

# MATERIAL SAFETY DATA SHEET

## I. PRODUCT IDENTIFICATION

North American Tool Corporation  
215 Elmwood Avenue  
P.O. Box 116  
South Beloit, IL 61080-0116  
815-389-2300

Chemical Name: Cemented Carbide Product  
Trade Name: CARBIDE CUTTING TOOLS

Chemical Family: Refractory Metal Carbide  
Molecular Weight: N/A  
Grade Specification: C-2 Micro Grain

Date: June 7, 2006

### PRODUCT:

#### **GENERAL COMMENTS:**

We do not consider this product in the form it is sold to constitute a physical or health hazard. Subsequent operations such as heating, cutting or grinding may cause some of the ingredients to change to a form which could affect exposed workers.

North American Tool Corporation does not manufacture or formulate any of the steel used in its products. The information set forth herein has been summarized from MSDS supplied North American Tool Corporation by its steel suppliers.

No threshold limit values (TLV's) exist for cutting tools. TLV's may be applicable to constituent elements.

## II. HAZARDOUS INGREDIENTS

MATERIAL	CAS NO.	PERCENT BY WEIGHT	PEL (mg/m <sup>3</sup> )	TLV (mg/m <sup>3</sup> )
Tungsten Carbide	12070-12-1	0-97.7%	15	5
Cobalt	7440-48-4	0-30%	0.1	0.02
Nickel	7440-02-0	0-20%	1	1
Tantalum Carbide	12070-06-3	0-55%	5	5
Chromium Carbide	12012-35-0	0.0-5%	0.5	0.5
Molybdenum Carbide	12069-89-5	0-15%	15	10

Cadmium and/or Nickel may be present in brazed tools - see applicable Material Safety Data Sheet

\*Depends on grade specifications

This product contains substances, which are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

During normal usage, cemented carbide products do not present inhalation, ingestion, or other chemical hazards of any kind. Wet or dry grinding of these products may release dusts of potentially hazardous ingredients which can be inhaled, swallowed, or come in contact with skin and eyes. During wet grinding the dust can be suspended or dissolved in the coolant mist.

## III. PHYSICAL DATA

Physical State: Solid  
Boiling Point: N/A  
Specific Gravity (H<sub>2</sub>O=1): Approx 5.0 - 15.0  
Vapor Density (Air=1): N/A  
%Volatiles by Volume: 0  
Appearance and Odor: Dark Gray metal/  
no odor

pH: N/A  
Freezing Point: N/A  
Vapor Pressure (mm Hg): N/A  
Solubility in H<sub>2</sub>O: Insoluble  
Evaporation Rate: N/A  
Coefficient of Water/Oil Distribution: Not Established

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#### IV. FIRE AND EXPLOSION DATA

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Flash Point: None

Fire Point: None

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 involving this material, fire fighters should use self-contained breathing apparatus.

**Unusual Fire and Explosion Hazards:** Dusts may present a fire or explosion hazard under rare favoring conditions of particle size, dispersion and strong ignition source. However, this is not expected to be a problem under normal handling conditions.

**Hazardous Combustion Products:** May generate toxic fumes when heated.

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#### V. HEALTH HAZARD INFORMATION

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**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.

**PRIMARY ROUTES OF ENTRY:**

Inhalation - Eye Contact -  
Skin Contact - Ingestion

**EMERGENCY FIRST AID:**

Remove to fresh air, if condition continues - consult physician, flush area well with running water to remove particulate. Get medical attention. Brush off excess dust. Wash area well with soap and water. Seek medical help if large quantities of material have been ingested.

**EFFECTS OF OVEREXPOSURE:**

**Inhalation** Dust or mists can cause irritation of the nose and throat. Inhalation can result in an allergic reaction in individuals previously sensitized, causing difficult breathing. Dusts or mists also have the potential of causing transient or permanent respiratory disease, including occupational asthma and interstitial fibrosis in a small percentage of exposed individuals. Symptoms include productive cough, wheezing, shortness of breath, chest tightness and weight loss. Nickel is suspected of causing nasal and lung cancer. Symptoms include pain, bleeding, nasal obstruction, vision impairment, weight loss and voice resonance change.

**Skin Contact** Can cause irritation or an allergic skin rash due to chromium, cobalt, or nickel sensitization in people susceptible to allergic reactions.

**Eye Contact** Can cause irritation or conjunctivitis.

**Ingestion:** Ingestion of large amounts of cobalt over a period of time has the potential for causing blood, heart and other organ problems. Current scientific information indicates no adverse effects are likely from ingestion of small amounts of nickel dust generated from these products.

**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 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.

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## VI. REACTIVITY DATA

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<b>Stability:</b>	Stable
<b>Incompatibility:</b>	Contact of dust with strong oxidizers may cause fire or explosions.
<b>Hazardous Decomposition Products:</b>	Thermal decomposition may release tungsten carbide, cobalt and nickel metallic oxides.
<b>Hazardous Polymenzation:</b>	Will not occur
<b>Conditions to Avoid:</b>	N/A
<b>Materials to Avoid:</b>	Strong acids

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## VII. SPILL OR LEAK PROCEDURES

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### STEPS TO BE TAKEN IN CASE OF RELEASE OR SPILL:

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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## VIII. SPECIAL PROTECTION INFORMATION

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<b>Ventilation Requirements:</b>	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.
<b>Respiratory Protection:</b>	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.
<b>Eye Protection:</b>	Safety glasses with side shields, or goggles should always be worn.
<b>Skin Protection:</b>	Gloves and Barrier creams are recommended when contact with dust or mist is likely. Prior to applying the Barrier Cream or use of protective gloves, wash thoroughly.
<b>Other Clothing or Equipment:</b>	N/A.

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## IX. 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.

**Other Precautions:** Clean up using methods which avoid dust generation such as vacuum (with appropriate filter to prevent airborne dust levels which exceed PEL or TLV), wet dust mop or wet clean-up. If airborne dust is generated, use an appropriated 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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## X. TRANSPORTATION INFORMATION

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**HAZARD CLASS:**

This product is not hazardous as defined by the Department of Transportation. (USA) This product is "Not Regulated" under the Transportation of Dangerous Goods Act. (CAN)

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**In case of question please call:  
North American Tool Corporation  
815-389-2300**

**Issue Date: June 7, 2006**

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