

Updated on 03-08-15

HMF

Product code:

HMF

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

Company

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Product

Identification: HMF– Hard metal burrs Product
Application: Metal living and debvring of edges

Imported notice

Coated abrasives are inert products which do not create any risk when handled or stored. When used on grinding machines they require specific measures to protect the operators. During the grinding operation 90% or more of the particulates of the dust come from the material being ground and, for wet grinding, from aerosols generated by the grinding fluid. Specific attention must therefore be given to the nature of the part and of the fluid and the appropriate protection devices must be installed.

CHAPTER 2: Hazards identification

Grinding or heating of carbide will cause dusts or fumes with dangerous ingredients that can be inhaled, swallowed or come in contact with the skin or eye. The dust is toxic by inhalation. Inhalation may cause irritation and inflammation in the airways. Repeated inhalation of aerosols containing cobalt may cause lung fibrosis or lung cancer. Contact with the skin can cause irritation and rash. An allergic reaction may be caused in sensitized persons. Cobalt and nickel are potent skin sensitizers.

CHAPTER 3: Composition/information on ingredients

3.1. Composition/Information on Ingredients

Head

Substance	EINECS-Nr.	CAS-Nr.	Concentration	Classification
Cobalt (Co)	231-158-0	7440-48-4	1% - 30%	Xn (Harmful);R42/43
Tungsten Carbide (X)	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%	Xn (Harmful);R40,R43

Shank

Substance	CAS-Nr.	EINEC-Nr.	% Weight	Contaminant	OSHA PEL (mg/m ³)	ACGIH TLV (mg/m ³)
Base Metal						
Iron	1309-37-1	215-168-2	95	Iron oxide Fumes	10	5
Alloys						
Carbon	7440-44-0	231-153-3	0,375/0,45	Carbon Oxide	55	
				Carbon Black	3,5	3,5
Manganese	7439-96-5	231-105-1	0,5/1,00	Manganese Dust	5	5
				Manganese Fumes		1
Phosphorus	7723-14-0	231-768-7	<0,25	Phosphorus (Yellow)	0,1	0,1
Sulfur	7704-34-9	231-722-9	<0,25	Sulfur		5
Silicon	7740-21-3	231-130-8	0,17/0,37	Respirable Dust		5
Nickel	7740-02-0	231-111-4	<0,70	Nickel	1	1
Chromium	7740-47-3	231-157-5	0,40/1,10	Chromium	1	0,5
Molybdenum	7439-98-7	231-107-2	<0,30	Insoluble compounds	15	10
Copper	7440-50-8	231-159-6	<0,35	Dust	1	1
				Fumes	0,1	0,2
Tin	7440-31-5	231-141-8	<0,25	Tin oxide	10	
Vanadium	1314-62-1	215-239-8	<0,35	Dust	0,5	0,05
				Fumes (As Vanadium Pentoxide)	0,1	
Aluminium	7429-90-5	231-072-3	0,01/0,20	Dust		10
				Fumes		5
Titanium	13463-67-7	236-675-5	<0,25	Titanium Dioxide	15	5
Columbium	7440-25-7	231-135-5	<0,25	Columbium		

Trifoil

Substance	CAS-Nr.	EINECS-Nr.	Concentration	Classification
Ag	7440-22-4	231-131-3	49	
Cu	7440-50-8	231-159-6	27,5	
Zn	7440-66-6	231-175-3	20,5	
Mn	7439-96-5	231-105-1	2,5	
Ni	7440-02-0	231-11-4	0,5	

Finishing

Substance	CAS-Nr.	EINECS-Nr.	Concentration	Classification
Triethanolamine	102-71-6	203-049-8	<5	Xi:R36/37/38
Propylene glycol	57-55-6	200-338-0	<5	Xi: R20/22
Water	7732-18-5	231-791-2	>65	

CHAPTER 4: First aid measures

4.1. Description of first aid measures

Inhalation:	If large amounts of dust, from use of this product, are inhaled, move the exposed person to fresh air and preform artificial respiration (if necessary) seek medical attention.
Eye contact:	If irritation occurs, flush the affected area with copious amount of water. If irritation persists, seek medical attention.
Skin contact:	Wash with soap and water. If irritation or rash develops seek medical attention.
Ingestion:	If large amounts of dust/particles are ingested large amounts of water should be taken and vomiting should be induced, medical attention should be sought.
Other:	If contamination of an open wound occurs, the wound should be thoroughly cleaned immediately.

CHAPTER 5: Firefighting measures

Tungsten Carbide burs are not a fire hazard. During grinding, dust particles that are produced may under rare certain favouring conditions of particle size, distribution and ignition source present a fire or explosion. In the event of a fire class D extinguishers should be used, ie Dry powder. Self contained breathing apparatus should be used by all fire fighting personell. All material should be prevented from entering drains and water course.

CHAPTER 6: Accidental release measures

Pick up, sweep up or vacuum and store appropriately labelled containers for disposal. Avoid or keep to a minimum dust generation and deposition. Notify the appropriate local authorities as required.

CHAPTER 7: Handling and storage

Handling:	It is recommended that Tungsten Carbide burs be used in a well ventilated area to prevent breathing dust that may be generated during use. Users should wash thoroughly after handling and avoid dust inhalation and direct contact with the skin.
Storage:	Store in a dry place

CHAPTER 8: Exposure controls/personal protection

8.2. Exposure control and limitations

Ventilation:	When using tungsten carbide burs use local exhaust or general ventilation as appropriate to reduce exposure to dust to a minimum level.
Respiratory protection:	When using tungsten carbide burs use local exhaust or general ventilation. Where this is unavailable type P3 filter respiratory equipment should be used. The type of respiratory selection will depend on contaminant type, form and concentration. Also consideration for the potential for exposure to components of the coating and or base material being ground or machined should be taken into consideration.
Hand protection:	Rubber, cloth or leather gloves should be worn while using. Also barrier creams are recommended.
Eye protection:	In order to protect the eyes and face from flying particles/debris safety goggles or full face shields over safety glasses with side shields should be worn.

CHAPTER 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance and odor:	Solid odourless grey metal
Solubility in water	Not soluble
Boiling point:	Not applicable
Evaporation rate:	Not applicable
Specific Gravity:	Not applicable
Flash point:	Non combustible
MeltingPoint:	Not applicable

CHAPTER 10: Stability and reactivity

Product stability	Under normal circumstances Tungsten Carbide burs are stable. Avoid dust formation and deposition and remove sources of ignition in order to reduce the likelihood of a dust explosion.
Incompatibility	Avoid contact with strong acids and strong oxidizers.

Hazardous decomposition products

Dust from grinding/machining could contain particles that are listed in section 2. It also must be taken into consideration the hazardous particles that are produced from the base material that is being ground/machined.

CHAPTER 11: Toxicological information

Tungsten Carbide burs as a unit are not considered an important health hazard, however certain tungsten compounds are somewhat toxic. Any exposure would be related to dust created during use. When using tungsten carbide burs dust and fumes are produced that contain dangerous hazardous particles or vapours that can be inhaled, ingested or come in contact with the eyes or skin. Users with pre-existing respiratory complaints may be at risk from exposure

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 orl, rat:>6500mg/kg Tungsten Carbide: LD50 oral, rat: >2000mg/kg Nickel: LD50 oral, rat: >9000 mg/kg
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.
Skin 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.
Eye contact:	Dust contact may cause irritation and possible abrasion with the eye.
Carcinogenicity:	Nickel and cobalt are classified as group 2B carcinogens by IARC.

CHAPTER 12: ECOLOGICAL INFORMATION

This product is not expected to pose a hazard to the environment. The material that is being ground/machined should be considered.

CHAPTER 13: Disposal considerations

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.

CHAPTER 14: Transport information

Tungsten Carbide burs are not considered dangerous goods.

DEEL 15: Regulatory information

Classification: Xn-Harmful
T-toxic

Risk phrases: R20 Harmful by inhalation
R22 Harmful if swallowed
R23 Toxic by inhalation
R36 Irritating to eyes
R37 Irritating to respiratory system
R38 Irritating to skin
R40 Possible risks of irreversible effects
R42/43 May cause sensitization by inhalation and skin contact
R48/23 Toxic: Danger of serious damage to health by prolonged exposure through inhalation

Safety phrases: S22 Do not breath dust
S24 Avoid contact with skin
S36/37 Wear suitable protective clothing and gloves

Work place exposure limit values are given in the table below.

Substance	CAS-Nr.	EINECS-Nr.	UK OEL mg/m ³	OSHA PEL mg/m ³
Tungsten Carbide	12070-12-1	235-123-0	5.0	Not applicable
Cobalt	7440-48-4	231-158-0	0.1	0.1
Nickel	7440-02-0	231-111-4	0.5	1.0

DEEL 16: Other information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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