

## Safety Data Sheet

### 1. IDENTIFICATION

Product description: Cemented Tungsten Carbide Product with Cobalt or Nickel binder (Optional additions of Tantalum and/or Titanium Carbides)

Manufacturer identifier: TMK, TMP, TMN, GT, GP, GK, GF, GD GU, All Techmet Grades

Emergency telephone number: 828-624-0222

Chemical Family: Refractory Metal Carbide. Molecular Weight: N/A

### 2. HAZARD IDENTIFICATION

- **Irritant (skin and eye)**
- **Skin Sensitizer**
- **Respiratory Tract Irritant**



- Pictogram: **WARNING**

Hazard statement: Grinding cemented carbide products will produce dust of potentially hazardous ingredients which can be inhaled, swallowed or come in contact with the skin or eyes.

Potential health effects: Inhalation of dust from grinding can cause irritation of the nose and throat. It can also have the potential for causing transient 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.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Material	CAS Number	Percent By Weight	OSHA PEL	ACSIH TVL
Tungsten Carbide	12070-12-1	60-97%	15mg/m <sup>3</sup>	10mg/m <sup>3</sup> (W)
Tantalum Carbide	12070-06-3	0-15%	15mg/m <sup>3</sup>	10mg/m <sup>3</sup>
Titanium Carbide	12070-08-5	0-15%	15mg/m <sup>3</sup>	10mg/m <sup>3</sup>
Niobium Carbide	12069-94-2	0-10%	15 mg/m <sup>3</sup>	10mg/m <sup>3</sup>
Chromium Carbide	12012-35-0	0-3%	0.5 mg/m <sup>3</sup>	0.5 mg/m <sup>3</sup>
Cobalt	7440-48-4	0-25%	0.1mg/m <sup>3</sup>	0.02mg/m <sup>3</sup>
Nickel	7440-02-0	0-15%	1.0 mg/m <sup>3</sup>	1.5 mg/m <sup>3</sup>

#### 4. FIRST-AID MEASURES

Applicable for dust or mists generated by grinding the cemented carbide article.

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 water and soap 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.

Carcinogenic Assessment (NTP Annual Report, IARC Monographs, other):

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

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#### 5. FIRE-FIGHTING MEASURES

FLASH POINT: N/A                      FLAMMABLE LIMITS: N/A    LEL : UEL:

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 use sand, dolomite or smother, ABC type 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, firefighters should use self-contaminated breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Dusts may present a fire 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.

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#### 6. ACCIDENTAL RELEASE MEASURES

##### PROEDURES TO CONTAIN AND CLEAN UP SPILLS OR LEAKS

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. Maybe sold for scrap reclaim.

CHEMICAL NAME: Cemented Tungsten Carbide Product with Cobalt binder (optional additions of Tantalum and/or Titanium carbides.)

##### SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: Use an appropriate NIOSH approved respirator if airborne dust concentrations exceed the appropriate PEL or TLV.

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.

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

8. HANDLING AND STORAGE: Maintain good housekeeping procedures to prevent dust or accumulation during grinding. Avoid dust inhalation and direct skin contact with dust.

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.

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: grey to black metallic. Solid, dense metal article unless grinding. No odor.

Boiling:	N/A	Percentage 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	Specific Gravity (H2O=1): 11.0 to 15.5

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#### 10. STABILITY AND REACTIVITY:

UNUSUAL FIRE AND EXPLOSION HAZARDS: Dusts may present a fire 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.

STABILITY: Stable

INCOMPATIBILITY: Contact of dust with strong Oxidizers may cause fire.

MATERIALS TO AVOID: Strong acids.

HAZARDOUS DECOMPOSITION PRODUCTS: None

CONDITIONS TO AVOID: N/A

HAZARDOUS POLYMERIZATION: Will Not Occur:

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#### 11. TOXICOLOGICAL INFORMATION;

EFFECTS OF OVER EXPOSURE:

Inhalation: Dust from grinding can cause irritation of the nose and throat. It can also have the potential for causing transient 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. If your workplace grinds or generates carbide dust the work area must be monitored against the allowable TLV levels.

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.

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#### 12. ECOLOGICAL INFORMATION

No potential ecological hazards known. It is recommended that all cemented carbide articles be recycled and re-used.

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#### 13. DISPOSAL CONSIDERATIONS

Many Cemented Carbide Articles can be reground and reused. It is recommended when the articles cannot be reused to recycle the article.

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#### 14. TRANSPORTATION INFORMATION

Hazardous Classification: Not Applicable

Proper Shipping Name: Not Applicable

Packing Group: None

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#### 15. REGULATORY INFORMATION

California Prop. 65 identifies Cobalt as a potential carcinogen.

Compliance with State and Local regulations is the responsibility of the owner.

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#### 16. OTHER INFORMATION

In case of questions please call:

TechMet Carbides, Inc.  
828-624-0222

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