SAFETY DATA SHEET

according to Regulation (EU) No. 2015/830

Tungsten Carbide Burs

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Name : **Coated and Uncoated Tungsten Carbide Burs and Fibreglass Routers**

Product form : Article

Product code : **Various**

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses

Use of the Article : Tools for the surface treatment of various materials. For industrial use only

Uses advised against

No additional information available

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Classified as an Article

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

No labelling applicable

2.3. Other hazards

Other hazards which do not result in classification : Mechanical processing can produce particles and dust.

Inhalation of dust may cause irritation of the respiratory system.

Dust contact with the eyes can lead to mechanical irritation. see section 11: Toxicological information

SECTION 3: Composition/information on ingredients

3.1. Substance Not applicable

3.2. Mixture

Carbide Head

Substance	EC-No.	CAS-No.	REACH Registration No.	Conc. %	Classification acc. To Regulation (EC) No. 1272/2008 (CLP)	
					Hazard Classes / Hazard Categories	Hazard Statements
Cobalt (Co)	231-158-0	7440-48-4		1-30	Carc. 1B Muta. 2 Repr. 1B Resp. Sens. 1 Skin Sens. 1 Aquatic Chronic 4	H350 H341 H360F H334 H317 H413
Tungsten Carbide (WC)	235-123-0	12070-12-1		50-94		
Tantalum Carbide	231-135-5	12070-06-3		0-6		
Chromium Carbide	234-576-1	12012-35-0		0-6		
Molybdenum Carbide	235-115-7	12069-89-5		0-6		
Nickel	231-111-4	7440-02-0		0-30	Carc. 2 STOT RE 1 Skin Sens. 1	H351 H372 H317

Shank

Substance	EC-No.	CAS-No.	REACH Registration No.	Conc. %	Classification acc. To Regulation (EC) No. 1272/2008 (CLP)	
					Hazard Classes / Hazard Categories	Hazard Statements
Base Metal						
Iron	231-096-4	7439-89-6		91-95		
Alloys						
Carbon	213-153-3	7440-44-0		0.37-0.45		
Manganese	231-105-1	7439-96-5		0.3-1		
Phosphorus	231-768-7	7723-14-0		<0.25	Flam. Sol. 1 Aquatic Chronic 3	H228 H412
Sulfur	231-722-9	7704-34-9		<0.25	Skin Irrit. 2	H315
Silicon	231-130-8	7440-21-3		0.17-1		
Nickel	231-111-4	7440-02-0		<0.7	Carc. 2 STOT RE 1 Skin Sens. 1	H351 H372 H317
Chromium	231-157-5	7440-47-3		0.4-0.5		

Tungsten Carbide Burs

Substance	EC-No.	CAS-No.	REACH Registration No.	Conc. %	Classification acc. To Regulation (EC) No. 1272/2008 (CLP)	
					Hazard Classes / Hazard Categories	Hazard Statements
Molybdenum	231-107-2	7439-98-7		<1.3		
Copper	231-159-6	7440-50-8		<0.35	Aquatic Chronic 2	H411
Tin	231-141-8	7440-31-5		<0.25		
Vanadium	231-171-1	7440-62-2		<0.5		
Aluminium	231-072-3	7429-90-5		0.01-0.2	Water-react. 2 Pyr. Sol. 1	H261 H250
Titanium	236-675-5	13463-67-7		<0.25	Carc. 2	H351
Niobium	231-113-5	7440-03-1		<0.25		

Brazing Media

Substance	EC-No.	CAS-No.	REACH Registration No.	Conc. %	Classification acc. To Regulation (EC) No. 1272/2008 (CLP)	
					Hazard Classes / Hazard Categories	Hazard Statements
Silver	231-131-3	7440-22-4				
Copper	231-159-6	7440-50-8				
Zinc	231-175-3	7440-66-6			Water-react. 2 Pyr. Sol. 1 Aquatic Acute 1 Aquatic Chronic 1	H260 H250 H400 H410
Manganese	231-105-1	7439-96-5				
Nickel	231-111-4	7440-02-0			Carc. 2 STOT RE 1 Skin Sens. 1	H351 H372 H317

Coating Materials Coating materials can account for between 0-1% of the weight of the competed tools

Substance
Tungsten Carbide Carbon (WCC)
Aluminium Titanium Nitride (AlTiN)
Titanium Aluminium Nitride (TiAlN)
Titanium Nitride (TiN)
Titanium Carbon Nitride (TiCN)
Titanium Diboride (TiB2)
Aluminium Chromium Nitride (AlCrN)
Crystalline/Nanocrystalline Diamond
DLC (Diamond Like Carbon)

The finished article does not contain any substances mentioned according to section 3.2 of REACH annex

SECTION 4: First aid measures

4.1. Description of first aid measures

- In case of inhalation: In the case of the formation of dust: Provide fresh air. If you feel unwell, seek medical advice.
- Following skin contact: In the case of the formation of dust: Remove residues with soap and water. Take off contaminated clothing and wash it before reuse. In case of skin reactions, consult a physician.
- After eye contact: In the case of the formation of dust: Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. In case of eye irritation consult an ophthalmologist.
- After swallowing: In the case of the formation of dust: Rinse mouth with water. Seek medical attention.

4.2. Most important symptoms and effects, both acute and delayed

- Inhalation of dust may cause irritation of the respiratory system.
- Dust contact with the eyes can lead to mechanical irritation

4.3. Indication of any immediate medical attention and special treatment needed

No information / data available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Product is non-combustible. Extinguishing materials should therefore be selected according to surroundings.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in the event of fire : On heating or in case of fire toxic gases may form. The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion

5.3. Advice for firefighters

Protection in the event of a fire : Wear self-contained breathing apparatus. Wear suitable protective clothing.

Other information : Do not allow fire water to penetrate into surface or ground water..

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For mechanical processing: Avoid generation of dust. Do not inhale substance.

Provide adequate ventilation. Wear appropriate protective equipment. Avoid

contact with the substance. Keep unprotected people away

6.2. Environmental precautions

Do not allow to penetrate into soil, waterbodies or drains.

In case of release, notify competent authorities.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up mechanically, placing in appropriate containers for disposal.

6.4. Reference to other sections

For information on handling, see section 7. For information on personal protective equipment, see section 8. For information on disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safehandling

Additional hazards when processed :

Provide adequate ventilation, and local exhaust as needed.

Avoid generation of dust. Do not inhale substance.

Wear appropriate protective equipment.

When using do not eat, drink or smoke.

Wash hands before breaks and after work.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions : - Conditions for storing the product in safety: Store in its original packaging, closed and in a dry area.

Incompatible products : Do not store together with Corrosive substances

SECTION 8: Exposure controls/personal protection

8.1. Control parameters: Before use it is recommended to perform a risk assessment and use personal protective equipment accordingly

Keep exposure to the following under surveillance

Limit Value Type (country of origin)	Substance	CAS-No.	EC-No.	Occupational Limit Value				Peak Limit	Source, remark
				Long Term (8 Hour TWA)		Short Term (15 mins)			
				mg/m3	ml/m3	mg/m3	ml/m3		
UK	Cobalt	7440-48-4	231-158-0	0.1					EH40/2005
USA				0.1					OSHA PEL
	inhalable			0.02					ACGIH TLV
UK	Iron Oxide fume (as Fe)	1309-37-1	215-168-2	5		10			EH40/2005
USA				10					OSHA PEL
				5					ACGIH TLV

Tungsten Carbide Burs

Limit Value Type (country of origin)	Substance	CAS-No.	EC-No.	Occupational Limit Value				Peak Limit	Source, remark
				Long Term (8 Hour TWA)		Short Term (15 mins)			
				mg/m3	ml/m3	mg/m3	ml/m3		
UK	Carbon	7440-44-0	231-153-0						
	inhalable dust			10					EH40/2005
	respirable			4					EH40/2005
USA	inhalable dust			15					OSHA PEL
	respirable			5					OSHA PEL
				2					ACGIH TLV
UK	Carbon black	1333-86-4	215-609-9	3.5		7			EH40/2005
USA				3.5					OSHA PEL
	inhalable			3					ACGIH TLV
UK	Manganese	7439-96-5	231-105-1						
	inhalable			0.2					EH40/2005
	respirable			0.05					EH40/2005
USA								5mg/m3	OSHA PEL
	inhalable			0.1					ACGIH TLV
	respirable			0.02					ACGIH TLV
UK	Phosphorus, yellow	7723-14-0	231-769-7	0.1		0.3			EH40/2005
USA				0.1					OSHA PEL
				0.1					ACGIH TLV
UK	Silicon	7440-21-3	231-130-8						
	inhalable dust			10					EH40/2005
	respirable dust			4					EH40/2005
USA	inhalable dust			15					OSHA PEL
	respirable dust			5					OSHA PEL
	inhalable dust			10					ACGIH TLV
	respirable dust			5					ACGIH TLV
UK	Nickel	7440-02-0	231-111-4						
	Water soluble			0.1					EH40/2005
	Water insoluble			0.5					EH40/2005
USA	Water soluble			1					OSHA PEL
	Water insoluble			1					OSHA PEL
	Water soluble			0.1					ACGIH TLV
	Water insoluble			0.2					ACGIH TLV
UK	Chromium	7440-47-3	231-157-5	0.5					EH40/2005
				1					OSHA PEL
	inhalable			0.5					ACGIH TLV

Tungsten Carbide Burs

Limit Value Type (country of origin)	Substance	CAS-No.	EC-No.	Occupational Limit Value				Peak Limit	Source, remark
				Long Term (8 Hour TWA)		Short Term (15 mins)			
				mg/m3	ml/m3	mg/m3	ml/m3		
UK	Molybdenum	7439-98-7	231-107-2						
	Soluble compounds			5		10			EH40/2005
	Insoluble compounds			10		20			EH40/2005
USA	Soluble compounds			5					OSHA PEL
	Insoluble compounds			15					OSHA PEL
	Soluble comp. resp.			0.5					ACGIH TLV
	Insoluble compounds			10					ACGIH TLV
	respirable			3					ACGIH TLV
UK	Copper	7440-50-8	231-159-6						
	fume			0.2					EH40/2005
	dust and mists			1		2			EH40/2005
USA	fume			0.1					OSHA PEL
	dust and mists			1					OSHA PEL
	fume			0.2					ACGIH TLV
	dust and mists			1					ACGIH TLV
UK	Tin	7440-31-5	231-141-8						
	Inorganic compounds			2		4			EH40/2005
	Organic compounds			0.1		0.2			EH40/2005
USA	Inorganic compounds			2					OSHA PEL
	Organic compounds			0.1					OSHA PEL
	Inorganic compounds			2					ACGIH TLV
	Organic compounds			0.1					ACGIH TLV
USA	Tin Oxide	1332-29-2	215-569-2						
	total dust			15					OSHA PEL
	respirable			5					OSHA PEL
	total dust			2					ACGIH TLV
UK	Vanadium Pentoxide	1314-62-1	215-239-8	0.05					EH40/2005
USA	fume							0.1mg/m3	OSHA PEL
	respirable dust							0.5mg/m3	OSHA PEL
	inhalable matter			0.05					ACGIH TLV
UK	Aluminium	7429-90-5	231-072-3						
	inhalable dust			10					EH40/2005
	respirable dust			4					EH40/2005
USA	total dust			15					OSHA PEL
	respirable			5					OSHA PEL
				1					ACGIH TLV

Limit Value Type (country of origin)	Substance	CAS-No.	EC-No.	Occupational Limit Value				Peak Limit	Source, remark
				Long Term (8 Hour TWA)		Short Term (15 mins)			
				mg/m3	ml/m3	mg/m3	ml/m3		
UK	Titanium dioxide total inhalable	13463-67-7	236-675-5	10					EH40/2005
	respirable			4					EH40/2005
USA	total dust			15					OSHA PEL
				10					ACGIH TLV
UK	Silver	7440-22-4	231-131-3	0.01					EH40/2005
USA				0.01					OSHA PEL
	dust and fume			0.1					ACGIH TLV
	soluble compounds			0.01					ACGIH TLV

When using Tungsten Carbide Burs hazardous substances may be generated by the workpiece material during grinding.

8.2. Exposure controls: The following individual protection measures should be used, dependent on the workpiece material.

8.2.1. Respiratory protection: Use local exhaust ventilation (LEV) to ensure exposure limits are not exceeded. Where this is unavailable use respiratory equipment. The type of protection will depend on contaminant type, form and concentration. Additional consideration should be given to the potential for exposure of any coatings and the base material being ground.

8.2.2. Hand protection: Wear protective gloves, rubber, cloth or leather gloves should be worn. Barrier creams are also recommended.

8.2.1. Eye protection: In order to protect the eyes and face from expelled particles/debris safety goggles or full face shields over safety glasses with side shields should be worn.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Solubility in Water: Insoluble
Boiling point: Non Applicable
Evaporation rate: Non Applicable
Appearance and Odor: Solid odorless grey metal
Flash Point: Non Combustible
Melting Point: Non Applicable

SECTION 10: Stability and reactivity

Reactivity: Mechanical processing can produce particles and dust. The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

Chemical stability: Product is stable under normal storage conditions.

Possibility of hazardous reactions: No hazardous reaction when handled and stored according to provisions.

Conditions to avoid: No data available

Incompatible materials: Corrosive substances

Hazardous decomposition products: On heating or in case of fire toxic gases may form.

Thermal decomposition: No data available

Specific Gravity: Non Applicable

SECTION 11: Toxicological information

11.1. Information on toxicological effects

- Toxicological effects: Acute toxicity (oral): Lack of data.
- Acute toxicity (dermal): Lack of data.
- Acute toxicity (inhalative): Lack of data.
- Skin corrosion/irritation: Lack of data.
- Eye damage/irritation: Lack of data.
- Sensitisation to the respiratory tract: Lack of data.
- Skin sensitisation: Lack of data.
- Germ cell mutagenicity/Genotoxicity: Lack of data.
- Carcinogenicity: Nickel and cobalt are classified as group 2B carcinogens by IARC.
- Reproductive toxicity: Lack of data.
- Effects on or via lactation: Lack of data.
- Specific target organ toxicity (single exposure): Lack of data.
- Specific target organ toxicity (repeated exposure): Lack of data.
- Aspiration hazard: Lack of data.

Information on the likely routes of exposure:

Dermal contact	:Repeated rubbing of tungsten carbide burs across the skin may cause irritation and abrasions and / or open cuts. Dermatitis known as "Nickel etch" can develop due to exposure to chromium and nickel. Skin irritation and sensitization may be aggravated by exposure to chromium and cobalt. .
Eyes contact	:Dust contact may cause irritation and possible abrasion with the eye.
Inhalation	:Dust from grinding / machining may cause respiratory irritation and inflammation. Long time or prolonged exposure to contaminants of increased concentrations may contribute / cause fibrosis. Chronic effects may be aggravated by smoking. Studies have indicated that operators who have been exposed to high concentrations of tungsten carbide / cobalt are at a greater risk of developing lung cancer. .
Ingestion	:Under normal operating conditions ingestion is not expected. Disruption to the normal operation of the gastrointestinal tract may occur if ingestion occurs. Acute toxicity data is given below. Cobalt: LD50 oral, rat: >6500mg/kg Tungsten Carbide: LD50 oral, rat: >2000mg/kg Nickel: LD50 oral, rat: >9000 mg/kg

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : To the best of our knowledge, no study has been carried out on this material

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Additional information: Do not allow to enter into ground-water, surface water or drains.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Solid waste is not considered to be hazardous waste. Material intended for disposal should be re-cycled where possible, or may be sold for scrap for reclaim. It is the responsibility of the waste generator to dispose of their waste in a correct and safe manner in accordance with local and national regulations.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

USA: Department of Transportation (DOT)

Proper shipping name: Not restricted

Canada: Transportation of Dangerous Goods (TDG)

Shipping name: Not restricted

Sea transport (IMDG)

Proper shipping name: Not restricted

Marine pollutant: no

Air transport (IATA)

Proper shipping name: Not restricted

Further information

No dangerous good in sense of these transport regulations

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations

Ensure all national/local regulations are observed.

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

16.1. Hazard statements referred to in section 3:

H228	Flammable solid
H250	Catches fire spontaneously if exposed to air
H260	In contact with water releases flammable gases which may ignite spontaneously
H261	In contact with water releases flammable gases
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H350	May cause cancer
H351	Suspected of causing cancer
H360F	May damage fertility
H372	Causes damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects
H413	May cause long lasting harmful effects to aquatic life

16.2. Changes to previous revision: Comprehensive review

Warning! The above information is based on our current standard of knowledge and does not constitute any warranty of conditions of the product. The information does not form part of any contractual agreement. It remains the user's responsibility to adhere to existing laws and regulations.