

# **PEARL**<sup>®</sup>

## **Safety Data Sheet**

### **Metal Cutting Carbide Blades**

#### **1. IDENTIFICATION**

**Product Identifier:** Carbide Blades

**Product Use:** Abrasive materials used for sanding metals, concrete, masonry, and building materials.

**Restrictions on Use:** Use only as directed.

**Manufacturer:**

Pearl Abrasive Co.  
6832 E. Slauson Ave.  
Commerce, CA 90040

**Phone:** (800) 969-5561  
**Emergency Phone:** (562) 927-5561  
**Website:** [www.pearlabrasive.com](http://www.pearlabrasive.com)

**Date of Preparation:** March 31, 2015

#### **2. HAZARD(S) IDENTIFICATION**

As sold, this product is a manufactured article and is not classified as hazardous according to OSHA Communication Standard, 29 CFR 1910.1200.

#### **3. COMPOSITION / INFORMATION ON INGREDIENTS**

<b>Chemical name</b>	<b>CAS No.</b>	<b>Concentration</b>
Tungsten carbide	12070-12-1	Balance
Cobalt	7440-48-4	0-30
Nickel	7440-02-0	0-30
Tantalum carbide	12070-06-3	0-20
Niobium carbide	12069-94-2	0-20
Titanium carbide	12070-08-5	0-20
Titanium nitride	25583-20-4	0-5
Vanadium carbide	12070-10-9	0-5
Chromium	7440-47-3	0-5

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:** Fine dusts created during grinding or processing may be spontaneously combustible or create a fire or dust explosion hazard. Many materials create flammable/explosive dusts or turnings when machined.

**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 respirator and protective clothing as needed to avoid eye contact and inhalation of dust.

**Environmental precautions:** Avoid release into the environmental. Report release as required to 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 sanded or ground. Refer to OSHA's substance specific standards for additional work practice requirements where applicable.

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



## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Exposure Guidelines:

Tungsten carbide (as tungsten)	5 mg/m <sup>3</sup> TWA, 10 mg/m <sup>3</sup> STEL ACGIH TLV
Cobalt ( as Co)	0.02 mg/m <sup>3</sup> TWA ACGIH TLV 0.01 mg/m <sup>3</sup> TWA OSHA PEL (metal dust and fume)
Nickel (elemental)	1.5 mg/m <sup>3</sup> TWA ACGIH TLV (inhalable) 1 mg/m <sup>3</sup> TWA OSHA PEL
Tantalum carbide (as tantalum)	5 mg/m <sup>3</sup> TWA OSHA PEL
Niobium carbide	None Established
Titanium carbide	None Established
Titanium nitride	None Established
Vanadium carbide	None Established
Chromium (as Cr)	0.5 mg/m <sup>3</sup> TWA ACGIH TLV 0.5 mg/m <sup>3</sup> TWA OSHA PEL

Note: Consider also components of base materials and coatings being machined.

**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 brushed or machined 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:** Avoid skin contact with dust. Follow facility requirements regarding glove use to avoid safety hazard.

**Eye protection:** Safety goggles or 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.):** Silver metal

**Odor:** No Odor

<b>Odor threshold:</b> Not applicable	<b>pH:</b> Not applicable
<b>Melting point/freezing point:</b> Not applicable	<b>Boiling Point:</b> Not applicable
<b>Flash point:</b> Non-Combustible	<b>Evaporation rate:</b> Not applicable
<b>Flammability (solid, gas):</b> Not applicable	
<b>Flammable limits: LEL:</b> Not applicable	<b>UEL:</b> Not applicable
<b>Vapor pressure:</b> Not applicable	<b>Vapor density:</b>
<b>Relative density:</b> 11-15.5	<b>Solubility(ies):</b> Not soluble
<b>Partition coefficient: n-octanol/water:</b> Not applicable	<b>Auto-ignition temperature:</b> Not applicable
<b>Decomposition temperature:</b> Not applicable	<b>Viscosity:</b> 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:** None known

**Hazardous Decomposition Products:** Dust from machining could contain ingredients listed in Section 3 and other, potentially more hazardous components of the base material being machined 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, ACGIH, 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.

Tungsten Carbide: LD50 oral rat > 2000 mg/kg, LC50 inhalation rat > 5.3 mg/L, LD50 dermal rat > 2000 mg/kg Cobalt: LD50 oral rat: 550 mg/kg, LC50 inhalation rat <= 0.05 mg/L (analytical), LD50 dermal rat > 2000 mg/kg Nickel: LD50 oral rat > 9000 mg/kg

Tantalum Carbide: No data available

Niobium Carbide: No data available

Titanium Carbide: LD50 oral mouse > 5000 mg/kg

Titanium Nitride: No data available

Vanadium Carbide: LD50 oral rat > 2000 mg/kg, LC50 inhalation rat > 5.05 mg/L Chromium: LD50 oral rat > 5000 mg/kg, LC50 inhalation rat > 5.41 mg/L



## 12. ECOLOGICAL INFORMATION

### Ecotoxicity:

Aluminum Oxide: 96 hr LC50 Pimephales promelas 35 mg/L Silicon

Carbide: No data available

Garnet: No data available

Zirconium Oxide: 96 hr LC50 Danio rerio >100 mg/L, 48 hr EC50 daphnia magna >100 mg/L, 72 hr EC50

Calcium Carbonate: No data available

Calcium Stearate: No data available

Calcium Sulfate: 96 hr LC50 Pimephales promelas >1970 mg/L, 48 hr EC50 daphnia magna >79 mg/L, 72 hr

EC50 Pseudokirchnerella subcapitata >79 mg/L Zinc

Stearate: No data available

Cryolite: Danio rerio LC50 > 100 mg/L/96hr

Potassium Fluoroborate: 96 hr LC50 Leuciscus idus 760 mg/L, 48 hr EC50 daphnia magna >100 mg/L, 72 hr

EC50 Pseudokirchnerella subcapitata >100 mg/L Kaolin: No

data available

Crystalline Silica, Quartz: 72 hr LC50 carp >10,000 mg/L

**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:** Not Applicable (manufactured articles)

**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):

Components	C.A.S. #	WT %
Zinc Stearate (as zinc compounds)	557-05-1	0-10

(Only in 9x11 Sheets - No Load Stearate, Fileboard Sheets - No Load, PSA Paper Discs - Stearate and Premium and Hook and Loop Paper Discs - Premium)

**California Proposition 65:** WARNING! You create dust when you cut, sand, drill, or grind materials such as wood, paint, cement, masonry or metal. This dust often contains chemicals known to cause cancer, birth defects or other reproductive harm.

## 16. OTHER INFORMATION

<b>NFPA Rating:</b> Health = 1	Flammability = 0	Instability = 0
<b>HMIS Rating:</b> Health = 1	Flammability = 0	Physical Hazard = 0

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 this product are not within the control of Pearl Abrasive Co., it is the user's obligation to assure safe use of this product.