

## PRODUCT INFORMATION DATA SHEET FOR HARD-METAL ARTICLES

Date: 17/02/2014 version 3.0

<b>1: Identification of the article/product and of the company/undertaking</b>	
<b>1.1: Product identifier</b>	
<b>Article/Product Name</b>	All CERATIZIT cemented tungsten carbide and Cermet sintered grades
<b>Chemical Name</b>	Tungsten Carbide, Titanium Carbide (TiC), Tantalum Carbide (TaC), Titanium Nitride (TiN), Niobium Carbide (NbC), Vanadium Carbide (VC), Molybdenum Carbide (Mo <sub>2</sub> C), Chromium Carbide (Cr <sub>3</sub> C <sub>2</sub> ) with Cobalt and/or Nickel binder *
<b>CAS No.</b>	Not applicable for articles
<b>EINECS No.</b>	Not applicable for articles
<b>Molecular weight</b>	Not applicable for articles
<b>REACH Registration number</b>	Not applicable for articles
*Depending on grade specification	
<b>1.2: Relevant identified uses of the article and uses advised against</b>	
<b>Identified Uses</b>	Mining Tools, Construction Tools, Round Tools, Metalworking Tools, Metallurgical Products and Inserts.
<b>Uses advised against</b>	Avoid re-shaping or re-grinding finished hard-metal articles without appropriate exposure controls (eg ventilation, personal protection equipment). Cutting, sharpening, or grinding hard-metal tools may produce dusts of hazardous substances, which may be inhaled, ingested or come in contact with eyes and skin. Return tools to appropriate locations for reconditioning or recycling services.
<b>1.3: Details of the supplier of the article information data sheet</b>	
<b>Name</b>	CERATIZIT S.A.
<b>Address</b>	105, route de Holzem L-8232 Mamer / Luxembourg
<b>Phone</b>	+352 312085-1
<b>Fax</b>	+352 311 911
<b>E-mail of competent person responsible for the Article Information Data Sheet in the Member State or in the EU</b>	<a href="mailto:msds@ceratizit.com">msds@ceratizit.com</a>
<b>1.4 : Emergency telephone number</b>	
<b>European Emergency No.</b>	112
<b>National centre for Prevention and Treatment of Intoxications No.</b>	+32 70 245 245 (Belgium)
<b>Emergency telephone at the company Available outside office hours</b>	+352 312085-1
	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No (from 08:00 am – to 16:00 pm)

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## 2: Hazards Identification

### WARNING

**Fragmentation hazard:** Cutting tools and holders may fragment in use. Always wear safety equipment and keep machine guards in place.

**Breathing hazard:** Wet or dry grinding of cutting tools may produce hazardous dust or mist. Use ventilation control and respiratory protection.

### 2.1: Classification of the article

Classification according to EC 1272/2008:	Not applicable for articles
Classification according to 67/548/EEC:	Not applicable for articles

### 2.2: Label elements (according to EC 1272/2008)

Hazard pictogram(s):	Not applicable for articles
Signal word:	Not applicable for articles
Hazard Statement(s):	Not applicable for articles
Precautionary statement(s):	Not applicable for articles.

### 2.3: Other Hazards

PBT or vPvB	Not applicable for articles
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## 3: Article Composition

### 3.1: Information on article constituents

Identification Name	EINECS No.	CAS No.	Weight % content*	Classification CLP/DSD
Tungsten Carbide	235-123-0	12070-12-1	0-100%	Tungsten carbide is not classified under DSD/CLP
Cobalt	231-158-0	7440-48-4	0-30%	CLP: Acute Tox. (oral) 4; H302; Acute Tox. (Inhalation) 1; H330; Eye Irrit. 2; H319, Resp. Sens. 1B; H334, Skin Sens. 1; H317, Carc. 1B, H350i; Repr. 2; H361f, Aquatic Acute 1; H400 (M-factor of 10), Aquatic Chronic 1; H410 (M-factor of 1)  DSD: Xn;R22, T+; R26, Xi;R36, R42/43, Carc Cat 2;R49, Repr. Cat. 3;R62, N;R50-53.
Nickel	231-111-4	7440-02-0	0-30%	CLP: Carc. 2; H351, STOT RE 1; H372, Skin Sens. 1; H317, Aquatic Chronic 3; H412  DSD: R40, T;R48/23, R43, R52-53
Titanium Carbide	235-120-4	12070-08-5	0-70%	No classification
Tantalum Carbide	235-118-3	12070-06-3	0-30%	No classification
Titanium Nitride	247-117-5	25583-20-4	0-30%	No classification
Niobium Carbide	235-117-8	12069-94-2	0-30%	No classification
Vanadium Carbide	235-122-5	12070-10-9	0-10%	No classification
Molybdenum Carbide	235-115-7	12069-89-5	0-10%	No classification
Chromium Carbide	234-576-1	12012-35-0	0-10%	No classification

\*Depending on specification

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## 4: First aid measures

### 4.1: Description of first aid measures

Eyes	Rinse opened eye for at least ten minutes under running water. Consult a doctor if required.
Inhalation	Remove to fresh air. Seek medical attention if required.
Ingestion	Rinse mouth with water and drink plenty of water afterwards. Seek medical advice if required.
Skin	Remove contaminated clothing. Immediately wash with soap and water and rinse thoroughly. Seek medical attention if required.
General advise	After first aid, get appropriate medical attention.

### 4.2: Most important symptoms and effects, both acute and delayed

In the case of generation of dust, metal powders or dust may cause mechanical eye and skin irritation. Inhalation of powder or dust may cause mild respiratory tract irritation.

### 4.3: Indication of any immediate medical attention and special treatment needed

None known

## 5: Firefighting measures

### 5.1: Extinguishing media

Hard-metal sintered articles as provided are not a fire hazard.

### 5.2: Special hazards arising from the article use

During normal operation and usage, hard-metal articles are not a fire hazards.

### 5.3: Advice for firefighters

Not Applicable

## 6: Accidental release measures

### 6.1: Personal precautions, protective equipment and emergency procedures

Hard-metal sintered articles as provided do not present hazards that require accidental release measures. However, wet or dry grinding of cutting hard-metal articles may produce hazardous dust or mists. Avoid inhalation and contact with skin and eyes. Re-sharpen tools using appropriate safety and extraction systems to avoid dust exposure. Use personal protective equipment (i.e. gloves, safety goggles, dust respirator) as specified in Section 8 of this article information data sheet. Ventilate area if necessary.

### 6.2: Environmental precautions

In the case of generation of dust/mist, avoid release into the environment.

### 6.3: Methods and material for containment and cleaning up

Broken hard-metal tools and articles should be recycled.

### 6.4: Reference to other sections

See sections 8 and 13 for exposure controls and disposal considerations.

## 7: Handling and storage

Hard-metal articles as provided do not present hazards requiring precautions for safe handling and storage. However, operations such as grinding, cutting, re-sharpening of hard-metal articles may generate dusts or fumes which may require special handling procedures. The procedures described below relate to these operations.

### 7.1: Precautions for safe handling

Under normal operating conditions, the use of hard-metal articles do not require special safety precautions beyond normal safety procedures for handling and using cutting tools, such as safety glasses and gloves. No smoking, eating, or drinking while using hard-metal articles. Wash hands thoroughly after handling. Minimize generation of powder/dust and avoid dispersion of dust in air. Do not shake clothing, rags or other items to remove dust.

### 7.2: Conditions for safe storage, including any incompatibilities

Hard-metal articles as provided do not present hazards requiring precautions for safe storage.

### 7.3: Specific end use(s)

Hard-metal articles are used as cutting and machining tools, mining and drilling tools, wear parts.

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## 8: Exposure controls / personal protection

The exposure control parameters listed below are for operations with hard-metal articles that generate dusts or fumes including grinding, cutting, or re-sharpening.

### 8.1 : Control parameters

Country	For tungsten and insoluble compounds, as tungsten		Cobalt		Nickel	
	8-h Limit Value (mg/m <sup>3</sup> )	Short-term Limit Value (mg/m <sup>3</sup> )	8-h Limit Value (mg/m <sup>3</sup> )	Short-term Limit Value (mg/m <sup>3</sup> )	8-h Limit Value (mg/m <sup>3</sup> )	Short-term Limit Value (mg/m <sup>3</sup> )
ACGIH TLV	5	-	0.02	-	1.5	-
Austria	5*	10*	0.1	0.4	0.5	2
Belgium	5	10	0.02	-	1	-
Canada (Québec)	5	10	0.02	-	1	-
Denmark	5	10	0.01	0.02	0.05	0.1
Hungary	-	-	0.1	0.4	1	-
Poland	5	-	-	-	0.1	0.1
Spain	5	10	0.02	-	1	-
Sweden	5	-	0.02*	-	0.5	-
Switzerland	5*	-	0.05*	-	0.5	-
USA - NIOSH	5	10 <sup>†</sup>	0.05	-	0.15	-
USA – OSHA	-	-	0.1	-	1	-
United Kingdom	5	10	0.1*	-	1	-

\* Inhalable aerosol; †15-minutes-

### 8.2: Exposure controls

#### Appropriate engineering controls:

In the case of dust generation during wet or dry grinding of cutting hard-metal articles, engineering controls may include local ventilation systems with dust filters depending on degree of process automation and containment (eg closed vs. open processes).

#### Individual protection measures:

<b>Eye/face protection</b>	Use of safety glasses as appropriate and reasonably necessary.
<b>Skin protection</b>	Use of butyl rubber, neoprene or PVC gloves and work clothes as appropriate and reasonably necessary.
<b>Respiratory protection</b>	In the case of dust generation, use of respiratory protection as appropriate and reasonably necessary (eg P-Series particulate respirators suitable for protection against particulates that may contain oil).

## 9: Physical and chemical properties

Not applicable for hard-metal articles.

## 10: Stability and reactivity

### 10.1: Reactivity

Hard-metal articles are not reactive.

### 10.2: Chemical stability

Hard-metal articles are chemically stable.

### 10.3: Possibility of hazardous reactions

Not applicable.

### 10.4: Conditions to avoid

Avoid re-shape or re-grind finished hard-metal articles. Cutting, sharpening, or grinding hard-metal tools may produce dusts of hazardous substances, which may be inhaled, ingested or come in contact with eyes and skin. Return tools to appropriate locations for reconditioning services. Operations such as grinding, cutting, burning, re-sharpening of such articles may release dusts which may present a fire or explosion hazard under rare favoring conditions of particle size, dispersion, concentration, and strong ignition source.

### 10.5: Incompatible materials

None known

### 10.6: Hazardous decomposition products

None known

## 11: Toxicological information

Hard-metal articles as provided do not present a human hazard. However, during the cutting, sharpening, or grinding of hard-metal articles, some dust containing hazardous substances are produced which may be

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inhaled, swallowed or come into contact with the skin or the eyes. The toxicity section described below relate to these operations.

**Carcinogenicity:** Cobalt itself when inhaled is presumed to have carcinogenic potential for humans largely based on animal evidence. Cobalt metal with tungsten carbide was categorized by IARC as *probably carcinogenic to humans* (Group 2A). The US NTP considers cobalt-tungsten carbide (powders and hard-metal) as *reasonably anticipated to be a human carcinogen*.

**STOT- Repeated Exposure:** Chronic inhalation has the potential for causing transient or permanent respiratory disease, including occupational asthma and interstitial fibrosis. It is reported that cobalt dust is the most probable cause of such respiratory diseases. Symptoms include productive cough, wheezing, shortness of breath, chest tightness and weight loss. Interstitial fibrosis (lung scarring) can lead to permanent disability. Certain pulmonary conditions may be aggravated by exposure.

### 12: Ecological information

Hard-metal articles as provided to do not present an environmental hazard.

#### 12.1: Persistence and degradability

Not applicable.

#### 12.2: Bioaccumulative potential

Not applicable.

#### 12.3: Mobility in soil

Not applicable.

#### 12.4: Results of PBT and vPvB assessment

Tungsten carbide, cobalt and nickel are inorganic substances, and therefore the PBT and vPvB assessment is not required.

#### 12.5: Other adverse effects

None known

### 13: Disposal considerations

#### Responsibility for proper waste disposal of hard-metal articles with the owner of the waste.

Owners are encouraged to take advantage of carbide recycling programs. Hard-metal articles are valuable articles that should be sent to an appropriate reclamation facility, if available. If material cannot be sent to a reclamation facility, dispose of all waste product and containers in accordance with local, state/provincial, federal, and national regulations.

### 14: Transport information

Hard-metal articles are not classified or regulated

### 15: Regulatory information

#### 15.1: Safety, health and environmental regulations/legislation specific for the article

**EU Regulations:** Hard-metal articles do not contain substances of very high concern (SVHC)

**National Regulations:** None known

#### 15.2: Chemical safety assessment

Chemical safety reports (CSR)/chemical safety assessments (CSA) are not required for articles. CSR/CSAs have been carried out on tungsten carbide, cobalt and nickel.

### 16: Other information

#### Revision(s):

The SDS (version 3.0) was updated with the following on Feb 17 2014:

- Section 3: Included cobalt acute oral, acute inhalation, and carcinogenicity CLP classifications as Category 4, Category 1, and Category 1B, respectively.
- Section 3: Included cobalt acute oral, acute inhalation, and carcinogenicity DSD classifications as Xn;R22, T+;R26 and Carc Cat 2;R49, respectively.
- Section 11: Cobalt carcinogenicity was included.

#### References:

*International Tungsten Industry Association Hard-metal Annex, October 2010.*  
*Tungsten Carbide Chemical Safety Report. September, 2010. International Tungsten*

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*Industry Association.*  
Cobalt Chemical Safety Report, July 2012, Cobalt Development Institute.

### Abbreviations:

Carc	Carcinogenicity	
CAS	Chemical Abstracts Service	
Cat	Category	
CLP	Classification, Labelling and Packaging	
DSD	Dangerous Substances Directive	
EC	European Commission	
EEC	European Economic Community	
EINECS	European Inventory of Existing Commercial chemical Substances	
EU	European Union	
h	Hours	
Irrit	Irritation	
m <sup>3</sup>	Cubic meter	
mg	Milligram(s)	
MS	Member State	
NIOSH	National Institute for Occupational Safety and Health	
N	Dangerous for the Environment	
No.	Number	
OEL	Occupational Exposure Level	
OSHA	Occupational Safety and Health Administration	
PBT	Persistent, Bioaccumulative, and Toxic	
R	Risk Phrase	
RE	Repeated Exposure	
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals	
Repr	Reproductive	
Resp	Respiratory	
Sens	Sensitiser	
STOT	Specific Target Organ Toxicity	
SVHC	Substance of Very High Concern	
T	Toxic	
Tox	Toxicity	
vPvB	very Persistent, very Bioaccumulative	
Xn	Harmful	

**End of Product Data Sheet**