

SAFETY DATA SHEET

according to 29 CFR 1910.1200 and ANSI standard Z400.1-2010



Tungsten Carbide Burs

Product number 029

Revision date: Sep/6/2022
Version: 6.0

Language: en-US,CA

Date of print: Sep/20/2022
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1. Product and company identification

Product identifier

Trade name: Tungsten Carbide Burs

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

General use: Tungsten Carbide Burrs for metal machining
For industrial purposes only

Details of the supplier of the safety data sheet

Company name:

PFERD INC.

Street/POB-No.: 9201 W. Heather Ave.

Postal Code, city: Milwaukee, WI 53224,
USA

WWW: www.pferdusa.com

E-mail: sales@pferdusa.com

Telephone: 1-800-342-9015

Telefax: 262-255-2840

Department responsible for information:
1-800-342-9015

PFERD CANADA INC.

Street/POB-No.: 5570 McAdam Road

Postal Code, city: Mississauga, Ontario L4Z 1P1,
Canada

WWW: www.pferdusa.com

E-mail: sales@pferdcanada.ca

Telephone: (905) 501-1555

Telefax: (905) 501-1554

Department responsible for information: 1-866-245-1555

Emergency phone number

USA/Canada: 1-800-255-3924

2. Hazards identification

Emergency overview

Appearance: Physical state at 68 °F (20 °C) and 101.3 kPa: solid

Color: gray

Odor: No data available

Classification: Respiratory Sensitizer - Category 1; Sensitization - skin -
Category 1; Germ cell mutagenicity - Category 2; Carcinogenicity -
Category 1B; Reproductive toxicity - Category 1B; Aquatic toxicity - chronic - Category 4;

Hazard symbols:



Signal word:

Danger

Hazard statements:

May cause an allergic skin reaction.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Suspected of causing genetic defects.
May cause cancer.
May damage fertility.
May cause long lasting harmful effects to aquatic life.

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Precautionary statements:

Obtain special instructions before use.
Avoid breathing dust/fume/gas/mist/vapors/spray.
Contaminated work clothing should not be allowed out of the workplace.
Avoid release to the environment.
Wear protective gloves/protective clothing/eye protection/face protection.
In case of inadequate ventilation wear respiratory protection.
IF ON SKIN: Wash with plenty of water/soap.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF exposed or concerned: Get medical advice/attention.
Specific treatment (see ' First aid ' on this label).
If skin irritation or rash occurs: Get medical advice/attention.
If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
Take off contaminated clothing and wash it before reuse.
Store locked up.
Dispose of contents/container to hazardous or special waste collection point.

Additional information

The hazard identification is based on a formalistic procedure as the hazard statements of the ingredients are summarized under section 3. This does not correspond to the hazardousness of the product itself.

Regulatory status

This material is considered hazardous by the U.S. OSHA Hazard Communication Standard (29 CFR 1910.1200) and WHMIS in Canada.

Hazards not otherwise classified

Mechanical processing can produce particles and dust. Comply with occupational limit values for 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.

see section 11: Toxicological information

3. Composition / Information on ingredients

Chemical characterization: Tungsten Carbide Burrs

Relevant ingredients:

CAS No.	Designation	Concentration	Classification
CAS 12070-12-1	Tungsten carbide	>= 40 %	not classified
CAS 7440-48-4	Cobalt	5 - 30 %	Respiratory Sensitizer - Category 1. Sensitization - skin - Category 1. Germ cell mutagenicity - Category 2. Carcinogenicity - Category 1B. Reproductive toxicity - Category 1B. Aquatic toxicity - chronic - Category 4.
CAS 12070-08-5	titanium carbide	< 5 %	not classified
CAS 12070-06-3	tantalum carbide	< 5 %	not classified
CAS 12069-94-2	niobium carbide	< 5 %	not classified
CAS 12070-10-9	vanadium carbide	< 1 %	not classified
CAS 12012-35-0	trichromium dicarbide	< 1 %	not classified

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Additional information: The product can be coated.
The specific identity and/or exact percentage has been withheld as a trade secret.

4. First aid measures

General information: If medical advice is needed, have product container or label at hand.

In case of inhalation: Provide fresh air. Immediately get medical attention.

Following skin contact: Remove residues with soap and water. In case of skin reactions, consult a physician. Take off contaminated clothing and wash it before reuse.

After eye contact: Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. In case of troubles or persistent symptoms, consult an ophthalmologist.

After swallowing: Rinse mouth with water. Immediately get medical attention.

Most important symptoms/effects, acute and delayed

Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.
May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

Information to physician

Treat symptomatically.

5. Fire fighting measures

Flash point/flash point range: Not applicable

Auto-ignition temperature: No data available

Suitable extinguishing media: Product is non-combustible. Extinguishing materials should therefore be selected according to surroundings.

Specific hazards arising from the chemical

In case of fire may be liberated: Metallic oxides, carbon monoxide and carbon dioxide.

Protective equipment and precautions for firefighters:

Wear a self-contained breathing apparatus and chemical protective clothing.

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

6. Accidental release measures

Personal precautions: Provide adequate ventilation.
Do not inhale vapors or dust particles. Avoid exposure.
Keep unprotected people away. Wear appropriate protective equipment. Take off contaminated clothing and wash it before reuse.

Environmental precautions: Discharge into the environment must be avoided.
In case of release, notify competent authorities.

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Methods for clean-up: Take up mechanically, placing in appropriate containers for disposal.
Avoid generation of dust.

7. Handling and storage

Handling

Advices on safe handling: Provide adequate ventilation, and local exhaust as needed. Use local exhaust in the field of the processing equipment.
Do not breathe dust. Avoid contact with skin and eyes.
Obtain special instructions before use. The product is to be handled with extreme caution. Wear appropriate protective equipment. Take off contaminated clothing and wash it before reuse. Have eye wash bottle or eye rinse ready at work place. Avoid generation of dust. Do not eat, drink or smoke when using this product.

Storage

Requirements for storerooms and containers:

Store container tightly closed in a dry area.
Protect from moisture contamination.

Hints on joint storage:

Keep away from food, drink and animal feedingstuffs. Keep away from acids and alkalis.

8. Exposure controls / personal protection

Exposure guidelines

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value	
12070-12-1	Tungsten carbide	Canada, BC: OEL TWA	0.005 mg/m ³	
7440-48-4	Cobalt	Canada, Alberta: OEL 8 hour	0.02 mg/m ³	
		Canada, BC: OEL TWA	0.005 mg/m ³	
			("Hard metals, containing Cobalt and Tungsten Carbide, as Co, thoracic")	
		Canada, BC: OEL TWA	0.02 mg/m ³	
			("Cobalt and inorganic compounds, as Co, total")	
		Canada, Québec: VEMP	0.02 mg/m ³	
	USA: ACGIH: TWA	0.02 mg/m ³ (inhalable fraction)		
	USA: IDLH: TWA	20 Co/m ³ (metal; Dusts and Smoke)		
	USA: NIOSH: TWA	0.05 mg/m ³		
	USA: OSHA: TWA	0.1 mg/m ³		

Biological limit values:

CAS No.	Designation	Type	Limit value	Parameter	Sampling
7440-48-4	Cobalt	USA: ACGIH-BEI, urine	15 µg/L	Cobalt; not combined with Tungsten Carbide	end of shift at end of workweek

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Engineering controls

Provide good ventilation and/or an exhaust system in the work area.
Mechanical effects, e.g. high pressure, can produce splinters and dust.
See also information in chapter 7, section storage.

Personal protection equipment (PPE)

- Eye/face protection: Tightly sealed goggles according to OSHA Standard - 29 CFR: 1910.133 or ANSI Z87.1-2010.
- Skin protection: Wear suitable protective clothing and shoes.
Protective gloves according to OSHA Standard - 29 CFR: 1910.138.
If necessary:
Protective gloves against thermic risks.
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.
- Respiratory protection: Respiratory protection must be worn whenever the TLV (WEL) levels have been exceeded. The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.
- General hygiene considerations:
Avoid contact with skin and eyes.
Do not breathe dust. When using do not eat, drink or smoke.
Wash hands before breaks and after work. Obtain special instructions before use. Take off contaminated clothing and wash it before reuse. Have eye wash bottle or eye rinse ready at work place.

Environmental exposure controls

Refer to 6.: Section "Environmental precautions".

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance:	Physical state at 68 °F (20 °C) and 101.3 kPa: solid Color: gray
Odor:	No data available
Odor threshold:	No data available
pH:	Not applicable
Melting point/freezing point:	2723 - 5028.8 °F (1495 - 2776 °C)
Initial boiling point and boiling range:	No data available
Flash point/flash point range:	Not applicable
Evaporation rate:	No data available
Flammability:	No data available
Explosion limits:	No data available
Vapor pressure:	No data available
Vapor density:	No data available
Density:	No data available
Water solubility:	Insoluble
Partition coefficient: n-octanol/water:	No data available

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Auto-ignition temperature: No data available

Thermal decomposition: No data available

Explosive properties: The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

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: Stable under recommended storage conditions.

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

Conditions to avoid: Keep away from heat. Protect from moisture contamination.

Incompatible materials: acids and alkalis

Hazardous decomposition products: Dust, fine dust

Thermal decomposition: No data available

11. Toxicological information

Toxicological tests

Toxicological effects: The statements are derived from the properties of the single components. No toxicological data is available for the product as such.

Acute toxicity (oral): Lack of data.

Acute toxicity (dermal): Lack of data.

Acute toxicity (inhalative): Lack of data.

Skin corrosion/irritation: Lack of data.

Serious eye damage/irritation: Lack of data.

Sensitisation to the respiratory tract: Respiratory Sensitizer - Category 1 = May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin sensitisation: Sensitization - skin - Category 1 = May cause an allergic skin reaction.

Germ cell mutagenicity/Genotoxicity: Germ cell mutagenicity - Category 2 = Suspected of causing genetic defects.

Carcinogenicity: Carcinogenicity - Category 1B = May cause cancer.

Reproductive toxicity: Reproductive toxicity - Category 1B = May damage fertility.

Effects on or via lactation: Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure): Lack of data.

Specific target organ toxicity (repeated exposure): Lack of data.

Aspiration hazard: Lack of data.

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Other information: Cobalt-dust: Classified according to IARC: 2B (possible for humans).

Information about tungsten carbide:
LD50, Rat, oral: > 2000 mg/kg (OECD 401)
LC50, Rat, inhalative (dusts/mist): > 5,3 mg/L/4h (OECD 403)

Symptoms

In case of inhalation:
Dusts: May cause allergy or asthma symptoms or breathing difficulties if inhaled.
shortage of breath, Cough, sore throat, headache
In case of ingestion: Dusts: gastrointestinal irritation, dizziness, nausea, vomiting.
After contact with skin: Dusts:
Prolonged/repetitive skin contact may cause skin defatting or dermatitis.

12. Ecological information

Ecotoxicity

Aquatic toxicity: May cause long lasting harmful effects to aquatic life.
Information about tungsten carbide:
Algae toxicity:
EC50 Selenastrum capricornutum: 80 mg/L/72 h
Bacterial toxicity:
EC20 activated sludge: > 1000 mg/L/3 h
Daphnia toxicity:
EC50 Daphnia magna (Big water flea): >1000 mg/L/48 h
Fish toxicity:
LC50 Danio rerio (zebrafish): > 1000 mg/L/96h

Mobility in soil

No data available

Persistence and degradability

Further details: No data available

Additional ecological information

General information: Discharge into the environment must be avoided.

13. Disposal considerations

Product

Recommendation: Dispose of waste according to applicable legislation.
Refer to manufacturer/supplier for information on recovery/recycling.

Package

Recommendation: Dispose of waste according to applicable legislation.

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14. Transport information

14.2 UN proper shipping name

ADR/RID, IMDG, IATA-DGR:

Not restricted

Transport hazard class(es)

ADR/RID, IMDG, IATA-DGR:

not applicable

Packing group

ADR/RID, IMDG, IATA-DGR:

not applicable

Environmental hazards

Marine pollutant: no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No data available

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.

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15. Regulatory information

National regulations - U.S. Federal Regulations

Tungsten carbide:	TSCA Inventory: listed TSCA HPVC: not listed
Cobalt:	TSCA Inventory: listed TSCA HPVC: not listed
titanium carbide:	TSCA Inventory: listed TSCA HPVC: not listed
tantalum carbide:	TSCA Inventory: listed TSCA HPVC: not listed
niobium carbide:	TSCA Inventory: listed TSCA HPVC: not listed
vanadium carbide:	TSCA Inventory: listed TSCA HPVC: not listed
trichromium dicarbide:	TSCA Inventory: listed TSCA HPVC: not listed

National regulations - U.S. State Regulations

Cobalt: California Proposition 65: cancer

National regulations - Canada

Tungsten carbide:	DSL: listed
Cobalt:	DSL: listed
titanium carbide:	DSL: listed
tantalum carbide:	DSL: listed
niobium carbide:	DSL: listed
vanadium carbide:	NDSL: listed
trichromium dicarbide:	DSL: listed

16. Other information

Hazard rating systems:



NFPA Hazard Rating:

Health: 3 (Serious)

Fire: 0 (Minimal)

Reactivity: 0 (Minimal)

HMIS Version III Rating:

Health: 3 (Serious) - Chronic effects

Flammability: 0 (Minimal)

Physical Hazard: 0 (Minimal)

Personal Protection: X = Consult your supervisor

HEALTH	*	3
FLAMMABILITY		0
PHYSICAL HAZARD		0
		X

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Abbreviations and acronyms:

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
AS/NZS: Australian Standards/New Zealand Standards
CAS: Chemical Abstracts Service
CFR: Code of Federal Regulations
CLP: Classification, Labelling and Packaging
DMEL: Derived minimal effect level
DNEL: Derived no-effect level
EC: European Community
EC50: Effective Concentration 50%
EN: European Standard
EQ: Excepted quantities
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
IATA-DGR: International Air Transport Association – Dangerous Goods Regulations
IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IMDG Code: International Maritime Dangerous Goods Code
LC50: Median lethal concentration
LD50: Lethal dose 50%
MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
OEL: Occupational Exposure Limit Value
OSHA: Occupational Safety and Health Administration
PBT: Persistent, bioaccumulative and toxic
PNEC: Predicted no-effect concentration
RID: Regulations Concerning the International Carriage of Dangerous Goods by Rail
TLV: Threshold Limit Value
TRGS: Technical Rules for Hazardous Substances
vPvB: Very persistent and very bioaccumulative
WEL: Workplace Exposure Limit
WHMIS: Workplace Hazardous Materials Information System

Reason of change: Changes in section 2: Classification
Changes in section 3: Composition / Information on ingredients
General revision

Date of first version: Dec/16/2015

Department issuing data sheet

Contact person: see section 1: Department responsible for information

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 safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products.