

1. IDENTIFICATION

Product Identity / Trade Name: Tungsten Carbide Burs - All Types

Product Use: Abrasive materials used on metals, concrete, masonry and building materials.

Manufacturer: United Abrasives, Inc.
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Date of Preparation: July 9, 2021

2. HAZARD(S) IDENTIFICATION

As sold, this product is a manufactured article. During use, dust generated has the following hazards:

Classification:

Physical	Health
Not Hazardous	Respiratory Sensitization Category 1 Skin Sensitization Category 1 Specific Target Organ Toxicity – Repeated Exposure Category 1 (Respiratory Tract) Carcinogen Category 1B Toxic to Reproduction Category 2

Label Elements:



Danger!

Hazard statement(s)

H317 May cause an allergic skin reaction
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
H350 May cause cancer.
H361 Suspected of damaging fertility or the unborn child.
H372 Causes damage to respiratory tract through prolonged or repeated exposure.

Precautionary statement(s)

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe dust or fumes.
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P272 Contaminated work clothing must not be allowed out of the workplace.
P284 In case of inadequate ventilation, wear respiratory protection.

P280 Wear protective gloves and eye protection.
P304+P340 IF INHALED: remove person to fresh air and keep comfortable for breathing.
P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor.
P302+P352 IF ON SKIN: Wash with plenty of water
P333+P313 If skin irritation or rash occurs: Get medical attention
P362+P364 Take off contaminated clothing and wash it before reuse.
P308+P313 IF exposed or concerned: Get medical attention.
P405 Store locked up.
P501 Dispose of contents in accordance with local, regional and national regulations.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Concentration
Titanium Carbide	12070-08-5	45-65
Titanium Nitride	25583-20-4	45-65
Molybdenum	7439-98-7	15-35
Nickel	7440-02-0	5-20
Cobalt	7440-48-4	0-20

The specific identity and/or exact percentage has been withheld as a trade secret.

4. FIRST-AID MEASURES

Ingestion: If dust is swallowed, seek medical attention.

Inhalation: If overexposed to dust, remove victim to fresh air and get medical attention.

Eye Contact: Flush eyes thoroughly with water, holding open eyelids. Get medical attention if irritation persists. Obtain immediate medical attention for foreign body in the eye.

Skin Contact: Wash dust from skin with soap and water. Launder contaminated clothing before reuse.

Most important symptoms/effects, acute and delayed: Dust particles or filings may cause abrasive injury to the eyes. Nickel, chromium and cobalt can cause skin irritation and skin and/or respiratory sensitization. Prolonged inhalation of dust or fumes from this product may cause perforation of the nasal septum and lung damage. May cause cancer. May cause reproductive or developmental effects.

Indication of immediate medical attention and special treatment, if necessary: Immediate medical attention is required if allergic respiratory symptoms occur.

5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media: Use any media that is appropriate for the surrounding fire.

Specific hazards arising from the chemical: This product is not combustible; however, consideration must be given to the potential fire or explosion hazards from the base material being processed. Many materials create flammable or explosive dusts or turnings when machined or ground.

Special protective equipment and precautions for fire-fighters: Firefighters should wear full emergency equipment and NIOSH approved positive pressure self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures: Wear appropriate protective clothing as needed to avoid eye and skin contact.

Environmental precautions: Avoid release into the environmental. Report releases as required by local, state and federal authorities.

Methods and materials for containment and cleaning up: Pick up, sweep up or vacuum and place in a container for disposal. Minimize generation of dust.

7. HANDLING AND STORAGE

Precautions for safe handling: Use only with adequate ventilation. Avoid breathing dust. Wash thoroughly after handling and use, especially before eating, drinking or smoking. Consider potential exposure to components of the base materials or coatings being brushed, machined or ground. Refer to OSHA's substance specific standards for additional work practice requirements where applicable.

In normal power brushing operations, the material being removed will fly off the brush with considerable force along with the brush filaments, which break off due to fatigue. The potential for serious injury exists for both the operator and others in the work area (possibly 50 feet or more from the brush). To protect against this hazard, before rotating the brush, during rotation and until the rotation stops, all persons in the area must wear safety goggles or full face shields over safety glasses with side shields, along with appropriate protective clothing.

Conditions for safe storage, including any incompatibilities: Store in a dry location.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure guidelines:

Titanium Carbide	None Established
Titanium Nitride	None Established
Molybdenum (as insoluble compounds)	10 mg/m3 TWA ACGIH TLV (inhalable) 3 mg/m3 TWA ACGIH TLV (respirable) 15 mg/m3 TWA OSHA PEL (total dust)
Nickel (as nickel metal)	1 mg/kg TWA OSHA PEL 1.5 mg/kg TWA ACGIH TLV (inhalable fraction)
Cobalt(as cobalt and inorganic compounds)	0.1 mg/m3 TWA OSHA PEL (metal dust and fume) 0.02 mg/m3 TWA ACGIH TLV (DSEN, RSEN)

Note: Consider also components from base materials and coatings.

Appropriate engineering controls: Use local exhaust or general ventilation as required to minimize exposure to dust and maintain the concentration of contaminants below occupational applicable limits.

Individual protection measures, such as personal protective equipment:

Respiratory protection: Use NIOSH approved respirator if exposure limits are exceeded or where dust exposures are excessive. Consider the potential for exposure to components of the coatings or base material being ground in selecting proper respiratory protection. Refer to OSHA's specific standards for lead, cadmium, etc. where appropriate. Selection of respiratory protection depends on the contaminant type, form and concentration. Select and use respirators in accordance with OSHA 1910.134 and good industrial hygiene practice.

Skin protection: Cloth or leather gloves recommended.

Eye protection: Safety goggles or face shield over safety glasses with side shields.

Other: Protective clothing as needed to prevent contamination of personal clothing. Hearing protection may be required.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.): Gray metal.

Odor: No Odor

Odor threshold: Not applicable	pH: Not applicable
Melting point/freezing point: Not applicable	Boiling Point: Not applicable
Flash point: Non-Combustible	Evaporation rate: Not applicable
Flammability (solid, gas): Not applicable	
Flammable limits: LEL: Not applicable	UEL: Not applicable
Vapor pressure: Not applicable	Vapor density:
Relative density: 11-16	Solubility(ies): Not soluble
Partition coefficient: n-octanol/water: Not applicable	Auto-ignition temperature: Not applicable
Decomposition temperature: Not applicable	Viscosity: Not applicable

10. STABILITY AND REACTIVITY

Reactivity: Not reactive.

Chemical stability: Stable.

Possibility of hazardous reactions: None known.

Conditions to avoid: None known.

Incompatible materials: Strong oxidizers.

Hazardous decomposition products: Dust from grinding or machining could contain ingredients listed in Section 3 and other, potentially more hazardous components of the base material being ground or brushed or coatings applied to the base material.

11. TOXICOLOGICAL INFORMATION

Routes of exposure:

Ingestion: None expected under normal use conditions. Swallowing large pieces may cause obstruction of the gastrointestinal tract.

Inhalation: Dust may cause respiratory irritation.

Eye: Dust may cause eye irritation. Dust particles or filings may cause abrasive injury to the eyes.

Skin: Rubbing brush across the skin may cause mechanical irritation or abrasions. Nickel exposure can cause an allergic dermatitis called "nickel itch".

Sensitization: Nickel and cobalt can cause skin and/or respiratory sensitization.

Chronic: Long-term overexposure to respirable dust may cause lung damage (fibrosis) with symptoms of coughing, shortness of breath and diminished breathing capacity. Skin and/or respiratory sensitization may also occur. Chronic effects may be aggravated by smoking. Prolonged exposure to elevated noise levels during operations may affect hearing. A greater hazard, in most cases, is the exposure to the dust/fumes from the material or paint/coatings being sanded. Most of the dust generated during sanding is from the base material being sanded and the potential hazard from this exposure must be evaluated.

Carcinogenicity: Nickel and cobalt are classified as group 2B carcinogens by IARC. Nickel is listed by NTP as reasonably anticipated to be a carcinogen. None of the other components are listed as carcinogens by IARC, NTP or OSHA.

Reproductive Toxicity: Cobalt has been shown to cause reproductive toxicity in laboratory animals. In a 12 week study, male rats were administered 6.4, 11.6 or 23 mg/kg in drinking water. At all doses, decreased implantations, increased resorptions, decreased viable fetuses and decrease sperm counts were observed. The two higher doses showed decreased relative testes weight and testes necrosis and degenerations.

Numerical measures of toxicity: This product and its components are not acutely toxic. The only acute toxicity data available for the components are listed below.

Iron: LD50 oral rat: 98.6 g/kg, LD50 inhalation rat > 5 mg/kg (intracheal instillation applied)

Titanium Carbide: LD50 oral mouse > 5000 mg/kg

Molybdenum: LD50 oral rat > 2000 mg/kg, LC50 inhalation rat > 3.92 mg/L, LD50 dermal rat > 2000 mg/kg

Nickel: LD50 oral rat > 9000 mg/kg

Cobalt: LD50 oral rat: 550 mg/kg, LC50 inhalation rat <= 0.05 mg/L (analytical), LD50 dermal rat > 2000 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity:

Titanium Carbide: Oncorhynchus mykiss LC50 > 100 mg/L (ultrafine TiO₂)

Molybdenum: Pimephales promelas LC50: 609.1 mg/L

Nickel: Oncorhynchus mykiss LC50: 15.3 mg/L/96hr

Cobalt: Danio rerio LC50 > 181 mg/L/96hr

Persistence and degradability: Biodegradation is not applicable to inorganic compounds.

Bioaccumulative potential: No data available

Mobility in soil: No data available.

Other adverse effects: No data available.

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all applicable local, state/provincial and federal regulations. Local regulations may be more stringent than regional and national requirements. It is the responsibility of the waste generator to determine the toxicity and physical characteristics of the material to determine the proper waste identification and disposal in compliance with applicable regulations.

14. TRANSPORT INFORMATION

	UN Number	Proper shipping name	Hazard Class	Packing Group	Environmental Hazard
DOT	None	Not Regulated	None	None	
TDG	None	Not Regulated	None	None	

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Not applicable – product is transported only in packaged form.

Special precautions: None identified.

15. REGULATORY INFORMATION

SARA Section 311/312 Hazard Categories: Classified as per Section 2 of this SDS.

SARA Section 313: This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372 (Toxic Chemical Release Reporting):

Nickel	7440-02-0	5-20
Cobalt	7440-48-4	0-20

16. OTHER INFORMATION

NFPA Rating: Health = 1 Flammability = 0 Instability = 0
HMIS Rating: Health = 1* Flammability = 0 Physical Hazard = 0
 *Chronic health hazard

Date Previous Revision: 7/12/18

Date This Revision: 7/9/21

Revision Summary:

7/9/21: Updated Section 8: Exposure limits.

7/12/18: Three year review. Change to Section 8, 15 & 16
3/31/15: Changed all sections. Updated format to GHS.
12/14/12: Section 8 Exposure Limits; Comprehensive Review.

The preceding information is believed to be correct and current as of the date of preparation of this Safety Data Sheet. Since the use of this information and the conditions of use of this product are not within the control of United Abrasives, Inc., it is the user's obligation to assure safe use of this product.