

MATERIAL SAFETY DATA SHEET

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1. IDENTIFICATION OF PRODUCT

Precision Tungsten Carbide Cutting Tools & Tungsten Carbide Burrs.

2. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Identity	% By Weight	CAS No.	8 hr TWA MEL / OES (mg/m ³)
Tungsten Carbide	>50 Balance	1270-12-1	5.0
Cobalt	3 - 30	7440-48-4	0.1
Chromium Carbide	0 - 1	12012-35-0	Not Established
Molebdenum Carbide	0 - 1	12069-89-5	Not Established
Vanadium Carbide	0 - 1	12070-10-9	Not Established
Tantalum Carbide	0 - 1	12070-06-3	Not Established
Titanium Carbide	0 - 20	12070-08-5	Not Established

3. HEALTH HAZARDS DATA

Grinding or heating hardmetal products will produce dust and/or fumes, which are dangerous if inhaled, swallowed or allowed to come into contact with eyes and skin.

DUST: Toxic by inhalation – may cause irritation and inflammation of airways. Repeated inhalation of mists containing cobalt and hard metal particles (cutting fluids) may result in obstruction of airways. Prolonged exposure to high concentrations may result in permanent lung damage. Skin contact may cause irritation and rash and may lead to sensitization.

4. FIRST AID

INHALATION : Remove person to fresh air. If irritation persists, seek medical assistance.

EYE CONTACT : Flush eyes out thoroughly with water. If irritation persists, seek medical assistance.

SKIN CONTACT : Wash thoroughly with soap and water. If irritation persists, seek medical assistance.

INGESTION : If significant quantities of dust or cutting fluid are ingested, seek medical assistance.

5. FIRE AND EXPLOSION

FLAMMABILITY : Solid product is not flammable. However dust produced from grinding may be flammable if allowed to accumulate.

EXTINGUISHING MEDIA : Dry powder, Co₂, foam or water.

SPECIAL FIRE FIGHTING PROCEDURES : Self-contained breathing apparatus required.

6. ACCIDENTAL RELEASE

No special measures required for solid product.

DUST: Contain spillage, collect up carefully to avoid the generation of dust clouds and put into a suitable container.

CONTAMINATED CUTTING FLUIDS: Absorb into inert material and place in suitable sealed container.

Prevent any spillages from entering drains, sewers and watercourses.

Dispose of all materials so as to comply with local and national legislation.

7. HANDLING AND STORAGE REQUIREMENTS

Do not drop or allow impact.

Precision Tungsten Carbide Cutting Tools & Tungsten Carbide Burrs.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

VENTILATION : Use local exhaust ventilation as required to ensure exposure to dust and cutting fluid mist levels does not exceed MEL or OES. If LEV is not available a suitable respirator or dust mask should be worn.

GLOVES : Impervious gloves recommended. Wash skin thoroughly before eating, drinking or smoking.

EYE PROTECTION : Safety glasses or goggles.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Solid. COLOUR: Varying.

10. STABILITY AND REACTIVITY DATA

STABILITY : Stable

REACTIVITY / INCOMPATIBILITY: Avoid contact with strong acids.

11. TOXICOLOGICAL DATA

Inhalation of Tungsten Carbide and Cobalt: LC₅₀, 4h, rat: 0.24 – 0.52mg / L

Ingestion of Cobalt: LD₅₀ oral, rat: >7000mg/Kg

Ingestion of Tungsten Carbide: LD₅₀ oral, rat: >2000mg/Kg

12. ECOLOGICAL DATA

AQUATIC TOXICITY:

Cobalt:	Algae:	IC ₅₀ , 72 h: < 1mg/L
	Daphnia:	EC ₅₀ , 48 h: > 100mg/L
	Fish:	LC ₅₀ , 96 h: > 100mg/L

Tungsten Carbide:	Algae:	IC ₅₀ , 72 h: 130mg/L (growth rate)
	Daphnia:	EC ₅₀ , 48 h: > 1000mg/L
	Fish:	LC ₅₀ , 96 h: > 1000mg/L

SOIL ORGANISMS: Unknown

PLANTS AND TERRESTRIAL ANIMALS: Unknown

13. DISPOSAL

No special requirements for solid product.

Hardmetal sludge and dust is classified as special waste and must be disposed of so as to comply with all local and national legislation.

14. TRANSPORTATION DATA

These products are not regulated for transportation purposes.

15. REGULATORY DATA

PRODUCT CLASSIFICATION:

Xn Harmful. (cobalt)

Risk Phrases:

R23 Toxic by Inhalation.
R42/43 May cause Sensitisation by Inhalation and Skin Contact.

Safety Phrases:

S22 Do Not Breath Dust.
S24 Avoid Contact with Skin.
S37 Wear Suitable Gloves.

16. OTHER INFORMATION

N.B. Whilst Cobalt has been classified as 'Harmful', in section 15 above, we recommend that since there has been a reported a higher acute toxicity due to the simultaneous inhalation of Tungsten carbide and cobalt rather than for cobalt alone, then the material in these products should be classified as T – TOXIC when subjected to heating or grinding.

The preceding information is believed to be correct and current as of the date of preparation of this Material Safety Data Sheet. Since the use of this information and the conditions of use of these products are not within the control of ATI Garryson Limited, it is the user's obligation to assure safe working conditions.