



COLE CARBIDE INDUSTRIES, INC.

4930 S. Lapeer Rd
Orion Twp., MI 48359
(586) 757-8700 FAX (586)757-8701

Safety Data Sheet (SDS) Cemented Tungsten Product with Cobalt Binder

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING.

1.1 Product

1.1.1 Substance: Cemented Tungsten Product with Cobalt Binder

1.1.2 Substance Names: All Tungsten Carbide Grades – Except: Solid Titanium Carbide Grades

1.1.3 Chemical Family: Refractory Metal Carbide

1.2 Relevant identified uses

1.2.1 Chemical use: Cutting Tools, Inserts, Wear Part Tools, Mill Rolls, Drill Bits, Drill Rods

1.3 Manufacturer

1.3.1 Manufacturer Name:
Cole Carbide Industries, Inc.
4930 S. Lapeer Rd
Orion Twp., MI 48359
USA
www.colecarbide.com

1.3.2 EMERGENCY TELEPHONE NUMBER:
(586)757-8700

FORM #	REV. LEVEL	APPROVAL
10176	(03)110515	JOHN COLE



COLE CARBIDE INDUSTRIES, INC.

4930 S. Lapeer Rd
Orion Twp., MI 48359
(586) 757-8700 FAX (586)757-8701

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification

Product is not classified as hazardous according to Regulation (EC) No. 1272/2008 [CLP]

Product is not classified as hazardous according to 67/548/EEC or 1999/45/EC

2.2 Label Elements

2.2.1. Symbol:



2.2.2 Signal Word: Warning

2.2.3 Hazard Statement (Manufacturing): Dry grinding of the sintered product will produce dust of potentially hazardous ingredients; wet grinding of the sintered product will produce mist with potentially hazardous ingredients; Heating of the sintered product will produce fumes of potentially hazardous ingredients, which can be inhaled, swallowed or come in contact with the skin or eyes. May be harmful if swallowed, inhaled or in contact with the skin or eyes.

2.2.4 Hazard Statement (Finished Goods): As Defined in the Occupational Safety & Health Administration (OSHA) Hazard Communication Standard, 29 CFR 1910.1200, the aforementioned products are considered articles and do not require as SDS. In addition, articles are not included in the scope of the Globally Harmonization System (GHS). As such, the GHS labeling elements are not included on this SDS.

All components listed for this product are bound within the product. When handled as intended and under normal conditions of use, there is no evidence that any of the ingredients are released in amounts that pose a significant health risk.

FORM #	REV. LEVEL	APPROVAL
10176	(03)110515	JOHN COLE



COLE CARBIDE INDUSTRIES, INC.

4930 S. Lapeer Rd
Orion Twp., MI 48359
(586) 757-8700 FAX (586)757-8701

2.2.5 OSHA Regulatory Status

Grinding this material will generate dusts and mists that are considered hazardous by OSHA Hazard Communication Standard (29 CFR 1910.1200).

2.3 Other Hazards

2.3.1 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 a probable cause of respiratory diseases. Symptoms include productive cough, wheezing, and shortness of breath, chest tightness and weight loss. Interstitial fibrosis (lung scarring) can lead to permanent disability or death.

2.3.2 Skin Contact: Can cause irritation or an allergic skin rash due to cobalt.

2.3.3 Eye Contact: Can cause irritation.

2.3.4 Ingestion: Reports outside of the industry suggest the ingestion of significant amounts of cobalt have the potential for causing blood, heart and other organ problems.

2.3.5 Chronic Health Effects: None known

2.3.6 Environmental Effects: No data is available at this time.

FORM #	REV. LEVEL	APPROVAL
10176	(03)110515	JOHN COLE



COLE CARBIDE INDUSTRIES, INC.

4930 S. Lapeer Rd
 Orion Twp., MI 48359
 (586) 757-8700 FAX (586)757-8701

SECTION 3: HAZARDS INGREDIENTS

3.1 Mixtures

3.1.1 Description: Cemented tungsten carbide product with cobalt binder

3.1.2 Hazardous Ingredients:

MATERIAL	Percent by Weight*	CAS Number	Classification according to Regulation (EC) No. 1272 [CLP]	SCL and/or M-factor
Tungsten Carbide (W) (Limits for Tungsten Dust)	67-97%	7440-33-7	N/A	N/A
Cobalt (CO)	3-25%	7440-48-4	Resp. Sens. 1 H334 Skin Sens. 1 H317 Aquatic Chronic 4 H413	N/A
Tantalum Carbide (Ta) (Limits for Tantalum Dust)	0.0-50%	7440-25-7	N/A	N/A
Chromium Carbide (Cr+3) (Limits for Chromium Dust)	0.0-5.1%	7440-47-3	N/A	N/A
Chromium (Cr+3)	0.0-4.5%	7440-47-3	N/A	N/A

* Depends on the Grade Specifications

3.1.3 Additional information

None available

FORM #	REV. LEVEL	APPROVAL
10176	(03)110515	JOHN COLE



COLE CARBIDE INDUSTRIES, INC.

4930 S. Lapeer Rd
Orion Twp., MI 48359
(586) 757-8700 FAX (586)757-8701

SECTION 4: FIRST-AID MEASURES

4.1 First-Aid and Emergency Measures

4.1.1. Overexposure: If overexposure to dust and mists from grinding occurs, have SDS and label information available and contact a poison control center or seek medical attention immediately.

4.1.2. Inhalation: If symptoms of pulmonary involvement develop (coughing, wheezing, shortness of breath, etc.) remove from exposure and seek medical attention.

4.1.3. Skin Contact: If irritation or rash occurs, thoroughly wash affected area with soap and water and isolate from exposure. If irritation or rash persists, seek medical attention.

4.1.4. Eye Contact: If irritation occurs, flush with large amounts of water. If irritation persists, seek medical attention.

4.1.5. Ingestion: If substantial quantities are swallowed, dilute with large amounts of water, induce vomiting and seek medical attention.

4.2 Carcinogenic Assessment

International Agency for Research on Cancer (IARC) and the National Institute of Occupational Safety and Health (NIOSH) have indicated that cobalt is a suspected human carcinogen.

FORM #	REV. LEVEL	APPROVAL
10176	(03)110515	JOHN COLE



COLE CARBIDE INDUSTRIES, INC.

4930 S. Lapeer Rd
Orion Twp., MI 48359
(586) 757-8700 FAX (586)757-8701

SECTION 5: FIREFIGHTING MEASURES

End products made from (sintered) cemented carbide are not flammable. However, dusts generated from, and/or during, machining operations may ignite if allowed to accumulate when exposed to an ignition source.

5.1 Extinguishing Media

5.1.1. Suitable Extinguishing Media: For powder fires smother with: Dry Sand, Dry Dolomite, ABC Type Fire Extinguisher or Flood with water.

5.1.2. Non-Suitable Extinguishing Media: Not Applicable

5.2 Specific Hazards

5.2.1. Dust may present a fire or explosion hazard under rare favoring conditions of particle size, dispersion and strong ignition source.

5.2.2. May generate toxic metal fumes when heated.

5.3 Precautions for Firefighters

For powder fire confined to a small area, use a respirator approved for toxic dusts and fumes. For a large fire, firefighters should use self-contained breathing apparatus.

FORM #	REV. LEVEL	APPROVAL
10176	(03)110515	JOHN COLE



COLE CARBIDE INDUSTRIES, INC.

4930 S. Lapeer Rd
Orion Twp., MI 48359
(586) 757-8700 FAX (586)757-8701

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Precautions

6.1.1. Personal: If airborne dust is present, use personal protection recommended in section 8.

6.1.2. Environmental: Material is not hazardous to the environment.

6.2 SPILLS: In Event that Dust or Sludge is released or spilled:

- Ventilate the area.
- Clean up using methods that avoid dust generation such as vacuum (with appropriate filter to prevent airborne dust levels, which exceed the Permissible Exposure Limits (PEL) or Threshold Limit Value (TLV), wet dust mop or wet, clean up.
- If airborne dust is generated, use an appropriate NIOSH approved respirator.
- Place reclaimed material in a suitable clean, dry container for recycling.

FORM #	REV. LEVEL	APPROVAL
10176	(03)110515	JOHN COLE



COLE CARBIDE INDUSTRIES, INC.

4930 S. Lapeer Rd
Orion Twp., MI 48359
(586) 757-8700 FAX (586)757-8701

SECTION 7: HANDLING AND STORAGE

7.1 Handling

- 7.1.1. Avoid dispersion of grinding dust and mist into the air.
- 7.1.2. If airborne dust is generated, use an appropriate NIOSH approved respirator.
- 7.1.3. Avoid contact with skin, eyes, or clothing.
- 7.1.4. Wash hands thoroughly after handling, before eating or smoking.
- 7.1.5. Do not shake clothing, rags or other items to remove dust. Instead remove dust by washing or vacuuming.

7.2 Storage

- 7.2.1. There are no specific storage requirements for end products
- 7.2.2. Keep any dust and accumulated powders away from sparks and ignition sources.

FORM #	REV. LEVEL	APPROVAL
10176	(03)110515	JOHN COLE



COLE CARBIDE INDUSTRIES, INC.

4930 S. Lapeer Rd
 Orion Twp., MI 48359
 (586) 757-8700 FAX (586)757-8701

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Airborne Exposure Limits

Material	OSHA Permissible Exposure Limit (PEL)	ACGIH Threshold Limit Values (TLV)
Tungsten Carbide (Limits for Tungsten Dust)	-----	5 mg/m ³
Cobalt	0.1 mg/m ³	0.1 mg/m ³
Tantalum Carbide (Limits for Tantalum dust)	5 mg/m ³	5 mg/m ³
Chromium Carbide (Limits for Chromium (+3) Dust)	1 mg/m ³	0.5 mg/m ³
Chromium (+3)	1 mg/m ³	0.5 mg/m ³

8.2 Engineering Exposure Controls

8.2.1. Dust Control: Use local exhaust ventilation that is adequate to limit personal exposure to respirable airborne dust to levels that do not exceed the PEL or TLV.

8.2.2. Respirators: If adequate control equipment is not available, use a respirator as specified below.

8.3 Personal Protection Equipment (PPE)

8.3.1. Respiratory: Use the appropriate NIOSH approved respirator if airborne dust concentrations exceeds the appropriate PEL or TLV. All appropriate requirements set forth in 29 CFR 1910.134 should be met.

8.3.2. Skin: Protective gloves or barrier cream are recommended when contact with dust or mist likely. Prior to applying the barrier cream or use of protective gloves, wash thoroughly.

8.3.3. Eyes and Face: Safety glasses with shields or goggles are recommended.

FORM #	REV. LEVEL	APPROVAL
10176	(03)110515	JOHN COLE



COLE CARBIDE INDUSTRIES, INC.

4930 S. Lapeer Rd
Orion Twp., MI 48359
(586) 757-8700 FAX (586)757-8701

8.4 Individual Protection Measures

8.4.1. When using wet grinding equipment with closed water circuit, a suitable additive should be used to prevent cobalt from accumulating in the water.

8.4.2. Clean equipment using methods that avoid dust generation such as vacuum (with appropriate filter to prevent airborne dust levels which exceed the PEL or TVL), wet dust mop or wet clean up. If airborne dust is generated, use appropriate NIOSH approved respirator.

8.4.3. Wash hands thoroughly after handling dust or sludge, before eating or smoking.

8.4.4. Wash exposed skin at the end of work shift.

8.4.5. Do not shake clothing, rags, or other items to remove dust.

8.4.6. Dust should be removed from contaminated items by washing or vacuuming using the appropriate filters and precautions.

8.4.7. Allergic persons sensitive to cobalt or nickel must not be involved in activities where exposure to cobalt or nickel occurs.

FORM #	REV. LEVEL	APPROVAL
10176	(03)110515	JOHN COLE



COLE CARBIDE INDUSTRIES, INC.

4930 S. Lapeer Rd
 Orion Twp., MI 48359
 (586) 757-8700 FAX (586)757-8701

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Physical and Chemical Properties

Physical State: Solid (Metal) Color: Dark Gray Odor: Odorless

pH:	No data available
Melting point/freezing point:	Not applicable
Initial boiling point/boiling range:	Not applicable
Flashpoint:	Not applicable
Evaporation Rate:	Not applicable
Flammability (solid, gas):	Not applicable (see section 5)
Upper explosive limits:	Not applicable
Lower explosive limits:	Not applicable
Vapor pressure:	Not applicable
Vapor density:	Not applicable
Relative density:	No data available
Specific gravity:	(H ₂ O=1) 11.0 to 15.5
Solubility in water:	Insoluble
Partition coefficient	No data available
Autoignition temperature:	Not applicable
Decomposition temperature:	Not applicable
Viscosity, dynamic:	Not applicable
Viscosity, cinematic:	Not applicable
Explosive properties:	Not applicable
Oxidizing properties:	Not applicable

9.2 Physical Hazards

The final product is not flammable or combustible. However, dust generated during the production process may ignite if exposed to an ignition source.

FORM #	REV. LEVEL	APPROVAL
10176	(03)110515	JOHN COLE



COLE CARBIDE INDUSTRIES, INC.

4930 S. Lapeer Rd
Orion Twp., MI 48359
(586) 757-8700 FAX (586)757-8701

SECTION 10: STABILITY AND REACTIVITY

10.1 Chemical Stability: Stable under normal conditions of pressure and temperature

10.2 Reactivity: Non-reactive

10.3 Conditions to Avoid: No known conditions to avoid

10.4 Possibility of Hazardous Reactions: No hazardous decomposition products

10.5 Incompatible Materials: Acids, Strong oxidizers

10.6 Possibility of Hazardous Reactions: Not under normal circumstances

FORM #	REV. LEVEL	APPROVAL
10176	(03)110515	JOHN COLE



COLE CARBIDE INDUSTRIES, INC.

4930 S. Lapeer Rd
Orion Twp., MI 48359
(586) 757-8700 FAX (586)757-8701

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Routes of Exposure

11.1.1 Inhalation: Dust, mist or fumes from grinding or heating of the sintered product can cause irritation of the respiratory organs of a small percentage of sensitive persons, resulting in obstruction of respiratory ways with breathing difficulties: occupational asthma and interstitial fibrosis. It is reported that workers that have been exposed to air-borne cemented carbide dust have a higher risk of contracting lung cancer.

11.1.2. Skin Contact: Can cause irritation or allergic skin rash due to cobalt or nickel sensitization. Certain skin conditions, such as dry skin may be aggravated by exposure.

11.1.3. Eye Contact: Can cause irritation

11.1.4. Ingestion: Reports outside the industry suggest that ingestion of significant amounts of cobalt has the potential for causing blood, heart and other organ problems.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

12.1.1 Aquatic toxicity: none

12.1.2 Sediment toxicity: no data available

12.1.3 Terrestrial toxicity: none

12.1.4 Persistence and degradability: none

12.1.5 Bioaccumulation potential: none

12.1.6 Mobility in soil: none

12.1.7 Threat to Environment: None

FORM #	REV. LEVEL	APPROVAL
10176	(03)110515	JOHN COLE



COLE CARBIDE INDUSTRIES, INC.

4930 S. Lapeer Rd
Orion Twp., MI 48359
(586) 757-8700 FAX (586)757-8701

SECTION 13: DISPOSAL CONSIDERATIONS

- 13.1 Waste Treatment Methods:** Dispose of any waste in accordance with appropriate government regulations.
- 13.2 Waste Treatment Options:** May be sold for recycling.

SECTION 14: TRANSPORTATION

- 14.1 Transportation Requirements:** Transport material in accordance with appropriate government regulations.
- 14.2 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:** Not listed according to Annex II of MARPOL 73/78 and the IBC Code

SECTION 15: REGULATORY INFORMATION

No data available: Not listed according to Regulation (EC) No. 1272 [CLP]

SECTION 16: OTHER INFORMATION

Replaces MSDS Form #10176 Rev (02) 050112

FORM #	REV. LEVEL	APPROVAL
10176	(03)110515	JOHN COLE



COLE CARBIDE INDUSTRIES, INC.

4930 S. Lapeer Rd
Orion Twp., MI 48359
(586) 757-8700 FAX (586)757-8701

Disclaimer:

Although these products are not subject to OSHA Standard or GHS labeling elements, Cole Carbide Industries, Inc. would like to disclose as much health and safety information as possible to ensure that this product handled and used properly. This SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and be made available for employees and other users of this product. In addition, the recommendations for handling and use of these products should be included in worker training programs

Although Cole Carbide has attempted to provide current and accurate information herein, Cole Carbide makes no representation regarding the accuracy or, completeness of the information and assumes no liability for any loss, damage, or injury of any kind which may result from or arise out of the use of or reliance on the information by any person.

FORM #	REV. LEVEL	APPROVAL
10176	(03)110515	JOHN COLE