wet clean-up. If airborne dust is generated, use appropriate NIOSH approved respirator.

Wash hands thoroughly after handling, before eating or smoking. Wash exposed skin at the end of work shift. Do not shake clothing, rags, or other items to remove dust. Dust should be removed by washing or vacuuming ( with appropriate filters) the clothing, rags or other items.

Periodic medical examinations are recommended for individuals regularly exposed to dust or mist.

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In case of questions please call

**Basic Carbide Corporation**  
**(724) 446-1630**

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It shall be the responsibility of the customer purchasing this product to ensure that all employees/users of this product be familiar with and trained in the handling, use and hazards associated with this product as contained herein.

This responsibility shall also extend directly to the user.

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### **BASIC CARBIDE CORPORATION**

900 MAIN STREET  
LOWBER, PA 15660  
(724) 446-1630