

# MATERIAL SAFETY DATA SHEET

## CARBIDE CUTTING TOOLS

MSDS 1-HM  
(Yellow Label)

COMPANY NAME: Accupro  
75 Maxess Road  
Melville, NY 11747  
Telephone No.: 800-283-9613  
Issue Date: September 4, 1997  
Supersedes: December 1, 1995  
Chemical name: Cemented tungsten carbide product with cobalt binder  
Brand name: Accupro (Boring Bars), cemented tungsten carbide cutting tools .  
Chemical family: Refractory metal carbide Molecular weight: N/A

### PHYSICAL DATA

Appearance and odor: Dark gray metal/no odor  
Boiling point: N/A Specific gravity (H<sub>2</sub>O=1): 11.0 to 15.5  
Vapor pressure (mm Hg): N/A Percent volatile by volume: 0  
Vapor density (Air=1): N/A Evaporation rate: N/A  
Solubility in water: Insoluble How best monitored: Air sample

### HAZARDOUS INGREDIENTS

Material	% by Weight	OSHA PEL	ACGIH STEL	ACGIH TLV	CAS No.
Tantalum carbide (limits for tantalum dust)	0-15	5 mg/m <sup>3</sup>	Not established	5 mg/m <sup>3</sup>	12070-06-3
Cobalt	3-30	0.1 mg/m <sup>3</sup>	Not established	0.05 mg/m <sup>3</sup>	7440-48-4
Tungsten carbide (limits for tungsten dust)	50-97	5.0 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	5 mg/m <sup>3</sup>	12070-12-1
Chromium carbide (limits for chromium (+3) compounds as Cr)	0-1	1 mg/m <sup>3</sup>	Not established	0.5 mg/m <sup>3</sup>	7440-47-3

#### Routes of exposure:

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

#### Acute (short term) effects of overexposure:

Inhalation: Dust or fumes from grinding or heating this product can cause irritation of the nose, mouth and throat when inhaled. High levels of cobalt may cause irritation of the lungs resulting in fluid build-up (pulmonary edema). This reaction may be delayed for up to two days and may be fatal. Symptoms of overexposure include productive cough, wheezing, shortness of breath, and chest tightness.

Skin contact: Skin contact with this product may cause irritation and skin rash. Certain skin conditions (such as dry skin) may be aggravated by exposure.

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Eye contact: Eye contact with this product may cause eye irritation.

Ingestion: No information is available regarding ingestion that may have occurred in the tungsten carbide industry. Reports outside the industry suggest the ingestion of significant amounts of cobalt has the potential for causing blood, heart and other organ problems.

#### Chronic (long term) effects of overexposure:

Inhalation: Occupational asthma and interstitial fibrosis (lung scarring) may develop due to inhalation of dusts or fumes. The asthma may develop due to sensitization to cobalt. These conditions may lead to permanent disability or death. Symptoms are as described in acute effects. Cobalt can cause damage to the heart muscle resulting in heart failure. Cobalt can also cause damage to the thyroid and liver.

Skin contact: Skin contact with this product may cause irritation and skin rash. Contact dermatitis may develop as a result of sensitization to cobalt.

Eye contact: Eye contact with this product may cause eye irritation and/or conjunctivitis.

#### Emergency and first aid procedures:

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 large 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)

**WARNING:** This product contains substances which are known to the State of California to cause cancer. Hexavalent chromium (chromium [IV]) and hexavalent chromium compounds are considered carcinogenic by the National Toxicology Program (NTP) and the International Agency for Research on Cancer (IARC) Monographs. Cobalt oxide and cobalt metal powder are listed as possible carcinogens by the NIOSH Registry of Toxic Effect of Chemical Substances (RTECS).

### FIRE AND EXPLOSION HAZARD DATA

Flash Point: N/A Test method used: N/A

Flammable limits: N/A LEL: N/A UEL: N/A

Hard cemented tungsten carbide product is not a fire hazard. However, dusts produced from grinding may be flammable and may pose a fire hazard if allowed to accumulate.

Extinguishing media: For powder fires, use dry sand, dry dolomite, dry graphite powder.

Unusual fire and explosion hazards: Under rare favoring conditions of particle size and dispersion, dusts from grinding may be spontaneously combustible or explosive.

Special fire fighting procedures: Self-contained breathing apparatus should be used by all fire fighting personnel.

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### REACTIVITY DATA

Stability: This product is stable under normal use conditions.

Materials to avoid: Oxidizers – Contact of dust with oxidizers may cause fire or explosions  
Strong acids – This product may react violently with strong acids.

Contact with the following materials may cause violent reactions: Hydrazinium nitrate, Hydrazine, Ammonia, Lead oxide, Fluoride, Chlorine trifluoride, Iodine pentafluoride, Nitrogen dioxide, Nitrous Oxide.

Hazardous decomposition products: Toxic metal fumes may be released in a fire.

Hazardous polymerization: Not expected to occur.

### SPIL OR LEAK PROCEDURES

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 cleaner equipped with a High Efficiency Particulate Absolute (HEPA) 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.

### SPECIAL PROTECTION INFORMATION

Respiratory protection: Use as appropriate NIOSH approved respirator if airborne dust concentrations exceed the appropriate PEL or TLV. All appropriate requirements as set forth in 29 CFR 1910.134 should be met. Protection factors for respirators recommended below are based upon those as listed in 29 DFR 1910.1001 (g), Table 1. The following type respirators should be used at a minimum:

Up to 0.5 mg/m<sup>3</sup> (Co) a half mask air-purifying respirator with a dust/mist/fume or high efficiency filter.

Up to 2.5 mg/m<sup>3</sup> (Co) a full-face piece air-purifying respirator with a high efficiency filter.

Up to 5 mg/m<sup>3</sup> (Co) a full-face piece powered air-purifying respirator with high efficiency filter.

Above 20 mg/m<sup>3</sup> (Co) or unknown a self-contained breathing apparatus operated in positive pressure mode or a supplied air respirator with full-face piece operated in positive pressure mode with auxiliary self-contained air supply.

Ventilation: Use local exhaust ventilation which is adequate to limit personal exposure to respirable airborne dusts 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 creams are recommended when contact with dust or must is likely. Prior to applying the barrier cream or use of protective gloves, wash thoroughly.

Eye Protection: Safety glasses with side shields or goggles are recommended.

Other protective equipment: N/A

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### SPECIAL PRECAUTIONS

Precautions to be taken in handling storage: Maintain good housekeeping procedures to prevent dust accumulation during grinding. Avoid dust inhalation and direct skin contact with dust.

Other procedures: 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.

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 filter) the clothing, rags or other items.

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

### COMPANY INFORMATION

In case of questions, please call: Accupro, (800) 283-9613

**In case of emergency call: 1-800-535-5053**

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