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Ceratizit Sacramento Safety Data Sheets

Click on link below to view SDS

Uncoated Tool

AlTin Tool

nACRo Tool

Promax PowerLayer Tool

TiCN Tool

ZrN Tool

TiN Tool

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SAFETY DATA SHEET (SDS)

OSHA Hazard Communication Standard (29 CFR 1910.1200)

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1. Product

1.1.1. Chemical Names:

Cemented Tungsten-Carbide Cutting Tools with Cobalt/Nickel/Chrome binder **(Uncoated)**

1.1.2. Synonyms:

Endmills, Drills

1.1.3. Relevant identified uses:

Use of the substance/mixture: Cutting Tools for Manufacturing Industries.

1.1.4. Uses advised against:

When used as intended, this product is physiologically inert. Do not modify or resharpen product.

1.2 Manufacturer

1.2.1 Manufacturer Name:

CERATIZIT Sacramento, LP
11312 Sunrise Gold Circle
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USA
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Tel: 916-638-0501
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1.2.2 Emergency Phone Number: 916-638-0501

Section 2: Hazards Identification

2.1. Classification

2.1.1. Symbol:

2.1.2. Signal Word: Warning

2.1.3. Hazard Statement:

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the aforementioned products are considered articles and do not require an 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. Although these products are not subject to the OSHA Standard or GHS labeling elements, CERATIZIT Sacramento, LP would like to disclose as much health and safety information as possible to ensure that this product is 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.

2.1.4. According to the REACH C&L Inventory,

the following Hazardous Statements and Precautionary Statements are associated with any grinding to this product:

H316: Causes mild skin irritation
H317: May cause an allergic skin reaction
H320: Causes eye irritation
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335: May cause respiratory irritation
P261: Avoid breathing dust/fumes/gas/mist/vapors/spray
P280: Wear protective gloves/protective clothing/eye protection/face protection
P302+P352: IF ON SKIN: Wash with plenty of water
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes, remove contact lenses, if present and easy to do and continue rinsing

2.1.5. Hazard Statement:

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. OSHA Regulatory Status

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

2.3. Potential Effects of Exposure

2.3.1. Inhalation:

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.

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

2.3.3. Eye Contact: Can cause irritation

2.3.4. Ingestion: Reports outside the industry suggest that ingestion of significant amounts of cobalt has the potential to cause blood, heart and other organ problems.

2.4. Environmental Effects: No data is available currently.

Section 3: Information on Ingredients

Ingredient*	CAS Number	% By Weight	OSHA PEL TWS (mg/m^3)	ACGIH TLV TWA (mg/m^3)	NFPA Hazard Rating Scale, 0 - 4		
					Health	Fire	Reactivity
Tungsten Carbide, WC	12070-12-1	60-98	15	10	1	0	0
Cobalt, Co	7440-48-4	2-25	0.05**	0.02	2	3	0
Tantalum Carbide, TaC	12070-06-3	0-25	15	10	No Rating	0	0
Titanium Carbide, TiC	12070-08-5	0-25	15	10	No Rating	0	0
Niobium Carbide, NbC	12069-94-2	0-10	15	10	No Rating	0	0
Nickel, Ni	7440-02-0	0-1	1	1.5	2	4	1
Chromium Carbide, Cr_3C_2	12012-35-0	0-1	0.5	0.5	No Rating	0	0
Vanadium Carbide, VC	12070-10-9	0-0.5	15	10	No Rating	0	0
Molybdenum Carbide, Mo_2C	N/A	0-0.5	N/A	N/A	1	0	0

*Varies depending on grade

**MIOSHA 0.05 mg/m^3, OSHA 0.1 mg/m^3

3.1 Hazardous Ingredients

All materials except for ones listed below, are present in the carburized forms and would remain in that form if ground.

Substance name	CAS No.	EC No.	Concentration (Weight %)	Classification according to Regulation (EC) No. 1272 [CLP]	SCL and/or M-Factor
Tungsten Carbide	12070-12-1	235-123-0	60-98% (*)	Not Classified	
Cobalt	7440-48-4	231-158-0	2-25% (*)	Resp. Sens. 1 H334 Skin Sens. 1 H317 Aquatic chronic 4 H413	-

(*) Depends on grade specifications

Section 4: First Aid Measures

4.1. First Aid and Emergency Measures

4.1.1. Overexposure:

If overexposure to dusts 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, remove contact lenses, if present and easy to do. Flush with large amounts of water. If irritation persists, seek medical attention.

4.1.5. Ingestion:

If substantial quantities are swallowed, dilute with a large amount of water, and seek medical attention.

4.2. Carcinogenic Assessment

ACGIH, NTP, IARC and OSHA have identified nickel as a confirmed carcinogen. IARC and NIOSH have indicated that cobalt is a suspected human carcinogen. Cobalt is known to the State of California to cause cancer.

Section 5: Firefighting Measures

5.1. Flammable Properties

5.1.1. 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.

5.1.2. Flashpoint: None

5.1.3. Autoignition: N/A

5.1.4. Lower Flammable Limit (LFL): N/A

5.1.5. Upper Flammable Limit (UFL): N/A

5.2. Extinguishing Media

5.2.1. Suitable Extinguishing Media:

For powder fires, smother with dry sand, dry dolomite, ABC or CO_2 type fire extinguisher, or flood with water. Move container from fire area if possible. For massive fires, use unmanned hose holder or monitor nozzles, or else withdraw and let fire burn out.

5.2.2. Non-suitable Extinguishing Media: N/A

5.3. Specific Hazards

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

5.3.2. May generate toxic metal fumes when heated.

5.3.3. Precautions for Firefighters:

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-contained breathing apparatus.

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:

Prevent entry to sewers and public waters. Avoid release to the environment, Collect spillage

6.2. Spills: In the Event that Dust or Sludge is Released or Spilled:

6.2.1. Ventilate the area.

6.2.2. Clean up:

Use methods that 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.

6.2.3. If airborne dust is generated:

Use an appropriate NIOSH approved respirator.

6.2.4. Place reclaimed material in a suitable clean, dry container for recycling.

6.2.5. Contact competent authorities after a spill

Section 7: Handling and Storage

7.1. Handling

7.1.1. Additional hazards when processed:

This product is physiologically inert in its massive form. However, user-generated dust and/or fumes may pose a physiological hazard if inhaled or ingested. Avoid inhalation of metal dusts and fumes. May cause an influenza-like illness. Avoid skin and eye contact with dusts to prevent mechanical irritation. User-generated dust is easily ignited and difficult to extinguish.

7.1.2. Precautions for safe handling:

Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Avoid prolonged contact with eyes, skin and clothing. Do not handle until all safety precautions have been read and understood. Do not breathe dust or fumes.

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.

7.2.3. Incompatible materials:

Strong acids. Strong oxidizers.

Section 8: Exposure Controls/Personal Protection

8.1. Permissible Exposure Limits (PEL)

All materials except for cobalt are present in the carburized forms and would remain in that form if ground.

Material	OSHA PEL: TWA	ACGIH TLV
Cobalt Metal, Dust, and Fume (as Co)	0.05 mg/m^3**	0.02 mg/m^3

**MIOSHA 0.05 mg/m^3, OSHA 0.1 mg/m^3

8.2. Engineering 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:

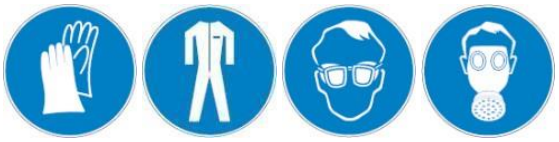
Use the appropriate NIOSH approved respirator if airborne dust concentrations exceed the appropriate PEL or TLV. All appropriate requirements set forth in 29 CFR 1910.134 should be met.

8.3.2. Skin:

Protective clothing, 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.

8.3.3. Eyes and Face:

Safety glasses with side shields or goggles are recommended.



Section 9: Physical and Chemical Properties

9.1 Physical Properties

Appearance and Odor: Dark Grey Metal / Odorless	Specific Gravity (H_20=1): 10 to 15
Boiling Point: N/A	Percent Volatile by Volume: 0
Vapor Pressure (mm Hg): N/A	Evaporation Rate: N/A
Vapor Density (Air=1): N/A	Best Monitored: Air Sample
Solubility in Water: Insoluble	Freezing Point:
Melting Point:	Viscosity:
Flashpoint: None	Evaporation Rate:

9.2 Chemical Properties

pH:	N/A
Flammability:	N/A
Explosive Limits:	N/A
Auto-ignition Temperature:	N/A
Decomposition Temperature:	N/A
Partition Coefficient: n-octanol/water:	N/A

Section 10: Stability and Reactivity

10.1. Reactivity:

Hazardous reactions will not occur under normal conditions.

10.2. Chemical stability:

Stable under recommended handling and storage conditions (see section 7)

10.3. Possibility of hazardous reaction:

Hazardous polymerization will not occur.

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 cancer.

11.1.2. Skin Contact:

Can cause irritation or an 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 bleed, heart and other organ problems.

Section 12: Ecological Information

12.1 Threat to the Environment: None

Section 13: Disposal Considerations

13.1. Waste treatment methods:

Dispose of any waste in accordance with appropriate government regulations. Recycle the material as far as possible. Avoid release to the environment.

Section 14: Transportation

14.1. Transport material in accordance with appropriate government regulations, for solid carbide cutting tools.

Section 15: Regulatory Information

15.1. United States Regulations: None

15.2. State Regulatory Information:

15.1.1. WARNING: This product contains chemicals known to the State of California to cause cancer!

15.1.2. Solid carbide cutting tools contain substances, listed on Federal and some State regulation lists:
Cobalt (7440-48-4): USA Toxic Substances Control Act Inventory
USA SARA Section 313
California Proposition 65 Carcinogens List
Tungsten Carbide (12070-12-1)
Cobalt (7440-48-4)
USA Toxic Substances Control Act Inventory

15.3. EU Regulations:

The final product listed on this SDS is in compliance with Directives 2011/65/EU and (EU) 2015/863 of European Parliament and of the Council of 8 June 2011 and 4 June 2015 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS). The product does not contain the following substances in concentrations greater than the maximum value listed after the substance:

Lead (Pb): 1,000 ppm
Cadmium (Cd): 100 ppm
Mercury (Hg): 1,000 ppm
Hexavalent Chromium (Cr6+): 1,000 ppm
Poly Brominated Biphenyls (PBB): 1,000 ppm
Poly Brominated Diphenyl Ethers (PBDE): 1,000 ppm
Bis(2-Ethylhexyl) Phthalate (DEHP): 0.1%
Benzyl Butyl Phthalate (BBP): 0.1%
Dibutyl Phthalate (DBP): 0.1%
Diisobutyl Phthalate (DIBP): 0.1%

The final product listed in this SDS does not contain REACH substances of very high concern (SVHC), according to the European Chemical Agency (ECHA). Certain products may contain nickel, which has been issued a REACH restriction. However, the restriction is not applicable due to the nature of this product.

Section 16: Other Information

Disclaimer: The information contained herein is based upon data provided by manufacturers and suppliers of raw materials used in the manufacture of our solid carbide cutting tools.
The information is offered in good faith as accurate and correct as this SDS issue date, but no representations, guarantees, or warranties of any kind are made as to its accuracy or completeness, suitability for particular applications, hazards connected with the use of product, or the results to be obtained from the use thereof. User assumes all risk and liability of any use or handling of any material beyond this manufacturer's control. Variations in methods, conditions, equipment used to store, handle, or process the material, and hazards connected with the use of the product are solely the responsibility of the user and remain at its sole discretion.

16.1. Last Revision Date: 17 February 2020

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SAFETY DATA SHEET (SDS)

OSHA Hazard Communication Standard (29 CFR 1910.1200)

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1. Product

1.1.1. Chemical Names:

Cemented Tungsten-Carbide Cutting Tools with Cobalt/Nickel/Chrome binder **(AlTiN / TiAlN Coated)**

1.1.2. Synonyms:

Endmills, Drills

1.1.3. Relevant identified uses:

Use of the substance/mixture: Cutting Tools for Manufacturing Industries.

1.1.4. Uses advised against:

When used as intended, this product is physiologically inert. End users are not exposed to health hazards associated to carbide or coating components, unless product is modified after coating. Do not modify or resharpen product.

1.2 Manufacturer

1.2.1 Manufacturer Name:

CERATIZIT Sacramento, LP
11312 Sunrise Gold Circle
Rancho Cordova CA 95742
USA
www.promaxtools.com
Tel: 916-638-0501
Fax: 916-638-0512

1.2.2 Emergency Phone Number: 916-638-0501

Section 2: Hazards Identification

2.1. Classification

2.1.1. Symbol:

2.1.2. Signal Word: Warning

2.1.3. Hazard Statement:

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the aforementioned products are considered articles and do not require an 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. Although these products are not subject to the OSHA Standard or GHS labeling elements, CERATIZIT Sacramento, LP would like to disclose as much health and safety information as possible to ensure that this product is 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.

2.1.4. According to the REACH C&L Inventory,

the following Hazardous Statements and Precautionary Statements are associated with any grinding to this product:

H316: Causes mild skin irritation
H317: May cause an allergic skin reaction
H320: Causes eye irritation
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335: May cause respiratory irritation
P261: Avoid breathing dust/fumes/gas/mist/vapors/spray
P280: Wear protective gloves/protective clothing/eye protection/face protection
P302+P352: IF ON SKIN: Wash with plenty of water
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes, remove contact lenses, if present and easy to do and continue rinsing

2.1.5. Hazard Statement:

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. OSHA Regulatory Status

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

2.3. Potential Effects of Exposure

2.3.1. Inhalation:

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.

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

2.3.3. Eye Contact: Can cause irritation

2.3.4. Ingestion: Reports outside the industry suggest that ingestion of significant amounts of cobalt has the potential to cause blood, heart and other organ problems.

2.4. Environmental Effects: No data is available currently.

Section 3: Information on Ingredients

Ingredient*	CAS Number	% By Weight	OSHA PEL TWS (mg/m^3)	ACGIH TLV TWA (mg/m^3)	NFPA Hazard Rating Scale, 0 - 4		
					Health	Fire	Reactivity
Tungsten Carbide, WC	12070-12-1	60-98	15	10	1	0	0
Cobalt, Co	7440-48-4	2-25	0.05**	0.02	2	3	0
Tantalum Carbide, TaC	12070-06-3	0-25	15	10	No Rating	0	0
Titanium Carbide, TiC	12070-08-5	0-25	15	10	No Rating	0	0
Niobium Carbide, NbC	12069-94-2	0-10	15	10	No Rating	0	0
Nickel, Ni	7440-02-0	0-1	1	1.5	2	4	1
Chromium Carbide, Cr_3C_2	12012-35-0	0-1	0.5	0.5	No Rating	0	0
Vanadium Carbide, VC	12070-10-9	0-0.5	15	10	No Rating	0	0
Molybdenum Carbide, Mo_2C	N/A	0-0.5	N/A	N/A	1	0	0

*Varies depending on grade

**MIOSHA 0.05 mg/m^3, OSHA 0.1 mg/m^3

3.1 Hazardous Ingredients

All materials except for ones listed below, are present in the carburized forms and would remain in that form if ground.

Substance name	CAS No.	EC No.	Concentration (Weight %)	Classification according to Regulation (EC) No. 1272 [CLP]	SCL and/or M-Factor
Tungsten Carbide	12070-12-1	235-123-0	60-98% (*)	Not Classified	-
Cobalt	7440-48-4	231-158-0	2-25% (*)	Resp. Sens. 1 H334 Skin Sens. 1 H317 Aquatic chronic 4 H413	-
Aluminum	7429-90-5	231-072-3	< 0.1	Flam. Sol. 2, H228	-
Titanium	7440-32-6	231-142-3	< 0.1	Sin Sens. 1, H317 Eye Irrt. 2B, H320	-

(*) Depends on grade specifications

Section 4: First Aid Measures

4.1. First Aid and Emergency Measures

4.1.1. Overexposure:

If overexposure to dusts 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, remove contact lenses, if present and easy to do. Flush with large amounts of water. If irritation persists, seek medical attention.

4.1.5. Ingestion:

If substantial quantities are swallowed, dilute with a large amount of water, and seek medical attention.

4.2. Carcinogenic Assessment

ACGIH, NTP, IARC and OSHA have identified nickel as a confirmed carcinogen. IARC and NIOSH have indicated that cobalt is a suspected human carcinogen. Cobalt is known to the State of California to cause cancer.

Section 5: Firefighting Measures

5.1. Flammable Properties

5.1.1. 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.

5.1.2. Flashpoint: None

5.1.3. Autoignition: N/A

5.1.4. Lower Flammable Limit (LFL): N/A

5.1.5. Upper Flammable Limit (UFL): N/A

5.2. Extinguishing Media

5.2.1. Suitable Extinguishing Media:

For powder fires, smother with dry sand, dry dolomite, ABC or CO_2 type fire extinguisher, or flood with water. Move container from fire area if possible. For massive fires, use unmanned hose holder or monitor nozzles, or else withdraw and let fire burn out.

5.2.2. Non-suitable Extinguishing Media: N/A

5.3. Specific Hazards

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

5.3.2. May generate toxic metal fumes when heated.

5.3.3. Precautions for Firefighters:

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-contained breathing apparatus.

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:

Prevent entry to sewers and public waters. Avoid release to the environment, Collect spillage

6.2. Spills: In the Event that Dust or Sludge is Released or Spilled:

6.2.1. Ventilate the area.

6.2.2. Clean up:

Use methods that 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.

6.2.3. If airborne dust is generated:

Use an appropriate NIOSH approved respirator.

6.2.4. Place reclaimed material in a suitable clean, dry container for recycling.

6.2.5. Contact competent authorities after a spill

Section 7: Handling and Storage

7.1. Handling

7.1.1. Additional hazards when processed:

This product is physiologically inert in its massive form. However, user-generated dust and/or fumes may pose a physiological hazard if inhaled or ingested. Avoid inhalation of metal dusts and fumes. May cause an influenza-like illness. Avoid skin and eye contact with dusts to prevent mechanical irritation. User-generated dust is easily ignited and difficult to extinguish.

7.1.2. Precautions for safe handling:

Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Avoid prolonged contact with eyes, skin and clothing. Do not handle until all safety precautions have been read and understood. Do not breathe dust or fumes.

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.

7.2.3. Incompatible materials:

Strong acids. Strong oxidizers.

Section 8: Exposure Controls/Personal Protection

8.1. Permissible Exposure Limits (PEL)

All materials except for cobalt are present in the carburized forms and would remain in that form if ground.

Material	OSHA PEL: TWA	ACGIH TLV
Cobalt Metal, Dust, and Fume (as Co)	0.05 mg/m^3**	0.02 mg/m^3

**MIOSHA 0.05 mg/m^3, OSHA 0.1 mg/m^3

8.2. Engineering 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:

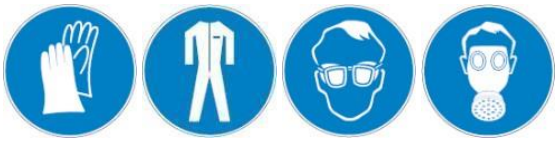
Use the appropriate NIOSH approved respirator if airborne dust concentrations exceed the appropriate PEL or TLV. All appropriate requirements set forth in 29 CFR 1910.134 should be met.

8.3.2. Skin:

Protective clothing, 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.

8.3.3. Eyes and Face:

Safety glasses with side shields or goggles are recommended.



Section 9: Physical and Chemical Properties

9.1 Physical Properties

Appearance and Odor: Dark Grey Metal / Odorless	Specific Gravity (H_20=1): 10 to 15
Boiling Point: N/A	Percent Volatile by Volume: 0
Vapor Pressure (mm Hg): N/A	Evaporation Rate: N/A
Vapor Density (Air=1): N/A	Best Monitored: Air Sample
Solubility in Water: Insoluble	Freezing Point:
Melting Point:	Viscosity:
Flashpoint: None	Evaporation Rate:

9.2 Chemical Properties

pH:	N/A
Flammability:	N/A
Explosive Limits:	N/A
Auto-ignition Temperature:	N/A
Decomposition Temperature:	N/A
Partition Coefficient: n-octanol/water:	N/A

Section 10: Stability and Reactivity

10.1. Reactivity:

Hazardous reactions will not occur under normal conditions.

10.2. Chemical stability:

Stable under recommended handling and storage conditions (see section 7)

10.3. Possibility of hazardous reaction:

Hazardous polymerization will not occur.

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 cancer.

11.1.2. Skin Contact:

Can cause irritation or an 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 bleed, heart and other organ problems.

11.1.5. Acute toxicity:

LD/LD50 values that are relevant for classification:

7429-90-5 Aluminum

Oral	LD50	>2000 mg/kg (rat)
Inhalative	LC50/4 h	888 mg/l (rat)

Section 12: Ecological Information

12.1 Threat to the Environment: None

Section 13: Disposal Considerations

13.1. Waste treatment methods:

Dispose of any waste in accordance with appropriate government regulations. Recycle the material as far as possible. Avoid release to the environment.

Section 14: Transportation

14.1. Transport material in accordance with appropriate government regulations, for solid carbide cutting tools.

Section 15: Regulatory Information

15.1. United States Regulations: None

15.2. State Regulatory Information:

15.1.1. WARNING: This product contains chemicals known to the State of California to cause cancer!

15.1.2. Solid carbide cutting tools contain substances, listed on Federal and some State regulation lists:
Cobalt (7440-48-4): USA Toxic Substances Control Act Inventory
USA SARA Section 313
California Proposition 65 Carcinogens List
Tungsten Carbide (12070-12-1)
Cobalt (7440-48-4)
USA Toxic Substances Control Act Inventory

15.3. EU Regulations:

The final product listed on this SDS is in compliance with Directives 2011/65/EU and (EU) 2015/863 of European Parliament and of the Council of 8 June 2011 and 4 June 2015 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS). The product does not contain the following substances in concentrations greater than the maximum value listed after the substance:

Lead (Pb): 1,000 ppm
Cadmium (Cd): 100 ppm
Mercury (Hg): 1,000 ppm
Hexavalent Chromium (Cr6+): 1,000 ppm
Poly Brominated Biphenyls (PBB): 1,000 ppm
Poly Brominated Diphenyl Ethers (PBDE): 1,000 ppm
Bis(2-Ethylhexyl) Phthalate (DEHP): 0.1%
Benzyl Butyl Phthalate (BBP): 0.1%
Dibutyl Phthalate (DBP): 0.1%
Diisobutyl Phthalate (DIBP): 0.1%

The final product listed in this SDS does not contain REACH substances of very high concern (SVHC), according to the European Chemical Agency (ECHA). Certain products may contain nickel, which has been issued a REACH restriction. However, the restriction is not applicable due to the nature of this product.

Section 16: Other Information

Disclaimer: The information contained herein is based upon data provided by manufacturers and suppliers of raw materials used in the manufacture of our solid carbide cutting tools.
The information is offered in good faith as accurate and correct as this SDS issue date, but no representations, guarantees, or warranties of any kind are made as to its accuracy or completeness, suitability for particular applications, hazards connected with the use of product, or the results to be obtained from the use thereof. User assumes all risk and liability of any use or handling of any material beyond this manufacturer's control. Variations in methods, conditions, equipment used to store, handle, or process the material, and hazards connected with the use of the product are solely the responsibility of the user and remain at its sole discretion.

16.1. Last Revision Date: 17 February 2020

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SAFETY DATA SHEET (SDS)

OSHA Hazard Communication Standard (29 CFR 1910.1200)

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1. Product

1.1.1. Chemical Names:

Cemented Tungsten-Carbide Cutting Tools with Cobalt/Nickel/Chrome binder **(nACRo Coated)**

1.1.2. Synonyms:

Endmills, Drills

1.1.3. Relevant identified uses:

Use of the substance/mixture: Cutting Tools for Manufacturing Industries.

1.1.4. Uses advised against:

When used as intended, this product is physiologically inert. End users are not exposed to health hazards associated to carbide or coating components, unless product is modified after coating. Do not modify or resharpen product.

1.2 Manufacturer

1.2.1 Manufacturer Name:

CERATIZIT Sacramento, LP
11312 Sunrise Gold Circle
Rancho Cordova CA 95742
USA
www.promaxtools.com
Tel: 916-638-0501
Fax: 916-638-0512

1.2.2 Emergency Phone Number: 916-638-0501

Section 2: Hazards Identification

2.1. Classification

2.1.1. Symbol:

2.1.2. Signal Word: Warning

2.1.3. Hazard Statement:

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the aforementioned products are considered articles and do not require an 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. Although these products are not subject to the OSHA Standard or GHS labeling elements, CERATIZIT Sacramento, LP would like to disclose as much health and safety information as possible to ensure that this product is 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.

2.1.4. According to the REACH C&L Inventory,

the following Hazardous Statements and Precautionary Statements are associated with any grinding to this product:

H316: Causes mild skin irritation
H317: May cause an allergic skin reaction
H320: Causes eye irritation
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335: May cause respiratory irritation
P261: Avoid breathing dust/fumes/gas/mist/vapors/spray
P280: Wear protective gloves/protective clothing/eye protection/face protection
P302+P352: IF ON SKIN: Wash with plenty of water
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes, remove contact lenses, if present and easy to do and continue rinsing

2.1.5. Hazard Statement:

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. OSHA Regulatory Status

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

2.3. Potential Effects of Exposure

2.3.1. Inhalation:

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.

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

2.3.3. Eye Contact: Can cause irritation

2.3.4. Ingestion: Reports outside the industry suggest that ingestion of significant amounts of cobalt has the potential to cause blood, heart and other organ problems.

2.4. Environmental Effects: No data is available currently.

Section 3: Information on Ingredients

Ingredient*	CAS Number	% By Weight	OSHA PEL TWS (mg/m^3)	ACGIH TLV TWA (mg/m^3)	NFPA Hazard Rating Scale, 0 - 4		
					Health	Fire	Reactivity
Tungsten Carbide, WC	12070-12-1	60-98	15	10	1	0	0
Cobalt, Co	7440-48-4	2-25	0.05**	0.02	2	3	0
Tantalum Carbide, TaC	12070-06-3	0-25	15	10	No Rating	0	0
Titanium Carbide, TiC	12070-08-5	0-25	15	10	No Rating	0	0
Niobium Carbide, NbC	12069-94-2	0-10	15	10	No Rating	0	0
Nickel, Ni	7440-02-0	0-1	1	1.5	2	4	1
Chromium Carbide, Cr_3C_2	12012-35-0	0-1	0.5	0.5	No Rating	0	0
Vanadium Carbide, VC	12070-10-9	0-0.5	15	10	No Rating	0	0
Molybdenum Carbide, Mo_2C	N/A	0-0.5	N/A	N/A	1	0	0
Trisilicon Tetranitride	12033-89-5	< 0.1	N/A	N/A	0	0	0

*Varies depending on grade

**MIOSHA 0.05 mg/m^3, OSHA 0.1 mg/m^3

3.1 Hazardous Ingredients

All materials except for ones listed below, are present in the carburized forms and would remain in that form if ground.

Substance name	CAS No.	EC No.	Concentration (Weight %)	Classification according to Regulation (EC) No. 1272 [CLP]	SCL and/or M-Factor
Tungsten Carbide	12070-12-1	235-123-0	60-98% (*)	Not Classified	-
Cobalt	7440-48-4	231-158-0	2-25% (*)	Resp. Sens. 1 H334 Skin Sens. 1 H317 Aquatic chronic 4 H413	-
Aluminum Powder (pyrophoric)	7429-90-5	-	< 0.1	Pyr. Sol. 1, H250 Water-react. 2, H261	-
Chromium(III) Nitrate nonahydrate	7789-02-8	-	< 0.1	Ox. Liq. 2, H272 Ox. Sol. 2, H272 STOT SE 2, H371 Skin Corr. 1A, H314 Eye Dam. 1, H318 Acute Tox. 4, H302	-

(*) Depends on grade specifications

Section 4: First Aid Measures

4.1. First Aid and Emergency Measures

4.1.1. Overexposure:

If overexposure to dusts 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, remove contact lenses, if present and easy to do. Flush with large amounts of water. If irritation persists, seek medical attention.

4.1.5. Ingestion:

If substantial quantities are swallowed, dilute with a large amount of water, and seek medical attention.

4.2. Carcinogenic Assessment

ACGIH, NTP, IARC and OSHA have identified nickel as a confirmed carcinogen. IARC and NIOSH have indicated that cobalt is a suspected human carcinogen. Cobalt is known to the State of California to cause cancer.

Section 5: Firefighting Measures

5.1. Flammable Properties

5.1.1. 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.

5.1.2. Flashpoint: None

5.1.3. Autoignition: N/A

5.1.4. Lower Flammable Limit (LFL): N/A

5.1.5. Upper Flammable Limit (UFL): N/A

5.2. Extinguishing Media

5.2.1. Suitable Extinguishing Media:

For powder fires, smother with dry sand, dry dolomite, ABC or CO_2 type fire extinguisher, or flood with water. Move container from fire area if possible. For massive fires, use unmanned hose holder or monitor nozzles, or else withdraw and let fire burn out.

5.2.2. Non-suitable Extinguishing Media: N/A

5.3. Specific Hazards

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

5.3.2. May generate toxic metal fumes when heated.

5.3.3. Precautions for Firefighters:

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-contained breathing apparatus.

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:

Prevent entry to sewers and public waters. Avoid release to the environment, Collect spillage

6.2. Spills: In the Event that Dust or Sludge is Released or Spilled:

6.2.1. Ventilate the area.

6.2.2. Clean up:

Use methods that 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.

6.2.3. If airborne dust is generated:

Use an appropriate NIOSH approved respirator.

6.2.4. Place reclaimed material in a suitable clean, dry container for recycling.

6.2.5. Contact competent authorities after a spill

Section 7: Handling and Storage

7.1. Handling

7.1.1. Additional hazards when processed:

This product is physiologically inert in its massive form. However, user-generated dust and/or fumes may pose a physiological hazard if inhaled or ingested. Avoid inhalation of metal dusts and fumes. May cause an influenza-like illness. Avoid skin and eye contact with dusts to prevent mechanical irritation. User-generated dust is easily ignited and difficult to extinguish.

7.1.2. Precautions for safe handling:

Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Avoid prolonged contact with eyes, skin and clothing. Do not handle until all safety precautions have been read and understood. Do not breathe dust or fumes.

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.

7.2.3. Incompatible materials:

Strong acids. Strong oxidizers.

Section 8: Exposure Controls/Personal Protection

8.1. Permissible Exposure Limits (PEL)

All materials except for cobalt are present in the carburized forms and would remain in that form if ground.

Material	OSHA PEL: TWA	ACGIH TLV	ACGIH REL
Cobalt Metal, Dust, and Fume (as Co)	0.05 mg/m^3**	0.02 mg/m^3	-
Aluminum powder (pyrophoric) 7429-90-5 (Long-term value)	15 mg/m^3*	1 mg/m^3**** as Al	10 mg/m^3*** as Al
Chromium (III) nitrate nonahydrate 7789-02-8 (Short-term) (Long-term)	5 mg/m^3	0.5 mg/m^3 5 mg/m^3	- -

*Total Dust / Respirable fraction
**MIOSHA 0.05 mg/m^3, OSHA 0.1 mg/m^3
***Total Dust / Respirable/pyro powd./welding fraction
****Respirable fraction

8.2. Engineering 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:

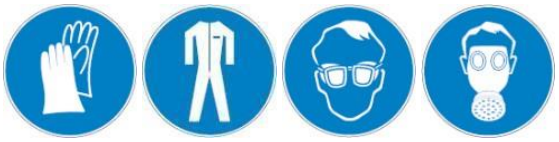
Use the appropriate NIOSH approved respirator if airborne dust concentrations exceed the appropriate PEL or TLV. All appropriate requirements set forth in 29 CFR 1910.134 should be met.

8.3.2. Skin:

Protective clothing, 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.

8.3.3. Eyes and Face:

Safety glasses with side shields or goggles are recommended.



Section 9: Physical and Chemical Properties

9.1 Physical Properties

Appearance and Odor: Dark Grey Metal / Odorless	Specific Gravity (H_20=1): 10 to 15
Boiling Point: N/A	Percent Volatile by Volume: 0
Vapor Pressure (mm Hg): N/A	Evaporation Rate: N/A
Vapor Density (Air=1): N/A	Best Monitored: Air Sample
Solubility in Water: Insoluble	Freezing Point:
Melting Point:	Viscosity:
Flashpoint: None	Evaporation Rate:

9.2 Chemical Properties

pH:	N/A
Flammability:	N/A
Explosive Limits:	N/A
Auto-ignition Temperature:	N/A
Decomposition Temperature:	N/A
Partition Coefficient: n-octanol/water:	N/A

Section 10: Stability and Reactivity

10.1. Reactivity:

Hazardous reactions will not occur under normal conditions.

10.2. Chemical stability:

Stable under recommended handling and storage conditions (see section 7)

10.3. Possibility of hazardous reaction:

Hazardous polymerization will not occur.

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 cancer.

11.1.2. Skin Contact:

Can cause irritation or an 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 bleed, heart and other organ problems.

11.1.5. Acute toxicity:

LD/LD50 values that are relevant for classification:

7789-02-8 Chromium (III) nitrate nonahydrate

Oral	LD50	3250 mg/kg (rat)

Section 12: Ecological Information

12.1 Threat to the Environment: None

Section 13: Disposal Considerations

13.1. Waste treatment methods:

Dispose of any waste in accordance with appropriate government regulations. Recycle the material as far as possible. Avoid release to the environment.

Section 14: Transportation

14.1. Transport material in accordance with appropriate government regulations, for solid carbide cutting tools.

Section 15: Regulatory Information

15.1. United States Regulations: None

15.2. State Regulatory Information:

15.1.1. WARNING: This product contains chemicals known to the State of California to cause cancer!

15.1.2. Solid carbide cutting tools contain substances, listed on Federal and some State regulation lists:
Cobalt (7440-48-4): USA Toxic Substances Control Act Inventory
USA SARA Section 313
California Proposition 65 Carcinogens List
***See table in Section 3.1 for list.
USA Toxic Substances Control Act Inventory

15.3. EU Regulations:

The final product listed on this SDS is in compliance with Directives 2011/65/EU and (EU) 2015/863 of European Parliament and of the Council of 8 June 2011 and 4 June 2015 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS). The product does not contain the following substances in concentrations greater than the maximum value listed after the substance:

Lead (Pb): 1,000 ppm
Cadmium (Cd): 100 ppm
Mercury (Hg): 1,000 ppm
Hexavalent Chromium (Cr6+): 1,000 ppm
Poly Brominated Biphenyls (PBB): 1,000 ppm
Poly Brominated Diphenyl Ethers (PBDE): 1,000 ppm
Bis(2-Ethylhexyl) Phthalate (DEHP): 0.1%
Benzyl Butyl Phthalate (BBP): 0.1%
Dibutyl Phthalate (DBP): 0.1%
Diisobutyl Phthalate (DIBP): 0.1%

The final product listed in this SDS does not contain REACH substances of very high concern (SVHC), according to the European Chemical Agency (ECHA). Certain products may contain nickel, which has been issued a REACH restriction. However, the restriction is not applicable due to the nature of this product.

Section 16: Other Information

Disclaimer: The information contained herein is based upon data provided by manufacturers and suppliers of raw materials used in the manufacture of our solid carbide cutting tools.
The information is offered in good faith as accurate and correct as this SDS issue date, but no representations, guarantees, or warranties of any kind are made as to its accuracy or completeness, suitability for particular applications, hazards connected with the use of product, or the results to be obtained from the use thereof. User assumes all risk and liability of any use or handling of any material beyond this manufacturer's control. Variations in methods, conditions, equipment used to store, handle, or process the material, and hazards connected with the use of the product are solely the responsibility of the user and remain at its sole discretion.

16.1. Last Revision Date: 17 February 2020

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SAFETY DATA SHEET (SDS)

OSHA Hazard Communication Standard (29 CFR 1910.1200)

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1. Product

1.1.1. Chemical Names:

Cemented Tungsten-Carbide Cutting Tools with Cobalt/Nickel/Chrome binder **(Promax PowerLayer Coated)**

1.1.2. Synonyms:

Endmills, Drills

1.1.3. Relevant identified uses:

Use of the substance/mixture: Cutting Tools for Manufacturing Industries.

1.1.4. Uses advised against:

When used as intended, this product is physiologically inert. End users are not exposed to health hazards associated to carbide or coating components, unless product is modified after coating. Do not modify or resharpen product.

1.2 Manufacturer

1.2.1 Manufacturer Name:

CERATIZIT Sacramento, LP
11312 Sunrise Gold Circle
Rancho Cordova CA 95742
USA
www.promaxtools.com
Tel: 916-638-0501
Fax: 916-638-0512

1.2.2 Emergency Phone Number: 916-638-0501

Section 2: Hazards Identification

2.1. Classification

2.1.1. Symbol:

2.1.2. Signal Word: Warning

2.1.3. Hazard Statement:

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the aforementioned products are considered articles and do not require an 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. Although these products are not subject to the OSHA Standard or GHS labeling elements, CERATIZIT Sacramento, LP would like to disclose as much health and safety information as possible to ensure that this product is 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.

2.1.4. According to the REACH C&L Inventory,

the following Hazardous Statements and Precautionary Statements are associated with any grinding to this product:

H316: Causes mild skin irritation
H317: May cause an allergic skin reaction
H320: Causes eye irritation
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335: May cause respiratory irritation
P261: Avoid breathing dust/fumes/gas/mist/vapors/spray
P280: Wear protective gloves/protective clothing/eye protection/face protection
P302+P352: IF ON SKIN: Wash with plenty of water
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes, remove contact lenses, if present and easy to do and continue rinsing

2.1.5. Hazard Statement:

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. OSHA Regulatory Status

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

2.3. Potential Effects of Exposure

2.3.1. Inhalation:

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.

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

2.3.3. Eye Contact: Can cause irritation

2.3.4. Ingestion: Reports outside the industry suggest that ingestion of significant amounts of cobalt has the potential to cause blood, heart and other organ problems.

2.4. Environmental Effects: No data is available currently.

Section 3: Information on Ingredients

Ingredient*	CAS Number	% By Weight	OSHA PEL TWS (mg/m^3)	ACGIH TLV TWA (mg/m^3)	NFPA Hazard Rating Scale, 0 - 4		
					Health	Fire	Reactivity
Tungsten Carbide, WC	12070-12-1	60-98	15	10	1	0	0
Cobalt, Co	7440-48-4	2-25	0.05**	0.02	2	3	0
Tantalum Carbide, TaC	12070-06-3	0-25	15	10	No Rating	0	0
Titanium Carbide, TiC	12070-08-5	0-25	15	10	No Rating	0	0
Niobium Carbide, NbC	12069-94-2	0-10	15	10	No Rating	0	0
Nickel, Ni	7440-02-0	0-1	1	1.5	2	4	1
Chromium Carbide, Cr_3C_2	12012-35-0	0-1	0.5	0.5	No Rating	0	0
Vanadium Carbide, VC	12070-10-9	0-0.5	15	10	No Rating	0	0
Molybdenum Carbide, Mo_2C	N/A	0-0.5	N/A	N/A	1	0	0

*Varies depending on grade

**MIOSHA 0.05 mg/m^3, OSHA 0.1 mg/m^3

3.1 Hazardous Ingredients

All materials except for ones listed below, are present in the carburized forms and would remain in that form if ground.

Substance name	CAS No.	EC No.	Concentration (Weight %)	Classification according to Regulation (EC) No. 1272 [CLP]	SCL and/or M-Factor
Tungsten Carbide	12070-12-1	235-123-0	60-98% (*)	Not Classified	-
Cobalt	7440-48-4	231-158-0	2-25% (*)	Resp. Sens. 1 H334 Skin Sens. 1 H317 Aquatic chronic 4 H413	-
Aluminum Nitride	24304-00-5	246-140-8	< 0.1	STOT SE 3 ; H335	-

(*) Depends on grade specifications

Section 4: First Aid Measures

4.1. First Aid and Emergency Measures

4.1.1. Overexposure:

If overexposure to dusts 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, remove contact lenses, if present and easy to do. Flush with large amounts of water. If irritation persists, seek medical attention.

4.1.5. Ingestion:

If substantial quantities are swallowed, dilute with a large amount of water, and seek medical attention.

4.2. Carcinogenic Assessment

ACGIH, NTP, IARC and OSHA have identified nickel as a confirmed carcinogen. IARC and NIOSH have indicated that cobalt is a suspected human carcinogen. Cobalt is known to the State of California to cause cancer.

Section 5: Firefighting Measures

5.1. Flammable Properties

5.1.1. 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.

5.1.2. Flashpoint: None

5.1.3. Autoignition: N/A

5.1.4. Lower Flammable Limit (LFL): N/A

5.1.5. Upper Flammable Limit (UFL): N/A

5.2. Extinguishing Media

5.2.1. Suitable Extinguishing Media:

For powder fires, smother with dry sand, dry dolomite, ABC or CO_2 type fire extinguisher, or flood with water. Move container from fire area if possible. For massive fires, use unmanned hose holder or monitor nozzles, or else withdraw and let fire burn out.

5.2.2. Non-suitable Extinguishing Media: N/A

5.3. Specific Hazards

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

5.3.2. May generate toxic metal fumes when heated.

5.3.3. Precautions for Firefighters:

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-contained breathing apparatus.

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:

Prevent entry to sewers and public waters. Avoid release to the environment, Collect spillage

6.2. Spills: In the Event that Dust or Sludge is Released or Spilled:

6.2.1. Ventilate the area.

6.2.2. Clean up:

Use methods that 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.

6.2.3. If airborne dust is generated:

Use an appropriate NIOSH approved respirator.

6.2.4. Place reclaimed material in a suitable clean, dry container for recycling.

6.2.5. Contact competent authorities after a spill

Section 7: Handling and Storage

7.1. Handling

7.1.1. Additional hazards when processed:

This product is physiologically inert in its massive form. However, user-generated dust and/or fumes may pose a physiological hazard if inhaled or ingested. Avoid inhalation of metal dusts and fumes. May cause an influenza-like illness. Avoid skin and eye contact with dusts to prevent mechanical irritation. User-generated dust is easily ignited and difficult to extinguish.

7.1.2. Precautions for safe handling:

Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Avoid prolonged contact with eyes, skin and clothing. Do not handle until all safety precautions have been read and understood. Do not breathe dust or fumes.

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.

7.2.3. Incompatible materials:

Strong acids. Strong oxidizers.

Section 8: Exposure Controls/Personal Protection

8.1. Permissible Exposure Limits (PEL)

All materials except for cobalt are present in the carburized forms and would remain in that form if ground.

Material	OSHA PEL: TWA	ACGIH TLV
Cobalt Metal, Dust, and Fume (as Co)	0.05 mg/m^3**	0.02 mg/m^3

**MIOSHA 0.05 mg/m^3, OSHA 0.1 mg/m^3

8.2. Engineering 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:

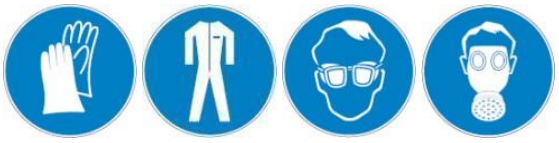
Use the appropriate NIOSH approved respirator if airborne dust concentrations exceed the appropriate PEL or TLV. All appropriate requirements set forth in 29 CFR 1910.134 should be met.

8.3.2. Skin:

Protective clothing, 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.

8.3.3. Eyes and Face:

Safety glasses with side shields or goggles are recommended.



Section 9: Physical and Chemical Properties

9.1 Physical Properties

Appearance and Odor: Dark Grey Metal / Odorless	Specific Gravity (H_20=1): 10 to 15
Boiling Point: N/A	Percent Volatile by Volume: 0
Vapor Pressure (mm Hg): N/A	Evaporation Rate: N/A
Vapor Density (Air=1): N/A	Best Monitored: Air Sample
Solubility in Water: Insoluble	Freezing Point:
Melting Point:	Viscosity:
Flashpoint: None	Evaporation Rate:

9.2 Chemical Properties

pH:	N/A
Flammability:	N/A
Explosive Limits:	N/A
Auto-ignition Temperature:	N/A
Decomposition Temperature:	N/A
Partition Coefficient: n-octanol/water:	N/A

Section 10: Stability and Reactivity

10.1. Reactivity:

Hazardous reactions will not occur under normal conditions.

10.2. Chemical stability:

Stable under recommended handling and storage conditions (see section 7)

10.3. Possibility of hazardous reaction:

Hazardous polymerization will not occur.

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 cancer.

11.1.2. Skin Contact:

Can cause irritation or an 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 bleed, heart and other organ problems.

11.1.5. Acute toxicity:

LD/LD50 values that are relevant for classification:

7429-90-5 Aluminum

Oral	LD50	>2000 mg/kg (rat)
Inhalative	LC50/4 h	888 mg/l (rat)

Section 12: Ecological Information

12.1 Threat to the Environment: None

Section 13: Disposal Considerations

13.1. Waste treatment methods:

Dispose of any waste in accordance with appropriate government regulations. Recycle the material as far as possible. Avoid release to the environment.

Section 14: Transportation

14.1. Transport material in accordance with appropriate government regulations, for solid carbide cutting tools.

Section 15: Regulatory Information

15.1. United States Regulations: None

15.2. State Regulatory Information:

15.1.1. WARNING: This product contains chemicals known to the State of California to cause cancer!

15.1.2. Solid carbide cutting tools contain substances, listed on Federal and some State regulation lists:
Cobalt (7440-48-4): USA Toxic Substances Control Act Inventory
USA SARA Section 313
California Proposition 65 Carcinogens List
Tungsten Carbide (12070-12-1)
Cobalt (7440-48-4)
USA Toxic Substances Control Act Inventory

15.3. EU Regulations:

The final product listed on this SDS is in compliance with Directives 2011/65/EU and (EU) 2015/863 of European Parliament and of the Council of 8 June 2011 and 4 June 2015 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS). The product does not contain the following substances in concentrations greater than the maximum value listed after the substance:

Lead (Pb): 1,000 ppm
Cadmium (Cd): 100 ppm
Mercury (Hg): 1,000 ppm
Hexavalent Chromium (Cr6+): 1,000 ppm
Poly Brominated Biphenyls (PBB): 1,000 ppm
Poly Brominated Diphenyl Ethers (PBDE): 1,000 ppm
Bis(2-Ethylhexyl) Phthalate (DEHP): 0.1%
Benzyl Butyl Phthalate (BBP): 0.1%
Dibutyl Phthalate (DBP): 0.1%
Diisobutyl Phthalate (DIBP): 0.1%

The final product listed in this SDS does not contain REACH substances of very high concern (SVHC), according to the European Chemical Agency (ECHA). Certain products may contain nickel, which has been issued a REACH restriction. However, the restriction is not applicable due to the nature of this product.

Section 16: Other Information

Disclaimer: The information contained herein is based upon data provided by manufacturers and suppliers of raw materials used in the manufacture of our solid carbide cutting tools.
The information is offered in good faith as accurate and correct as this SDS issue date, but no representations, guarantees, or warranties of any kind are made as to its accuracy or completeness, suitability for particular applications, hazards connected with the use of product, or the results to be obtained from the use thereof. User assumes all risk and liability of any use or handling of any material beyond this manufacturer's control. Variations in methods, conditions, equipment used to store, handle, or process the material, and hazards connected with the use of the product are solely the responsibility of the user and remain at its sole discretion.

16.1. Last Revision Date: 17 February 2020

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SAFETY DATA SHEET (SDS)

OSHA Hazard Communication Standard (29 CFR 1910.1200)

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1. Product

1.1.1. Chemical Names:

Cemented Tungsten-Carbide Cutting Tools with Cobalt/Nickel/Chrome binder **(TiCN Coated)**

1.1.2. Synonyms:

Endmills, Drills

1.1.3. Relevant identified uses:

Use of the substance/mixture: Cutting Tools for Manufacturing Industries.

1.1.4. Uses advised against:

When used as intended, this product is physiologically inert. End users are not exposed to health hazards associated to carbide or coating components, unless product is modified after coating. Do not modify or resharpen product.

1.2 Manufacturer

1.2.1 Manufacturer Name:

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11312 Sunrise Gold Circle
Rancho Cordova CA 95742
USA
www.promaxtools.com
Tel: 916-638-0501
Fax: 916-638-0512

1.2.2 Emergency Phone Number: 916-638-0501

Section 2: Hazards Identification

2.1. Classification

2.1.1. Symbol:

2.1.2. Signal Word: Warning

2.1.3. Hazard Statement:

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the aforementioned products are considered articles and do not require an 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. Although these products are not subject to the OSHA Standard or GHS labeling elements, CERATIZIT Sacramento, LP would like to disclose as much health and safety information as possible to ensure that this product is 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.

2.1.4. According to the REACH C&L Inventory,

the following Hazardous Statements and Precautionary Statements are associated with any grinding to this product:

H316: Causes mild skin irritation
H317: May cause an allergic skin reaction
H320: Causes eye irritation
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335: May cause respiratory irritation
P261: Avoid breathing dust/fumes/gas/mist/vapors/spray
P280: Wear protective gloves/protective clothing/eye protection/face protection
P302+P352: IF ON SKIN: Wash with plenty of water
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes, remove contact lenses, if present and easy to do and continue rinsing

2.1.5. Hazard Statement:

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. OSHA Regulatory Status

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

2.3. Potential Effects of Exposure

2.3.1. Inhalation:

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.

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

2.3.3. Eye Contact: Can cause irritation

2.3.4. Ingestion: Reports outside the industry suggest that ingestion of significant amounts of cobalt has the potential to cause blood, heart and other organ problems.

2.4. Environmental Effects: No data is available currently.

Section 3: Information on Ingredients

Ingredient*	CAS Number	% By Weight	OSHA PEL TWS (mg/m^3)	ACGIH TLV TWA (mg/m^3)	NFPA Hazard Rating Scale, 0 - 4		
					Health	Fire	Reactivity
Tungsten Carbide, WC	12070-12-1	60-98	15	10	1	0	0
Cobalt, Co	7440-48-4	2-25	0.05**	0.02	2	3	0
Tantalum Carbide, TaC	12070-06-3	0-25	15	10	No Rating	0	0
Titanium Carbide, TiC	12070-08-5	0-25	15	10	No Rating	0	0
Niobium Carbide, NbC	12069-94-2	0-10	15	10	No Rating	0	0
Nickel, Ni	7440-02-0	0-1	1	1.5	2	4	1
Chromium Carbide, Cr_3C_2	12012-35-0	0-1	0.5	0.5	No Rating	0	0
Vanadium Carbide, VC	12070-10-9	0-0.5	15	10	No Rating	0	0
Molybdenum Carbide, Mo_2C	N/A	0-0.5	N/A	N/A	1	0	0

*Varies depending on grade

**MIOSHA 0.05 mg/m^3, OSHA 0.1 mg/m^3

3.1 Hazardous Ingredients

All materials except for ones listed below, are present in the carburized forms and would remain in that form if ground.

Substance name	CAS No.	EC No.	Concentration (Weight %)	Classification according to Regulation (EC) No. 1272 [CLP]	SCL and/or M-Factor
Tungsten Carbide	12070-12-1	235-123-0	60-98% (*)	Not Classified	-
Cobalt	7440-48-4	231-158-0	2-25% (*)	Resp. Sens. 1 H334 Skin Sens. 1 H317 Aquatic chronic 4 H413	-
Titanium Carbonitride	12627-33-7	none	< 0.1	-	-

(*) Depends on grade specifications

Section 4: First Aid Measures

4.1. First Aid and Emergency Measures

4.1.1. Overexposure:

If overexposure to dusts 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, remove contact lenses, if present and easy to do. Flush with large amounts of water. If irritation persists, seek medical attention.

4.1.5. Ingestion:

If substantial quantities are swallowed, dilute with a large amount of water, and seek medical attention.

4.2. Carcinogenic Assessment

ACGIH, NTP, IARC and OSHA have identified nickel as a confirmed carcinogen. IARC and NIOSH have indicated that cobalt is a suspected human carcinogen. Cobalt is known to the State of California to cause cancer.

Section 5: Firefighting Measures

5.1. Flammable Properties

5.1.1. 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.

5.1.2. Flashpoint: None

5.1.3. Autoignition: N/A

5.1.4. Lower Flammable Limit (LFL): N/A

5.1.5. Upper Flammable Limit (UFL): N/A

5.2. Extinguishing Media

5.2.1. Suitable Extinguishing Media:

For powder fires, smother with dry sand, dry dolomite, ABC or CO_2 type fire extinguisher, or flood with water. Move container from fire area if possible. For massive fires, use unmanned hose holder or monitor nozzles, or else withdraw and let fire burn out.

5.2.2. Non-suitable Extinguishing Media: N/A

5.3. Specific Hazards

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

5.3.2. May generate toxic metal fumes when heated.

5.3.3. Precautions for Firefighters:

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-contained breathing apparatus.

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:

Prevent entry to sewers and public waters. Avoid release to the environment, Collect spillage

6.2. Spills: In the Event that Dust or Sludge is Released or Spilled:

6.2.1. Ventilate the area.

6.2.2. Clean up:

Use methods that 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.

6.2.3. If airborne dust is generated:

Use an appropriate NIOSH approved respirator.

6.2.4. Place reclaimed material in a suitable clean, dry container for recycling.

6.2.5. Contact competent authorities after a spill

Section 7: Handling and Storage

7.1. Handling

7.1.1. Additional hazards when processed:

This product is physiologically inert in its massive form. However, user-generated dust and/or fumes may pose a physiological hazard if inhaled or ingested. Avoid inhalation of metal dusts and fumes. May cause an influenza-like illness. Avoid skin and eye contact with dusts to prevent mechanical irritation. User-generated dust is easily ignited and difficult to extinguish.

7.1.2. Precautions for safe handling:

Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Avoid prolonged contact with eyes, skin and clothing. Do not handle until all safety precautions have been read and understood. Do not breathe dust or fumes.

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.

7.2.3. Incompatible materials:

Strong acids. Strong oxidizers.

Section 8: Exposure Controls/Personal Protection

8.1. Permissible Exposure Limits (PEL)

All materials except for cobalt are present in the carburized forms and would remain in that form if ground.

Material	OSHA PEL: TWA	ACGIH TLV
Cobalt Metal, Dust, and Fume (as Co)	0.05 mg/m^3**	0.02 mg/m^3
Titanium Carbonitride 12627-33-7		10 mg/m^3

**MIOSHA 0.05 mg/m^3, OSHA 0.1 mg/m^3

8.2. Engineering 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:

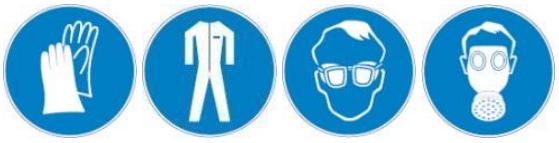
Use the appropriate NIOSH approved respirator if airborne dust concentrations exceed the appropriate PEL or TLV. All appropriate requirements set forth in 29 CFR 1910.134 should be met.

8.3.2. Skin:

Protective clothing, 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.

8.3.3. Eyes and Face:

Safety glasses with side shields or goggles are recommended.



Section 9: Physical and Chemical Properties

9.1 Physical Properties

Appearance and Odor: Dark Grey Metal / Odorless	Specific Gravity (H_20=1): 10 to 15
Boiling Point: N/A	Percent Volatile by Volume: 0
Vapor Pressure (mm Hg): N/A	Evaporation Rate: N/A
Vapor Density (Air=1): N/A	Best Monitored: Air Sample
Solubility in Water: Insoluble	Freezing Point:
Melting Point:	Viscosity:
Flashpoint: None	Evaporation Rate:

9.2 Chemical Properties

pH:	N/A
Flammability:	N/A
Explosive Limits:	N/A
Auto-ignition Temperature:	N/A
Decomposition Temperature:	N/A
Partition Coefficient: n-octanol/water:	N/A

Section 10: Stability and Reactivity

10.1. Reactivity:

Hazardous reactions will not occur under normal conditions.

10.2. Chemical stability:

Stable under recommended handling and storage conditions (see section 7)

10.3. Possibility of hazardous reaction:

Hazardous polymerization will not occur.

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 cancer.

11.1.2. Skin Contact:

Can cause irritation or an 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 bleed, heart and other organ problems.

Section 12: Ecological Information

12.1 Threat to the Environment: None

Section 13: Disposal Considerations

13.1. Waste treatment methods:

Dispose of any waste in accordance with appropriate government regulations. Recycle the material as far as possible. Avoid release to the environment.

Section 14: Transportation

14.1. Transport material in accordance with appropriate government regulations, for solid carbide cutting tools.

Section 15: Regulatory Information

15.1. United States Regulations: None

15.2. State Regulatory Information:

15.1.1. WARNING: This product contains chemicals known to the State of California to cause cancer!

15.1.2. Solid carbide cutting tools contain substances, listed on Federal and some State regulation lists:
Cobalt (7440-48-4): USA Toxic Substances Control Act Inventory
USA SARA Section 313
California Proposition 65 Carcinogens List
Tungsten Carbide (12070-12-1)
Cobalt (7440-48-4)
USA Toxic Substances Control Act Inventory

15.3. EU Regulations:

The final product listed on this SDS is in compliance with Directives 2011/65/EU and (EU) 2015/863 of European Parliament and of the Council of 8 June 2011 and 4 June 2015 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS). The product does not contain the following substances in concentrations greater than the maximum value listed after the substance:

Lead (Pb): 1,000 ppm
Cadmium (Cd): 100 ppm
Mercury (Hg): 1,000 ppm
Hexavalent Chromium (Cr6+): 1,000 ppm
Poly Brominated Biphenyls (PBB): 1,000 ppm
Poly Brominated Diphenyl Ethers (PBDE): 1,000 ppm
Bis(2-Ethylhexyl) Phthalate (DEHP): 0.1%
Benzyl Butyl Phthalate (BBP): 0.1%
Dibutyl Phthalate (DBP): 0.1%
Diisobutyl Phthalate (DIBP): 0.1%

The final product listed in this SDS does not contain REACH substances of very high concern (SVHC), according to the European Chemical Agency (ECHA). Certain products may contain nickel, which has been issued a REACH restriction. However, the restriction is not applicable due to the nature of this product.

Section 16: Other Information

Disclaimer: The information contained herein is based upon data provided by manufacturers and suppliers of raw materials used in the manufacture of our solid carbide cutting tools.
The information is offered in good faith as accurate and correct as this SDS issue date, but no representations, guarantees, or warranties of any kind are made as to its accuracy or completeness, suitability for particular applications, hazards connected with the use of product, or the results to be obtained from the use thereof. User assumes all risk and liability of any use or handling of any material beyond this manufacturer's control. Variations in methods, conditions, equipment used to store, handle, or process the material, and hazards connected with the use of the product are solely the responsibility of the user and remain at its sole discretion.

16.1. Last Revision Date: 17 February 2020

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SAFETY DATA SHEET (SDS)

OSHA Hazard Communication Standard (29 CFR 1910.1200)

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1. Product

1.1.1. Chemical Names:

Cemented Tungsten-Carbide Cutting Tools with Cobalt/Nickel/Chrome binder **(ZrN Coated)**

1.1.2. Synonyms:

Endmills, Drills

1.1.3. Relevant identified uses:

Use of the substance/mixture: Cutting Tools for Manufacturing Industries.

1.1.4. Uses advised against:

When used as intended, this product is physiologically inert. End users are not exposed to health hazards associated to carbide or coating components, unless product is modified after coating. Do not modify or resharpen product.

1.2 Manufacturer

1.2.1 Manufacturer Name:

CERATIZIT Sacramento, LP
11312 Sunrise Gold Circle
Rancho Cordova CA 95742
USA
www.promaxtools.com
Tel: 916-638-0501
Fax: 916-638-0512

1.2.2 Emergency Phone Number: 916-638-0501

Section 2: Hazards Identification

2.1. Classification

2.1.1. Symbol:

2.1.2. Signal Word: Warning

2.1.3. Hazard Statement:

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the aforementioned products are considered articles and do not require an 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. Although these products are not subject to the OSHA Standard or GHS labeling elements, CERATIZIT Sacramento, LP would like to disclose as much health and safety information as possible to ensure that this product is 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.

2.1.4. According to the REACH C&L Inventory,

the following Hazardous Statements and Precautionary Statements are associated with any grinding to this product:

H316: Causes mild skin irritation
H317: May cause an allergic skin reaction
H320: Causes eye irritation
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335: May cause respiratory irritation
P261: Avoid breathing dust/fumes/gas/mist/vapors/spray
P280: Wear protective gloves/protective clothing/eye protection/face protection
P302+P352: IF ON SKIN: Wash with plenty of water
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes, remove contact lenses, if present and easy to do and continue rinsing

2.1.5. Hazard Statement:

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. OSHA Regulatory Status

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

2.3. Potential Effects of Exposure

2.3.1. Inhalation:

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.

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

2.3.3. Eye Contact: Can cause irritation

2.3.4. Ingestion: Reports outside the industry suggest that ingestion of significant amounts of cobalt has the potential to cause blood, heart and other organ problems.

2.4. Environmental Effects: No data is available currently.

Section 3: Information on Ingredients

Ingredient*	CAS Number	% By Weight	OSHA PEL TWS (mg/m^3)	ACGIH TLV TWA (mg/m^3)	NFPA Hazard Rating Scale, 0 - 4		
					Health	Fire	Reactivity
Tungsten Carbide, WC	12070-12-1	60-98	15	10	1	0	0
Cobalt, Co	7440-48-4	2-25	0.05**	0.02	2	3	0
Tantalum Carbide, TaC	12070-06-3	0-25	15	10	No Rating	0	0
Titanium Carbide, TiC	12070-08-5	0-25	15	10	No Rating	0	0
Niobium Carbide, NbC	12069-94-2	0-10	15	10	No Rating	0	0
Nickel, Ni	7440-02-0	0-1	1	1.5	2	4	1
Chromium Carbide, Cr_3C_2	12012-35-0	0-1	0.5	0.5	No Rating	0	0
Vanadium Carbide, VC	12070-10-9	0-0.5	15	10	No Rating	0	0
Molybdenum Carbide, Mo_2C	N/A	0-0.5	N/A	N/A	1	0	0

*Varies depending on grade

**MIOSHA 0.05 mg/m^3, OSHA 0.1 mg/m^3

3.1 Hazardous Ingredients

All materials except for ones listed below, are present in the carburized forms and would remain in that form if ground.

Substance name	CAS No.	EC No.	Concentration (Weight %)	Classification according to Regulation (EC) No. 1272 [CLP]	SCL and/or M-Factor
Tungsten Carbide	12070-12-1	235-123-0	60-98% (*)	Not Classified	-
Cobalt	7440-48-4	231-158-0	2-25% (*)	Resp. Sens. 1 H334 Skin Sens. 1 H317 Aquatic chronic 4 H413	-
Zirconium nitride	25658-42-8	247-166-2	< 0.1	-	-

(*) Depends on grade specifications

Section 4: First Aid Measures

4.1. First Aid and Emergency Measures

4.1.1. Overexposure:

If overexposure to dusts 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, remove contact lenses, if present and easy to do. Flush with large amounts of water. If irritation persists, seek medical attention.

4.1.5. Ingestion:

If substantial quantities are swallowed, dilute with a large amount of water, and seek medical attention.

4.2. Carcinogenic Assessment

ACGIH, NTP, IARC and OSHA have identified nickel as a confirmed carcinogen. IARC and NIOSH have indicated that cobalt is a suspected human carcinogen. Cobalt is known to the State of California to cause cancer.

Section 5: Firefighting Measures

5.1. Flammable Properties

5.1.1. 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.

5.1.2. Flashpoint: None

5.1.3. Autoignition: N/A

5.1.4. Lower Flammable Limit (LFL): N/A

5.1.5. Upper Flammable Limit (UFL): N/A

5.2. Extinguishing Media

5.2.1. Suitable Extinguishing Media:

For powder fires, smother with dry sand, dry dolomite, ABC or CO_2 type fire extinguisher, or flood with water. Move container from fire area if possible. For massive fires, use unmanned hose holder or monitor nozzles, or else withdraw and let fire burn out.

5.2.2. Non-suitable Extinguishing Media: N/A

5.3. Specific Hazards

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

5.3.2. May generate toxic metal fumes when heated.

5.3.3. Precautions for Firefighters:

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-contained breathing apparatus.

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:

Prevent entry to sewers and public waters. Avoid release to the environment, Collect spillage

6.2. Spills: In the Event that Dust or Sludge is Released or Spilled:

6.2.1. Ventilate the area.

6.2.2. Clean up:

Use methods that 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.

6.2.3. If airborne dust is generated:

Use an appropriate NIOSH approved respirator.

6.2.4. Place reclaimed material in a suitable clean, dry container for recycling.

6.2.5. Contact competent authorities after a spill

Section 7: Handling and Storage

7.1. Handling

7.1.1. Additional hazards when processed:

This product is physiologically inert in its massive form. However, user-generated dust and/or fumes may pose a physiological hazard if inhaled or ingested. Avoid inhalation of metal dusts and fumes. May cause an influenza-like illness. Avoid skin and eye contact with dusts to prevent mechanical irritation. User-generated dust is easily ignited and difficult to extinguish.

7.1.2. Precautions for safe handling:

Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Avoid prolonged contact with eyes, skin and clothing. Do not handle until all safety precautions have been read and understood. Do not breathe dust or fumes.

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.

7.2.3. Incompatible materials:

Strong acids. Strong oxidizers.

Section 8: Exposure Controls/Personal Protection

8.1. Permissible Exposure Limits (PEL)

All materials except for cobalt are present in the carburized forms and would remain in that form if ground.

Material	OSHA PEL: TWA	ACGIH TLV/REL
Cobalt Metal, Dust, and Fume (as Co)	0.05 mg/m^3**	0.02 mg/m^3
Zirconium nitride 25658-42-8	5 mg/m^3 as Zr	10 mg/m^3***

**MIOSHA 0.05 mg/m^3, OSHA 0.1 mg/m^3

***Short-term value as Zr, Long-term = 5 mg/m^3 as Zr.

8.2. Engineering 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:

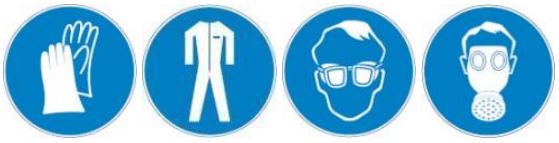
Use the appropriate NIOSH approved respirator if airborne dust concentrations exceed the appropriate PEL or TLV. All appropriate requirements set forth in 29 CFR 1910.134 should be met.

8.3.2. Skin:

Protective clothing, 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.

8.3.3. Eyes and Face:

Safety glasses with side shields or goggles are recommended.



Section 9: Physical and Chemical Properties

9.1 Physical Properties

Appearance and Odor: Dark Grey Metal / Odorless	Specific Gravity (H_20=1): 10 to 15
Boiling Point: N/A	Percent Volatile by Volume: 0
Vapor Pressure (mm Hg): N/A	Evaporation Rate: N/A
Vapor Density (Air=1): N/A	Best Monitored: Air Sample
Solubility in Water: Insoluble	Freezing Point:
Melting Point:	Viscosity:
Flashpoint: None	Evaporation Rate:

9.2 Chemical Properties

pH:	N/A
Flammability:	N/A
Explosive Limits:	N/A
Auto-ignition Temperature:	N/A
Decomposition Temperature:	N/A
Partition Coefficient: n-octanol/water:	N/A

Section 10: Stability and Reactivity

10.1. Reactivity:

Hazardous reactions will not occur under normal conditions.

10.2. Chemical stability:

Stable under recommended handling and storage conditions (see section 7)

10.3. Possibility of hazardous reaction:

Hazardous polymerization will not occur.

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 cancer.

11.1.2. Skin Contact:

Can cause irritation or an 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 bleed, heart and other organ problems.

Section 12: Ecological Information

12.1 Threat to the Environment: None

Section 13: Disposal Considerations

13.1. Waste treatment methods:

Dispose of any waste in accordance with appropriate government regulations. Recycle the material as far as possible. Avoid release to the environment.

Section 14: Transportation

14.1. Transport material in accordance with appropriate government regulations, for solid carbide cutting tools.

Section 15: Regulatory Information

15.1. United States Regulations: None

15.2. State Regulatory Information:

15.1.1. WARNING: This product contains chemicals known to the State of California to cause cancer!

15.1.2. Solid carbide cutting tools contain substances, listed on Federal and some State regulation lists:
Cobalt (7440-48-4): USA Toxic Substances Control Act Inventory
USA SARA Section 313
California Proposition 65 Carcinogens List
Tungsten Carbide (12070-12-1)
Cobalt (7440-48-4)
USA Toxic Substances Control Act Inventory

15.3. EU Regulations:

The final product listed on this SDS is in compliance with Directives 2011/65/EU and (EU) 2015/863 of European Parliament and of the Council of 8 June 2011 and 4 June 2015 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS). The product does not contain the following substances in concentrations greater than the maximum value listed after the substance:

Lead (Pb): 1,000 ppm
Cadmium (Cd): 100 ppm
Mercury (Hg): 1,000 ppm
Hexavalent Chromium (Cr6+): 1,000 ppm
Poly Brominated Biphenyls (PBB): 1,000 ppm
Poly Brominated Diphenyl Ethers (PBDE): 1,000 ppm
Bis(2-Ethylhexyl) Phthalate (DEHP): 0.1%
Benzyl Butyl Phthalate (BBP): 0.1%
Dibutyl Phthalate (DBP): 0.1%
Diisobutyl Phthalate (DIBP): 0.1%

The final product listed in this SDS does not contain REACH substances of very high concern (SVHC), according to the European Chemical Agency (ECHA). Certain products may contain nickel, which has been issued a REACH restriction. However, the restriction is not applicable due to the nature of this product.

Section 16: Other Information

Disclaimer: The information contained herein is based upon data provided by manufacturers and suppliers of raw materials used in the manufacture of our solid carbide cutting tools.
The information is offered in good faith as accurate and correct as this SDS issue date, but no representations, guarantees, or warranties of any kind are made as to its accuracy or completeness, suitability for particular applications, hazards connected with the use of product, or the results to be obtained from the use thereof. User assumes all risk and liability of any use or handling of any material beyond this manufacturer's control. Variations in methods, conditions, equipment used to store, handle, or process the material, and hazards connected with the use of the product are solely the responsibility of the user and remain at its sole discretion.

16.1. Last Revision Date: 17 February 2020

CERATIZIT Sacramento, LP
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SAFETY DATA SHEET (SDS)

OSHA Hazard Communication Standard (29 CFR 1910.1200)

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1. Product

1.1.1. Chemical Names:

Cemented Tungsten-Carbide Cutting Tools with Cobalt/Nickel/Chrome binder **(TiN Coated)**

1.1.2. Synonyms:

Endmills, Drills

1.1.3. Relevant identified uses:

Use of the substance/mixture: Cutting Tools for Manufacturing Industries.

1.1.4. Uses advised against:

When used as intended, this product is physiologically inert. End users are not exposed to health hazards associated to carbide or coating components, unless product is modified after coating. Do not modify or resharpen product.

1.2 Manufacturer

1.2.1 Manufacturer Name:

CERATIZIT Sacramento, LP
11312 Sunrise Gold Circle
Rancho Cordova CA 95742
USA
www.promaxtools.com
Tel: 916-638-0501
Fax: 916-638-0512

1.2.2 Emergency Phone Number: 916-638-0501

Section 2: Hazards Identification

2.1. Classification

2.1.1. Symbol:

2.1.2. Signal Word: Warning

2.1.3. Hazard Statement:

As defined in the OSHA Hazard Communication Standard, 29 CFR 1910.1200, the aforementioned products are considered articles and do not require an 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. Although these products are not subject to the OSHA Standard or GHS labeling elements, CERATIZIT Sacramento, LP would like to disclose as much health and safety information as possible to ensure that this product is 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.

2.1.4. According to the REACH C&L Inventory,

the following Hazardous Statements and Precautionary Statements are associated with any grinding to this product:

H316: Causes mild skin irritation
H317: May cause an allergic skin reaction
H320: Causes eye irritation
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335: May cause respiratory irritation
P261: Avoid breathing dust/fumes/gas/mist/vapors/spray
P280: Wear protective gloves/protective clothing/eye protection/face protection
P302+P352: IF ON SKIN: Wash with plenty of water
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes, remove contact lenses, if present and easy to do and continue rinsing

2.1.5. Hazard Statement:

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. OSHA Regulatory Status

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

2.3. Potential Effects of Exposure

2.3.1. Inhalation:

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.

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

2.3.3. Eye Contact: Can cause irritation

2.3.4. Ingestion: Reports outside the industry suggest that ingestion of significant amounts of cobalt has the potential to cause blood, heart and other organ problems.

2.4. Environmental Effects: No data is available currently.

Section 3: Information on Ingredients

Ingredient*	CAS Number	% By Weight	OSHA PEL TWS (mg/m^3)	ACGIH TLV TWA (mg/m^3)	NFPA Hazard Rating Scale, 0 - 4		
					Health	Fire	Reactivity
Tungsten Carbide, WC	12070-12-1	60-98	15	10	1	0	0
Cobalt, Co	7440-48-4	2-25	0.05**	0.02	2	3	0
Tantalum Carbide, TaC	12070-06-3	0-25	15	10	No Rating	0	0
Titanium Carbide, TiC	12070-08-5	0-25	15	10	No Rating	0	0
Niobium Carbide, NbC	12069-94-2	0-10	15	10	No Rating	0	0
Nickel, Ni	7440-02-0	0-1	1	1.5	2	4	1
Chromium Carbide, Cr_3C_2	12012-35-0	0-1	0.5	0.5	No Rating	0	0
Vanadium Carbide, VC	12070-10-9	0-0.5	15	10	No Rating	0	0
Molybdenum Carbide, Mo_2C	N/A	0-0.5	N/A	N/A	1	0	0

*Varies depending on grade

**MIOSHA 0.05 mg/m^3, OSHA 0.1 mg/m^3

3.1 Hazardous Ingredients

All materials except for ones listed below, are present in the carburized forms and would remain in that form if ground.

Substance name	CAS No.	EC No.	Concentration (Weight %)	Classification according to Regulation (EC) No. 1272 [CLP]	SCL and/or M-Factor
Tungsten Carbide	12070-12-1	235-123-0	60-98% (*)	Not Classified	-
Cobalt	7440-48-4	231-158-0	2-25% (*)	Resp. Sens. 1 H334 Skin Sens. 1 H317 Aquatic chronic 4 H413	-
Titanium nitride	25583-20-4	247-117-5	< 0.1	-	-

(*) Depends on grade specifications

Section 4: First Aid Measures

4.1. First Aid and Emergency Measures

4.1.1. Overexposure:

If overexposure to dusts 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, remove contact lenses, if present and easy to do. Flush with large amounts of water. If irritation persists, seek medical attention.

4.1.5. Ingestion:

If substantial quantities are swallowed, dilute with a large amount of water, and seek medical attention.

4.2. Carcinogenic Assessment

ACGIH, NTP, IARC and OSHA have identified nickel as a confirmed carcinogen. IARC and NIOSH have indicated that cobalt is a suspected human carcinogen. Cobalt is known to the State of California to cause cancer.

Section 5: Firefighting Measures

5.1. Flammable Properties

5.1.1. 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.

5.1.2. Flashpoint: None

5.1.3. Autoignition: N/A

5.1.4. Lower Flammable Limit (LFL): N/A

5.1.5. Upper Flammable Limit (UFL): N/A

5.2. Extinguishing Media

5.2.1. Suitable Extinguishing Media:

For powder fires, smother with dry sand, dry dolomite, ABC or CO_2 type fire extinguisher, or flood with water. Move container from fire area if possible. For massive fires, use unmanned hose holder or monitor nozzles, or else withdraw and let fire burn out.

5.2.2. Non-suitable Extinguishing Media: N/A

5.3. Specific Hazards

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

5.3.2. May generate toxic metal fumes when heated.

5.3.3. Precautions for Firefighters:

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-contained breathing apparatus.

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:

Prevent entry to sewers and public waters. Avoid release to the environment, Collect spillage

6.2. Spills: In the Event that Dust or Sludge is Released or Spilled:

6.2.1. Ventilate the area.

6.2.2. Clean up:

Use methods that 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.

6.2.3. If airborne dust is generated:

Use an appropriate NIOSH approved respirator.

6.2.4. Place reclaimed material in a suitable clean, dry container for recycling.

6.2.5. Contact competent authorities after a spill

Section 7: Handling and Storage

7.1. Handling

7.1.1. Additional hazards when processed:

This product is physiologically inert in its massive form. However, user-generated dust and/or fumes may pose a physiological hazard if inhaled or ingested. Avoid inhalation of metal dusts and fumes. May cause an influenza-like illness. Avoid skin and eye contact with dusts to prevent mechanical irritation. User-generated dust is easily ignited and difficult to extinguish.

7.1.2. Precautions for safe handling:

Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Avoid prolonged contact with eyes, skin and clothing. Do not handle until all safety precautions have been read and understood. Do not breathe dust or fumes.

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.

7.2.3. Incompatible materials:

Strong acids. Strong oxidizers.

Section 8: Exposure Controls/Personal Protection

8.1. Permissible Exposure Limits (PEL)

All materials except for cobalt are present in the carburized forms and would remain in that form if ground.

Material	OSHA PEL: TWA	ACGIH TLV
Cobalt Metal, Dust, and Fume (as Co)	0.05 mg/m^3**	0.02 mg/m^3

**MIOSHA 0.05 mg/m^3, OSHA 0.1 mg/m^3

8.2. Engineering 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:

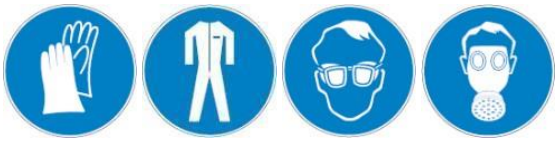
Use the appropriate NIOSH approved respirator if airborne dust concentrations exceed the appropriate PEL or TLV. All appropriate requirements set forth in 29 CFR 1910.134 should be met.

8.3.2. Skin:

Protective clothing, 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.

8.3.3. Eyes and Face:

Safety glasses with side shields or goggles are recommended.



Section 9: Physical and Chemical Properties

9.1 Physical Properties

Appearance and Odor: Dark Grey Metal / Odorless	Specific Gravity (H_20=1): 10 to 15
Boiling Point: N/A	Percent Volatile by Volume: 0
Vapor Pressure (mm Hg): N/A	Evaporation Rate: N/A
Vapor Density (Air=1): N/A	Best Monitored: Air Sample
Solubility in Water: Insoluble	Freezing Point:
Melting Point:	Viscosity:
Flashpoint: None	Evaporation Rate:

9.2 Chemical Properties

pH:	N/A
Flammability:	N/A
Explosive Limits:	N/A
Auto-ignition Temperature:	N/A
Decomposition Temperature:	N/A
Partition Coefficient: n-octanol/water:	N/A

Section 10: Stability and Reactivity

10.1. Reactivity:

Hazardous reactions will not occur under normal conditions.

10.2. Chemical stability:

Stable under recommended handling and storage conditions (see section 7)

10.3. Possibility of hazardous reaction:

Hazardous polymerization will not occur.

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 cancer.

11.1.2. Skin Contact:

Can cause irritation or an 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 bleed, heart and other organ problems.

Section 12: Ecological Information

12.1 Threat to the Environment: None

Section 13: Disposal Considerations

13.1. Waste treatment methods:

Dispose of any waste in accordance with appropriate government regulations. Recycle the material as far as possible. Avoid release to the environment.

Section 14: Transportation

14.1. Transport material in accordance with appropriate government regulations, for solid carbide cutting tools.

Section 15: Regulatory Information

15.1. United States Regulations: None

15.2. State Regulatory Information:

15.1.1. WARNING: This product contains chemicals known to the State of California to cause cancer!

15.1.2. Solid carbide cutting tools contain substances, listed on Federal and some State regulation lists:
Cobalt (7440-48-4): USA Toxic Substances Control Act Inventory
USA SARA Section 313
California Proposition 65 Carcinogens List
Tungsten Carbide (12070-12-1)
Cobalt (7440-48-4)
USA Toxic Substances Control Act Inventory

15.3. EU Regulations:

The final product listed on this SDS is in compliance with Directives 2011/65/EU and (EU) 2015/863 of European Parliament and of the Council of 8 June 2011 and 4 June 2015 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS). The product does not contain the following substances in concentrations greater than the maximum value listed after the substance:

Lead (Pb): 1,000 ppm
Cadmium (Cd): 100 ppm
Mercury (Hg): 1,000 ppm
Hexavalent Chromium (Cr6+): 1,000 ppm
Poly Brominated Biphenyls (PBB): 1,000 ppm
Poly Brominated Diphenyl Ethers (PBDE): 1,000 ppm
Bis(2-Ethylhexyl) Phthalate (DEHP): 0.1%
Benzyl Butyl Phthalate (BBP): 0.1%
Dibutyl Phthalate (DBP): 0.1%
Diisobutyl Phthalate (DIBP): 0.1%

The final product listed in this SDS does not contain REACH substances of very high concern (SVHC), according to the European Chemical Agency (ECHA). Certain products may contain nickel, which has been issued a REACH restriction. However, the restriction is not applicable due to the nature of this product.

Section 16: Other Information

Disclaimer: The information contained herein is based upon data provided by manufacturers and suppliers of raw materials used in the manufacture of our solid carbide cutting tools.
The information is offered in good faith as accurate and correct as this SDS issue date, but no representations, guarantees, or warranties of any kind are made as to its accuracy or completeness, suitability for particular applications, hazards connected with the use of product, or the results to be obtained from the use thereof. User assumes all risk and liability of any use or handling of any material beyond this manufacturer's control. Variations in methods, conditions, equipment used to store, handle, or process the material, and hazards connected with the use of the product are solely the responsibility of the user and remain at its sole discretion.

16.1. Last Revision Date: 17 February 2020