

Cemented Carbide Products on Basis with Cobalt Binder

Date of editing: 13.01.2017

Date of impression 12.07.2018

1. Identification of the product and of the company/undertaking**1.1 Product identifier** Cemented Carbide Products on basis with Co binder**1.2 Relevant identified uses of the product and uses advised against****1.2.1 Relevant identified uses**

Tools, Wear parts, Function parts

1.2.1 Uses advised against

-

1.3 Product information sheet - ContactArno Friedrichs Hartmetall GmbH & Co. KG
Burgkunstadter Str. 7
D – 95336 MainleusTel.: +49(9229)9647-0
Fax: +49(9229)9647-11
www.afcarbide.com**Person responsible
for information**Friederike Barth-Kruse
friederike.barth-kruse@afcarbide.com**1.4 Emergency telephone number** +49(9229)9647-28 – Only available during office hours.**2. Hazards identification**

Cemented Carbide products may fragment while machining or use. Always wear personal protective equipment and keep safety devices on machine.

Wet or dry grinding of cemented carbide products may produce hazardous aerosol or dust. Take protective measures in accordance with section 7 and observe air limit values in accordance with section 8.

2.1 Classification of product according to Regulation (EU) No. 1272/2008 (CLP)

Not applicable

2.2 Label elements according to Regulation (EU) No. 1272/2008 (CLP)**Hazardous pictograms** Not applicable**Signal word** Not applicable**Hazard statements** Not applicable**Precautionary statements**

Not applicable

2.3 Other Hazards**PBT or vPvB** Not applicable

Cemented Carbide Products on Basis with Cobalt Binder

Date of editing: 13.01.2017

Date of impression 12.07.2018

3. Product composition

Cemented carbide consists of the following components:

Substance		CAS-Nr.	Content (wt.%)	Hazard Symbols	Hazard-Statem.
Tungsten Carbide	(WC)	12070-12-1	40 – 97		
Cobalt	(Co)	7440-48-4	3 – 30	GHS 02, 06, 08, 09	228, 302, 317, 319, 330, 334, 350i, 361f, 400, 410
Titanium Carbide	(TiC)	12070-08-5	0 – 52		
Tantalum Carbide	(TaC)	12070-06-3	0 – 20		
Niobium Carbide	(NbC)	12069-94-2	0 – 20		
Vanadium Carbide	(VC)	12070-10-9	0 – 5		
Chromium Carbide	(Cr ₃ C ₂)	12012-35-0	0 – 3		

3.1 Substances not applicable**3.2 Preparation** not applicable**4. First aid measures****4.1 Description of first aid measures**

General Information	While working with cemented carbide products wear personal protective equipment to protect against fragments in case of fracture.
Inhalation	Not applicable
Skin contact	Not applicable
Eye contact	Not applicable
Ingestion	Not applicable

4.2 Most important symptoms and effects, both acute and delayed

Cemented carbide dust can cause allergic reactions of eyes, skin and lung.

4.3 Indication of any immediate medical attention and special treatment needed

Not known

5. Firefighting measures**5.1 Extinguishing media**

Cemented carbide products are not a fire hazard.

5.2 Special hazards arising from the product

In normal use cemented carbide products are not a fire hazard.

5.3 Advice for fire-fighters

Not applicable

Cemented Carbide Products on Basis with Cobalt Binder

Date of editing: 13.01.2017

Date of impression 12.07.2018

6. Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Cemented carbide products as delivered don't present hazards that require accidental measures. The grinding of cemented carbide products – wet or dry – may produce hazardous aerosol or dust. Avoid inhalation or contact with skin and eyes. Therefore suitable suction devices, personal protective equipment and adequate ventilation of the workplace are required.

6.2 Environmental precautions

In case of the formation of aerosols or dusts avoid release into the environment.

6.3 Methods and material for containment and cleaning up

Generated cemented carbide scrap, both in hard form and as abrasive slurry or in the form of dust, should be recycled.

6.4 Reference to other sections

Protective measures under section 7, 8 and 13

7. Handling and Storage**7.1 Precautions for safe handling**

Cemented carbide products as delivered don't present hazards that required precautions for safe handling. Under normal operating conditions, the use of sintered carbide products requires no special protective measures apart from the personal protective equipment (e.g. protective glasses, protective boots). The grinding of cemented carbide products – wet or dry – may produce hazardous aerosol or dust which require special handling procedures under certain conditions. When using sintered carbide products don't smoke, eat or to drink. After completion of work hands should be thoroughly cleaned. Textiles and other objects must not be shaken or blown to remove dust.

7.2 Conditions for safe storage, including any incompatibilities

Cemented carbide products as delivered don't present hazards that required precautions for safe storage.

7.3 Specific end uses

Cemented carbide products are used as tools in machining and wear parts.

Cemented Carbide Products on Basis with Cobalt Binder

Date of editing: 13.01.2017

Date of impression 12.07.2018

8. Exposure controls/Personal protection

The limits given in the following apply to work with cemented carbide products where aerosols and dust are formed, such as the grinding or cutting.

8.1 Control parameters

Country	Tungsten and insoluble tungsten compounds		Cobalt	
	Limit value 8 h [mg/m ³]	Limit value short-term [mg/m ³]	Limit value 8 h [mg/m ³]	Limit value short-term [mg/m ³]
Belgium	5	10	0,02	-
Denmark	5	10	0,01	0,02
Finland	5	-	0,02	-
United Kingdom	5	10	0,1	-
Japan	-	-	0,02 (Co and anorg. Comp.)	-
Canada (Quebec)	5	10	0,02	-
Austria	5 (inhalable Aerosol)	10 (inhalable Aerosol)	0,1	0,4
South Korea	5	10	0,02	-
Sweden	5	-	0,02 (Co and anorg. Comp.)	-
Switzerland	5 (inhalable Aerosol)	-	0,05 (inhalable Aerosol)	-
USA - OSHA	-	-	0,1	-
USA - NIOSH	5	10 (15-Minutes-Ø)	-	-

8.2 Exposure control

Appropriate engineering controls

In the case of the generation of aerosols or dusts in the wet or dry machining of cemented carbide products are depending of automation level and separation of the process local ventilation systems or dust filter to use.

Personal protective equipment

Eye / Face protection	Protective glasses
Skin protection	Work gloves and clothes
Respiratory protection	Dust respirator (FFP 3)

Cemented Carbide Products on Basis with Cobalt Binder

Date of editing: 13.01.2017

Date of impression 12.07.2018

9. Physical and chemical properties**9.1 Information of basic physical and chemical properties**

Appearance:	grey, with hard coating yellow or black
Odour:	odourless
pH:	not applicable
Melting Range:	1495 °C
Boiling Range:	2870 °C
Flash point:	not applicable
Danger of Explosion:	no
Density:	13,5 – 15,7 g/cm ³
Water solubility:	no

9.2 Other information

Not applicable

10. Stability and Reactivity**10.1 Reactivity**

Cemented carbide products are not reactive.

10.2 Chemical stability

Cemented carbide products are chemically stable.

10.3 Possibility of hazardous reactions

Not applicable

10.4 Conditions to avoid

The grinding of cemented carbide products – wet or dry – may produce hazardous aerosol or dust. Avoid eye and skin contact and respiration.

10.5 Incompatible materials

Not applicable

10.6 hazardous decomposition products

Not applicable

11. Toxilogical Information**General remarks:**

Cemented carbide products as delivered don't present a health hazard. However, during grinding - wet or dry - sintered carbide products may produce harmful aerosols or dust which may constitute a health hazard. In these processes relate the following information.

Cemented Carbide Products on Basis with Cobalt Binder

Date of editing: 13.01.2017

Date of impression 12.07.2018

11.1 Information on toxicological effects

Carcinogenicity The International Cancer Research (IARC) classifies cemented carbide dust (consisting of cobalt and tungsten carbide) as carcinogenic group 2A (probably carcinogenic to humans).

Specific target organ toxicity after repeated exposure

Cemented carbide dust may cause allergic reactions to the eyes, skin and lungs.

12. Ecological information

Cemented carbide products as delivered don't present an environmental hazard.

12.1 Toxicity

Not applicable

12.2 Persistence and degradability

Not applicable

12.3 Bioaccumulative potential

Not applicable

12.4 Mobility in soil

Not applicable

12.5 Results of PBT and vPvB assessment

Not applicable

12.6 Other adverse effects

Not applicable

13. Disposal considerations

The tungsten carbide and cobalt contained in cemented carbide are valuable secondary raw materials and can be recycled. Returning to the manufacturer or appropriate scrap dealer. Disposal in accordance with local regulations.

14. Transport information

Cemented carbide products are not classified or regulated.

15. Regulatory information**15.1 Safety, health and environmental regulations / legislations specific for the product**

Cemented carbide products don't contain substances of very high concern (SVHC)

Cemented Carbide Products on Basis with Cobalt Binder

Date of editing: 13.01.2017

Date of impression 12.07.2018

15.2 Chemical safety assessment

For cemented carbide products a chemical safety assessment is not required.

16. Other information

Cemented carbide products are as defined in Regulation (EU) no. 1907/2006, Article 3 (REACH) neither a substance nor a mixture. Therefore, there is no obligation to provide a safety data sheet in accordance with Article 31 of the same Regulation.

In order to produce the greatest possible transparency, to allow safe use of the product and to provide safety-related information, this information sheet is made in consideration of the Annex to Regulation (EU) no. 2015/830, has been created valid from 01.06.2015 under the name Product Information Sheet.

Literature and data sources

CSR Tungsten Carbide Chemical Safety Report, September 2010, International Tungsten Industry Association
Cobalt Chemical Safety Report, July 2012 Cobalt Development Institute

Internet <http://www.dguv.de/ifa/GESTIS/GESTIS-Stoffdatenbank/index.jsp>

Relevant H- and P-phrases (number and full text) according to regulation (EC) 1272/2008 (CLP)

Not applicable

Classification for mixtures and used evaluation method according to regulation (EC) 1272/2008 (CLP)

Not applicable

Abbreviations and acronyms

CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging / Regulation (EC) No. 1272/2008 (CLP)
CSA	Chemical Safety Assessment (REACH)
CSR	Chemical Safety Report (REACH)
DGUV	Deutsche Gesetzliche Unfallversicherung
GESTIS	Gefahrstoffinformationssystem der DGUV
IFA	Institut für Arbeitsschutz der DGUV
OSHA	US Occupational Safety and Health Administration
NIOSH	US National Institute for Occupational Safety and Health
PBT	Persistent, Bioaccumulative, Toxic (REACH)
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals / Regulation (EC) No. 1907/2006 (REACH)
SVHC	Substance of Very High Concern (REACH)
vPvB	Very Persistent, Very Bioaccumulative (REACH)

Cemented Carbide Products on Basis with Cobalt Binder

Date of editing: 13.01.2017

Date of impression 12.07.2018

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this product information sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this product information sheet is not necessarily valid for the new made-up material.

The user is responsible for information transfer of this product information sheet to the members of their staff.