



## Safety Data Sheet

according to Regulation (EC) No 1907/2006

### flux cored wire, containing nickel, chromium and boron

Print date: 26.06.2012

Product code: 7332

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#### Hazard statements

H317	May cause an allergic skin reaction.
H351	Suspected of causing cancer.
H372	Causes damage to organs through prolonged or repeated exposure.
H412	Harmful to aquatic life with long lasting effects.

#### Precautionary statements

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P285	In case of inadequate ventilation wear respiratory protection.
P308+P313	IF exposed or concerned: Get medical advice/attention.

### SECTION 3: Composition/information on ingredients

#### Mixtures

##### Chemical characterization

NiCrBSi-Based flux cored wire, containing fused tungsten carbide

##### Hazardous components

EC No	Chemical name	Quantity
CAS No	Classification	
Index No	GHS classification	
REACH No		
235-123-0	tungsten carbide	< 60 %
12070-12-1		
231-157-5	chromium	< 30 %
7440-47-3		
231-111-4	nickel	30 - 50 %
7440-02-0	Carc. Cat. 3, T R40-43-48/23-52-53	
028-002-00-7	Carc. 2, Skin Sens. 1, STOT RE 1, Aquatic Chronic 3; H351 H317 H372 H412	
231-151-2	boron	< 5 %
7440-42-8		

Full text of R- and H-phrases: see section 16.

### SECTION 4: First aid measures

#### Description of first aid measures

##### After inhalation

Apply fresh air. If irritation of the respiratory passages, due to the product, occurs: call a physician.

##### After contact with skin

Lather with soap and rinse well with water.

##### After contact with eyes

Remove contacts. Rinse well with plenty of luke-warm water. Subsequently consult an ophthalmologist.

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#### After ingestion

Wash out mouth with water. Make affected person vomit if conscious when large quantities swallowed.

### SECTION 5: Firefighting measures

#### Extinguishing media

##### Suitable extinguishing media

metal-fire-drencher, dry sand

#### Advice for firefighters

Wear self-contained breathing apparatus.

### SECTION 6: Accidental release measures

#### Personal precautions, protective equipment and emergency procedures

Wear suitable protective clothing and gloves (filter mask). Prevent formation of clouds of dust. Aerate closed rooms. Follow safety measures in section 7 and 8.

#### Environmental precautions

Prevent dispersion. Do not empty into drains or the aquatic environment.

#### Methods and material for containment and cleaning up

Collect spilled material in sealable containers.

### SECTION 7: Handling and storage

#### Precautions for safe handling

##### Advice on safe handling

Prevent formation of clouds of dust. Wear suitable protective clothing and gloves.

#### Conditions for safe storage, including any incompatibilities

##### Requirements for storage rooms and vessels

Store only in original container. Keep in a cool, dry, well-ventilated place. Local exhaust required.

##### Advice on storage compatibility

Store in a fair distance from oxidizing substances and acids.

### SECTION 8: Exposure controls/personal protection

#### Control parameters

#### Exposure limits (EH40)

CAS No	Chemical name	ml/m <sup>3</sup>	mg/m <sup>3</sup>	F/ml	Category	Origin
7440-47-3	Chromium	-	0.5		TWA (8 h)	WEL
		-	-		STEL (15 min)	WEL
	- Nickel and its inorganic compounds (except nickel carbonyl); nickel and water-insoluble nickel compounds (as Ni	-	0.5		TWA (8 h)	WEL
		-	-		STEL (15 min)	WEL

#### Additional advice on limit values

Formation of ozone and nitrogen oxides on regular use by plasma flame. Leading component: ozone (CAS-Nr. 10028-15-6). Exposure limit value (GER) 0,1 ppm. Exposure limit value (Short term) (GB) 0,2 ppm. Exposure limit value (USA) 0,1 ppm (OSHA).

Cancer-causing chromium(VI)-compounds could be generated by welding chromium containing materials. Exposure limit value Chromium(VI)-compounds: 0,05 mg/m<sup>3</sup>

#### Exposure controls

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#### Occupational exposure controls

Local exhaust required.

#### Protective and hygiene measures

When using do not eat, drink or smoke.

#### Respiratory protection

Respiratory protection required in case of: insufficient ventilation.

#### Hand protection

Wear suitable protective clothing and heat-insulated gloves. Avoid contact with skin.

#### Eye protection

Safety goggles and dark lenses as appropriate to the thermal spray process.

### SECTION 9: Physical and chemical properties

#### Information on basic physical and chemical properties

Physical state: Cored wire  
 Colour: grey  
 Odour: odourless

#### Test method

pH-Value: not applicable

#### Changes in the physical state

Melting point: approx. 1010 bis 1025 °C  
 Boiling point: > 2900 °C  
 Flash point: not applicable

#### Flammability

Lower explosion limits: according 92/69 EWG, A10: not applicable  
 Upper explosion limits: not identified  
 Auto-ignition temperature: according 92/69 EWG, A16: not applicable

Solid:

Gas:

#### Oxidizing properties

according 92/69 EWG, A17: not applicable

Vapour pressure: negligible

Density: 2 - 6 g/cm<sup>3</sup>

Water solubility: not soluble

#### Other information

### SECTION 10: Stability and reactivity

#### Conditions to avoid

stable under normal conditions

#### Incompatible materials

oxidizing and acidic material

#### Hazardous decomposition products

Formation of ozone and nitrogen oxides on regular use by plasma flame. This reaction is independent to material used.  
 Cancer-causing chromium(VI)-compounds could be generated by welding chromium containing

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materials.

## SECTION 11: Toxicological information

### Information on toxicological effects

#### Acute toxicity

No toxicological information is available on the product but on the ingredients named in section 3.

CAS No	Chemical name				
	Exposure routes	Method	Dose	Species	Source
7440-02-0	nickel				
	oral	LD50 mg/kg	> 9000	Rat.	

#### Sensitising effects

May be irritant to mouth, throat and esophagus on prolonged exposure. Exposure to high concentrations may lead to sensitizing action to the skin and airways. May lead to allergic or irritative reactions on very sensitive persons.

#### Carcinogenic/mutagenic/toxic effects for reproduction

Category 3 (EU): There is well-founded concern about the possible carcinogenic effects on human beings.

#### Further information

May be harmful through products of decomposition on regular use (see section 10)

## SECTION 12: Ecological information

### Toxicity

No ecological information is known on the product but on the in chapter 3 named ingredients

Chromium: LC50 (fish, 96 h): 40,5 mg/l; EC50 (algae, 48 h): 8,75 mg/l

CAS No	Chemical name					
	Aquatic toxicity	Method	Dose	h	Species	Source
7440-02-0	nickel					
	Acute fish toxicity	LC50	> 100 mg/l	96	Danio rerio	
	Acute algae toxicity	ErC50	100 mg/l	72	Selenastrum capricornutum	
	Acute crustacea toxicity	EC50	> 100 mg/l	48	Daphnia magna	

## SECTION 13: Disposal considerations

### Waste treatment methods

#### Advice on disposal

Disposal according to the local legislation. Waste of residues: Keep waste separate. Because of possible pollution, remove as industrial waste or hazardous waste. Contaminated packaging: Keep waste separate. Because of possible pollution, remove as industrial waste or hazardous waste.

#### Waste disposal number of used product

12101 WASTES FROM SHAPING AND PHYSICAL AND MECHANICAL SURFACE TREATMENT OF METALS AND PLASTICS

#### Waste disposal number of contaminated packaging

12101 WASTES FROM SHAPING AND PHYSICAL AND MECHANICAL SURFACE TREATMENT OF METALS AND PLASTICS

## SECTION 14: Transport information

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#### Environmental hazards

Dangerous for the environment: no

#### **Other applicable information**

Free for transport regulations.

### SECTION 15: Regulatory information

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

##### **National regulatory information**

Water contaminating class (D): 2 - water contaminating

### SECTION 16: Other information

#### **Full text of R-phrases referred to under sections 2 and 3**

- 40 Limited evidence of a carcinogenic effect.
- 43 May cause sensitization by skin contact.
- 48/23 Toxic: danger of serious damage to health by prolonged exposure through inhalation.
- 52 Harmful to aquatic organisms.
- 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- 53 May cause long-term adverse effects in the aquatic environment.

#### **Full text of H-Statements referred to under sections 2 and 3**

- H317 May cause an allergic skin reaction.
- H351 Suspected of causing cancer.
- H372 Causes damage to organs through prolonged or repeated exposure.
- H412 Harmful to aquatic life with long lasting effects.

#### **Further Information**

The information enclosed this safety data sheet are correct according to our knowledge. They should detail the needs of safety for our products, but demonstrate no guarantee for product attributes and justify no legal relationship. Our departments will provide assistance with any special question regarding the conventional use of our product.

*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*