

SAFETY INFORMATION SHEET

Hard metal products

Internal No.: 201EN

Issued: 9/5/2024

1. Identification of the article/product and the company/undertaking

1.1. **Product identifier**

Article / Product Name: Sintered hard metal products containing primarily Tungsten Carbide with Cobalt, Nickel and/or iron binder.

1.2. **Relevant identified uses of the article and uses advised against**

Identified Uses: Mining Tools, Construction Tools, Round Tools, Metalworking Tools, Metallurgical Products and Inserts.

Uses advised against: Avoid re-shaping or re-grinding finished hard metal articles without appropriate exposure controls (e.g. ventilation, personal protection equipment). Cutting, sharpening, or grinding hard metal tools may produce dust 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.

1.3. **Details of the supplier of the article information datasheet**

Name	Vargus Ltd.
Address	1 Hayotsrim Street, Nahariya
Phone	+972 4 985 5111
E-mail of the competent responsible for the article information data sheet	safety@vargus.com

1.4. **Emergency telephone number**

Emergency No.	Not applicable
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2. Hazards Identification

WARNING

Fragmentation hazard: Cutting tools and holders may be fragmented when 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 EC 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:	
Hazard Statement(s):	
Precautionary statement(s):	
2.3: Other Hazards	
PBT or vPvB	Not applicable for articles

3. Article Composition

3.1. Information on article constituents

Identification Name	EINECS No.	CAS No.	Weight % Content	Classification CLP	Classification DSD
Tungsten Carbide (WC)	235-123-0	12070-12-1	>50%	No classification	No classification
Cobalt (Co)	231-158-0	7440-48-4	0.3 - 25%	Carc.1B, H350i Eye Irrit. 2, H319 Repr. 2; H361f, Acute Tox. 1, H330 Acute Tox. 4, H302 Resp. Sens. 1B, H334 Skin Sens. 1, H317 Aquatic Acute 1 (M=10), H400 Aquatic Chronic 1, (M=1), H410	Carc. Cat. 2 ; R49 T+; R26, Xi; R36, Xn; R22, Xn;R42/43, Repr. Cat. 3; R62 N;R50/53
Nickel (Ni)	231-111-4	7440-02-0	1- 25%	Carc. 2, H351 STOT RE 1, H372 Skin Sens. 1, H317 Aquatic Chronic 3, H412	Carc. Cat. 3; R40, T;R48/23, R43, R52-53
Chromium Carbide (CrC)	234-576-1	12012-35-0	0.1-5%	No classification	No classification

4. First aid measures

4.1. Description of first aid measures

As Sintered hard-metal articles, exposure to a high volume of powder/dust is not anticipated under normal conditions and use. If tool chips, breaks, fragments, or is reground/re-sharpen, it may produce exposure to dust or hazardous substances, which may be inhaled, ingested, or come in contact with eyes and skin.

Eyes	Rinse cautiously with water for several minutes. Remove contact lenses, if present, and easy to do. Continue rinsing.
Inhalation	Remove to fresh air. Seek medical attention if required.
Ingestion	Rinse mouth with water and drink plenty of water afterward. 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 dust generation, metal powders or dust may cause mechanical eye and skin irritation. Inhalation of powder or dust may cause mild respiratory tract irritation. Inhalation of powder or dust may cause mild respiratory tract irritation. Chronic inhalation of hard-metal powder/dust has the potential to cause transient or permanent respiratory disease, including occupational asthma and interstitial lung fibrosis. Hardmetal powders may cause an allergic skin reaction.

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 fire hazards.

5.3. Active 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 mist. 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's information data sheet. Ventilate the area if necessary.

6.2. Environmental precautions

In the case of dust/mist generation, 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, and re-sharpening of hard-metal articles may generate dust 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 does 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.

8. Exposure controls / personal protection

The exposure control parameters listed below are for operations with hard-metal articles that generate dust 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/m3)	Short-term limit value (mg/m3)	8-h limit value (mg/m3)	Short-term limit value (mg/m3)	8-h limit value (mg/m3)	Short-term limit value (mg/m3)
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	-	0.05	-	0.015	-
USA - OSHA	-	-	0.1	-	1.0	-
United Kingdom	5	10	0.1*	-	1.0	-

*Inhalable aerosol; †15-minute.

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 the degree of process automation and containment (e.g. closed vs. open processes).

Individual protection measures:

Eye/face protection	Use of safety glasses as appropriate and reasonably necessary.
Skin protection	Use of work gloves and work clothes as appropriate and reasonably necessary.
Respiratory Protection	In the case of dust generation, use of respiratory protection as appropriate and reasonably necessary.

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 dust 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, and re-sharpening of such articles may release dust 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 is produced which may be inhaled, swallowed, or come into contact with the skin or the eyes. The toxicity section described below relates to these operations.

Carcinogenicity: Cobalt metal 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-metals) as *reasonably anticipated to be a human carcinogen*.

STOT-Repeated Exposure: Chronic inhalation has the potential to cause 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 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 waste/residues rests with the owner of the waste. Owners are encouraged to take advantage of hard-metal recycling programs. Hard-metal sintered scrap and sludges should be sent to an appropriate reclamation facility, if available. If material cannot be sent to a reclamation facility, dispose of all waste products and containers by 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.

16. Other information

Full text of Classifications (CLP/GHS)	Eye Irrit. 2, H319 Repr. 2; H361f, Acute Tox. 1, H330 Acute Tox. 4, H302 Carc. 1B, H350i STOT RE 1, H372 Resp. Sens. 1B, H334 Skin Sens.1, H317 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 Aquatic Chronic 3, H412	Eye irritation, category 2 Reproductive toxicity, category 2 Acute toxicity, category 1 Acute toxicity, category 4 Carcinogenicity, category 1B Specific target organ toxicity — repeated exposure, category 1 Respiratory sensitization, category 1B Skin sensitization, category 1 Aquatic Toxicity (Acute), category 1 Aquatic Toxicity (Chronic), category 1 Aquatic Toxicity (Chronic), category 3
Full text of abbreviated H statements	H302 Harmful if swallowed H330 Fatal if inhaled H350i May cause cancer by inhalation H372 Causes damage to organs through prolonged or repeated exposure H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled H317 May cause an allergic skin reaction H319 Causes serious eye irritation H361f Suspected of damaging fertility H400 Very toxic to aquatic life	

	H410 Very toxic to aquatic life with long lasting effects H412 Harmful to aquatic life with long lasting effects
Full text of classifications (DSD/DPD) and of R phrases	T+; R26: Very toxic by inhalation Xn; R22, Harmful if swallowed Xi; R36: Irritating to eyes Repr. Cat. 3; R62: Suspected of damaging fertility. Carc. Cat. 2 ; R49: May cause cancer by inhalation T; R48/23; Toxic: Danger of serious damage to health by prolonged exposure through inhalation Xn; R42/43: May cause sensitization by inhalation and skin contact R43: May cause sensitization by skin contact N; R50-53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment R52-53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

have been carried out on Tungsten carbide, Cobalt, and Nickel.

Abbreviations

Carc	Carcinogenic
CAS	Chemical Abstracts Service
Cat	Category
CLP	Classification, Labeling and Packaging
DSD	Dangerous Substances Directive
EC	European Commission
EEC	European Economic Community
EINECS	European Inventory of Existing Commercial Chemical Substance
EU	European Union
H	Hours
m ³	Cubic meter
mg	Milligram
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 Phase
RE	Repeated Exposure
REACH	Registration, Evaluation, Authorization and Restriction of Chemical substances
Resp	Respiratory
Sens	Sensitizer
STOT	Specific Target Organ Toxicity
SVHC	Substance of Very High Concern
T	Toxic
vPvB	Very Persistent, very Bioaccumulative
Xn	Harmful

End of Safety Information Sheet