

MATERIAL SAFETY DATA SHEET

SECTION 1

COMPANY AND PRODUCT INFORMATION

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Product Name:

Cemented Tungsten Carbide Cutting Tool Products ■ Coated with TiN, TiCN, TiAlN, AlCrN, CrN, Helica, Futura Nano, Hardlube, Alcrona

Product Description!):

All cemented carbide grade inserts, drills and solid carbide products including polycrystalline diamond nnc cubic boron nitride on a tungsten carbide substrate.

Supplier:

Sutton Tools Pty Ltd

NFPA Hazard Rating:

HEALTH 1 ; FLAMMABILITY 0; REACTIVITY 0.

SECTION 2

HAZARDS IDENTIFICATION

Emergency Overview:

During normal operation and usage, cemented carbide products do not present inhalation, ingestion, or other chemical hazards. However, operations such as grinding, cutting, burning, and welding of such products may release dusts, fumes, or vapors which may present health hazards, if the exposure limits described in Section 3 are exceeded. The health hazards described below relate to these non-routine operations, as well as exposure to component materials.

Primary Routes of Entry: Inhalation, ingestion, skin contact

Wet or dry grinding of cemented carbide products will produce dusts of potentially hazardous ingredients which can be inhaled, swallowed, or come in contact with the skin or eyes. During wet grinding, the dust can be suspended or dissolved in the coolant mist.

Acute Health Effects:

Dust from grinding can cause irritation of the nose, throat, lungs, eyes, and mucous membranes. Skin exposure can cause an allergic rash,

Chronic Health Effects:

Chronic exposure to respirable dust containing cobalt and tungsten carry the potential to cause permanent respiratory diseases, including occupational asthma, interstitial pneumonitis and fibrosis (hard-metal disease), and emphysema. Symptoms include productive cough, wheezing, dyspnea (upon exertion), pleuritic chest pain, and weight loss. Skin sensitization is also noted in a small percentage of cases. Reports outside the industry suggest that ingestion of significant amounts of cobalt can cause blood, heart, and other organ effects.

Carcinogenicity (OSHA, NTP, IARC, ACGIH):

Cobalt metal with tungsten carbide is listed by IARC as Group 2A - probably carcinogenic to humans. Nickel is listed by IARC as Category 2B - possibly carcinogenic to humans. Cobalt is listed by ACGIH as an animal carcinogen (A3). Cobalt and nickel are known to the State of California to cause cancer, Nickel is considered reasonably anticipated to be a carcinogenic by NTP.

	Percent by	OSHA	ACGIH
Material (CAS #)	Weight*	PEL-TWA	TLV-TWA
Tungsten carbide (12070-12-1) (Limit as W)	7 - 97		5 mg/m ³
Cobalt (7440-48-4)	0 - 30	0,1 mg/m ³	0.02 mg/m ⁵
Nickel (7440-02-0)	0 - 20	1.0 mg/m ³	1.5 mg/m ³
Tantalum carbide (12070-06-3) (Limit as Ta)	0 - 57	5 mg/m ³	5 mg/m ³
Titanium (134563-67-7) (Limit as TiO ₂)	0 - 53	15 mg/m ³	10 mg/m ³
Titanium carbide (12070-08-5) (Limit as TiO ₂)	0 - 13	15 mg/m ³	10 mg/m ³
Molybdenum carbide (12069-89-5) (Limit as Mo)	0 - 15		
Molybdenum disulfide (7439-98-7) (Limit as Mo)	0 - 2		
	(Mo Insoluble - Inhalable Fraction)	15 mg/m ³	10 mg/m ³
	(Mo Insoluble- Respirable Fraction)		3 mg/m ³

Niobium carbide (12011-99-3)	0 - 12		
Chromium Carbide (12012-35-0) (Limit as Cr)	0 - 5	0.5 mg/m ³	0.5 mg/m ³
Vanadium carbide (13130-21-5) (Limit as V ₂ O ₅)	0 - 5	0.5 mg/m ³	0.05 mg/m ³