MATERIAL SAFETY DATA SHEET

I. PRODUCT IDENTIFICATION

MANUFACTURERS NAME: **Quality Carbide Tool, Inc.**

ADDRESS: **759 Industrial Drive**
Bensenville, IL 60106

TELEPHONE: **(630) 274-2100**

II. SECTION 1: PRODUCT INFORMATION

PRODUCT DESCRIPTION: CEMENTED TUNGSTEN CARBIDE CUTTING TOOLS
PRODUCT NAME (S) OR NUMBER (S):

SECTION 2: COMPOSITION PER 29 CFR 1910.1200 (G) (4)

Carbide tooling may contain any of the following ingredients in varying quantities

HAZARDOUS COMPONENTS	OSHA PELMG/M3	ACGIH TLV MG/M3	CAS#
TUNGSTEN CARBIDE (20-97%)	N.A.	5.0	12070-12-1
COBALT (.1-30%)	.13	0.1	7440-48-4
TANTALUM CARBIDE (0-60%)	5.03	5.0	12070-06-03
CHROMIUM CARBIDE (0-5.1%)	1.0	0.5	12012-35-0
CHROMIUM (0-4.5%)	1.0	0.5	7440-47-3
MOLYBDENUM CARBIDE (0-5.0%)	15	10	12011-97-1
MOLYBDENUM (0-5.0%)	15	10	7439-98-7

SECTION 3: PHYSICAL AND CHEMICAL INFORMATION

BOILING POINT: °F 2870	VAPOR PRESSURE (mm HG): N/A	PH: N/A
% VOLATILE:	N/A VAPOR DENSITY (AIR = 1): N/A	EVAP. RATE

WATER SOLUBILITY: N/A SPECIFIC GRAVITY (H_20 = 1): 13.5 – 15.5 (BUTYLACETATE = 1) ; N/A

APPEARANCE AND ODOR: CARBIDE TOOLING

SECTION. 4: FIRE AND EXPLOSION HAZARD INFORMATION

FLASH POINT (METHOD): N/A	FLAMMABLE LIMITS UFL: N/A LFL: N/A
EXTINGUISHING MEDIA:	For localized carbide fires smother with dry sand, dry dolomite, sodium chloride or soda ash.
SPECIAL FIRE FIGHTING:	Avoid breathing fumes from burning metal. Cool containers exposed to flame with water from side until well after fire is out.
UNUSUAL FIRE AND EXPLOSION HAZARDS:	Finely divided tungsten carbide powder or dusts from grinding are expected to be a fire and explosion hazard when exposed to high temperature or ignition sources. Particle size and dispersion in air determine reactivity. Tungsten carbide cutting tools except as powder or dust, are not fire hazards.

SECTION 5: REACTIVITY INFORMATION

STABILITY:	STABLE
INCOMPATABILITY (MATERIALS TO AVOID);	Contact of dust with strong oxidizers may cause fire or explosions.
DECOMPOSITION PRODUCTS:	During heating toxic metal fumes may be formed.

SECTION 6: SAFE HANDLING INFORMATION

STEPS TO BE TAKEN IN CASE OF SPILL OR RELEASE:	Collect carbide by method which generates the least amount of dust.
WASTE DISPOSAL METHODS:	Scrap tungsten carbide is valuable and should be reclaimed. If material cannot be reclaimed, disposal should be made in compliance with federal, state and local environmental regulation.

SECTION 7: HEALTH HAZARD INFORMATION

ROUTES OF ENTRY: CUTANEOUS: Possible INGESTION: Possible INHALATION: Primary

HEALTH HAZARDS-SIGNS AND SYMPTOMS OF EXPOSURE:

Primary exposure hazard to employees will be from the material that is machined. Particular attention should be given to health hazards of those materials. During normal use, small quantities of carbide dust may be generated, resulting in possible employee exposure to any of the following materials.

TUNGSTEN:	Exposure to skin and eye may result in irritation. Possibly some lung and respiratory tract irritation however, tungsten metal generally is considered to have low order of chronic toxicity.
COBALT:	Acute exposures may result in irritation of eyes, skin and respiratory tract. Skin contact with cobalt may result in contact and sensitization dermatitis with possible cross sensitization to nickel and chrome. Chronic inhalation of cobalt dust may result in pulmonary sensitization and interstitial fibrosis. Symptoms of overexposure include coughing, dyspnea, soreness of chest and weight loss.
TANTALUM:	Tantalum is generally considered to have a low order of toxicity. Possible lung and eye irritation could occur at high exposure levels.
CHROMIUM + 3	Chromium in the + 3 valence has a low order of toxicity. In some workers chrome compounds may act as allergens. High concentrations of particulate may irritate the respiratory tract.
MOLYBDENUM:	May produce irritation of eyes and mucus membranes of the nose and throat. Insoluble molybdenum compounds are considered to have a low order of toxicity

CARCINOGENICITY (IARC, NTP AND OSHA)

None of the components of this material have been identified as known or suspected carcinogens by NTP, IARC or OSHA.

FIRST AID PROCEDURES:

INHALATION:	If symptoms of pulmonary involvement develop (coughing, wheezing, etc.) remove from exposure and seek medical attention.
EYE CONTACT:	If irritation occurs, flush with large amounts of water, occasionally lifting upper and lower lids, until no evidence of material remains (approximately 15-30 minutes). Get medical attention.
SKIN CONTACT:	If irritation or rash occurs, thoroughly wash affected area with a mild soap, and large amounts of water until material is removed. If irritation persists seek medical attention.

SECTION 8: PERSONAL PROTECTION AND CONTROL INFORMATION

RESPIRATORY PROTECTION:	Use an appropriate NIOSH approved respirator if airborne dust concentrations exceed the appropriate PEL or TLV. Follow respiratory protection requirements set forth in 29 CFR 1910.134.

VENTILATION PROTECTION:	Use local or general ventilation to insure exposures do not exceed exceed PEL or TLV.
PROTECTIVE GLOVES:	Protective gloves or barrier creams recommended when in contact with dust.
EYE PROTECTION:	Safety glasses with side shields or goggles recommended.
OTHER RECOMMENDED CONTROL METHODS:	Where possible, use vacuuming instead of dry sweeping to collect metallic dust. Avoid use of compressed air for cleaning.

SECTION 9: SPECIAL PRECAUTIONS

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 from exceeding the PEL or TLV). Do not use compressed air or allow dry sweeping of dust.

Date of preparation: August 8, 2000.

For information contact:
ENVIRONMENTAL OR SAFETY COORDINATOR