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MATERIAL SAFETY DATA SHEET

Chemical Name: Cemented Carbide Product with Cobalt binder
Trade Name and Synonyms: All Carbide Grades
Chemical Family: Refractory Metal Carbide
Molecular Weight: N/A

PHYSICAL DATA:

Appearance and Color:	Dark Gray Metal	Specific Gravity ($H_2O=1$):	11.0 to 15.5
	No Odor		
Boiling Point:	N/A	Percent Volatile by Volume:	0
Vapor Pressure (mm Hg):	N/A	Evaporation Rate:	N/A
Vapor Density (Air=1):	N/A	How Best Monitored:	Air Sample
Solubility in Water:	Insoluble		

HAZARDOUS INGREDIENTS:

<u>MATERIAL</u>	<u>PERCENT BY WEIGHT</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>
Tungsten Carbide (limits for Tungsten dust)	41 - 97%	--	5 mg/m ³
Cobalt	3 - 97%	0.1 mg/m ³	0.1 mg/m ³
Tantalum Carbide (limits for Tantalum dust)	0.0 - 52%	5 mg/m ³	5 mg/m ³
Vanadium Carbide	0.5%	--	--

* 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. Certain skin conditions, such as dry skin, may be aggravated by exposure.
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.

SAFETY PROTECTION INFORMATION:

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RESPIRATORY PROTECTION: Use an appropriate NIOSH approved respirator if airborne dust concentration exceeds the appropriate PEL or TLV. All appropriate requirements set forth in 20 CFR 1910.134 should be met.

VENTILATION: Use local exhaust ventilation which is adequate to limit personal exposure to airborne dust 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 use of protective gloves, wash thoroughly.

EYE PROTECTION: Safety glasses with side shields or goggles should be worn.

OTHER PROTECTIVE EQUIPMENT: N/A

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.

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 an appropriate NIOSH approved respirator.

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

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

In case of questions please call:

SGS Tool Company
(216) 688-6667

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