

Safety Data Sheet



according to Regulation (EU) No. 1907/2006

thermal spray powder, containing chromium, nickel and boron

Print date : 27.03.2009

Product code : 9131

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1. Identification of the substance/preparation and of the company/undertaking

Identification of the substance or preparation

thermal spray powder, containing chromium, nickel and boron

product name

DURAWELD Pulvertec 40-A, DURAWELD Pulvertec 50-A, DURAWELD Pulvertec 60-A

Use of the substance/preparation

nickel-based thermal spray powder for industrial purposes

Company/undertaking identification

Company name : Duraweld Schweisstechnik Inh. Yasar Özefe
Street : Hoepfnerstr. 101
Place : D-47809 Krefeld, Germany
Telephone : +49 (0) 21 51/54 89 89
e-mail : info@duraweld-schweisstechnik.de
Internet : www.duraweld.de
Emergency telephone : +1-800-424-9300 (Chemtrec Emergency)

2. Hazards identification

Classification

Indications of danger : Harmful

R-phrases :

Limited evidence of a carcinogenic effect.

May cause sensitization by inhalation and skin contact.

Toxic: danger of serious damage to health by prolonged exposure through inhalation.

May cause long-term adverse effects in the aquatic environment.

The data available do not support any physical or chemical hazard. May be harmful. May be irritating.

May cause sensitization by inhalation and skin contact. May be harmful with intended application by arising ozone and nitrogen oxides.

Cancer-causing chromium(VI)-compounds could be generated by welding chromium containing materials.

Explication of special hazards for human health and environment

The data available do not support any environmental hazard.

3. Composition/information on ingredients

Chemical characterization (preparation)

nickel-based thermal spray powder

Hazardous components

EC-No.	CAS-No.	Chemical name	Quantity	Classification
231-111-4	7440-02-0	nickel	20 - 80 %	Carc. Cat. 3 R40-43
231-157-5	7440-47-3	chromium	4 - 20 %	
231-151-2	7440-42-8	boron	1 - 3 %	

Full text of each relevant R phrase can be found in heading 16.

4. First aid measures

After inhalation

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

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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.

After ingestion

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

5. Fire-fighting measures

Suitable extinguishing media

metal-fire-drencher, dry sand

Special exposure hazards arising from substance or preparation itself, combustion products, resulting gases

Potentially flammable dust in association with air. Prevent from heat and oxidizing materials.

Special protective equipment for fire-fighters

Wear self-contained breathing apparatus.

6. Accidental release measures

Personal precautions

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 for cleaning up/taking up

Collect spilled material in sealable containers.

7. Handling and storage

Handling

Advice on safe handling

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

Advice on protection against fire and explosion

Potentially flammable dust in association with air. Prevent from heat and oxidizing materials.

Storage

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.

Storageclass (VCI) :

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8. Exposure controls/personal protection

Exposure limit values

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Exposure limits (EH40)

CAS-No.	Chemical name	ml/m ³	mg/m ³	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 control parameters

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 (GB) 0,2 ppm. Exposure limit value (USA) 0,05 ppm. Cancer-causing chromium(VI)-compounds could be generated by welding chromium containing materials. Exposure limit value Chromium(VI)-compounds: 0,05 mg/m³

Exposure controls

Occupational exposure controls

Local exhaust required.

Protective and hygiene measures

When using do not eat, drink or smoke.

Respiratory protection

During spraying wear suitable respiratory equipment (filter mask).

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.

9. Physical and chemical properties

General information

Physical state : dry powder
Colour : light to dark grey
Odour : odourless

Important health, safety and environmental information

pH-Value : not applicable
Test method

Changes in the physical state

Melting point : approx. 1200 bis 1370 °C
Boiling point : > 2900 °C
Flash point : not applicable

Flammability

according 92/69 EWG,
A10: not applicable

Explosive properties

Potentially flammable dust in association with air.

Lower explosion limits : not identified
Upper explosion limits : not identified

Oxidizing properties

according 92/69 EWG, A17: not applicable

Vapour pressure : negligible

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Density : 2 - 6 g/cm³
Water solubility : not soluble

Other information

Auto-ignition temperature according 92/69 EWG,
A16: not applicable

Solid :

Gas :

10. Stability and reactivity

Conditions to avoid

stable under normal conditions

Materials to avoid

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 materials.

11. Toxicological information

Acute toxicity

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

Specific effects in experiment on an animal

Nickel: LD50 (rat): 10.000 mg/kg

Boron: LD50 (mouse): 2 g/kg

Sensitising effects

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.

Severe effects after repeated or prolonged exposure

may be irritant to mouth, throat and esophagus on prolonged exposure.

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)

12. Ecological information

Ecotoxicity

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

Nickel: LC50 (fish, 96 h): 53830 µg/l

Chromium: LC50 (fish, 96 h): 58.000 µg/l; EC50 (algae, 48 h): 220 µg/l

13. Disposal considerations

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.

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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

14. Transport information

Land transport (ADR/RID)

Remarks (land transport)

Free for transport regulations.

Inland waterways transport

Remarks (inland waterways transport)

Free for transport regulations.

Marine transport

Remarks (marine transport)

Free for transport regulations.

Air transport

Remarks (air transport)

Free for transport regulations.

15. Regulatory information

Labelling

Danger symbols : Xn - Harmful



Xn - Harmful

Hazardous component(s) to be indicated on label

Nickel

R phrases

- 40 Limited evidence of a carcinogenic effect.
- 42/43 May cause sensitization by inhalation and skin contact.
- 48/23 Toxic: danger of serious damage to health by prolonged exposure through inhalation.
- 53 May cause long-term adverse effects in the aquatic environment.

S phrases

- 22 Do not breathe dust.
- 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
- 38 In case of insufficient ventilation, wear suitable respiratory equipment.
- 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- 61 Avoid release to the environment. Refer to special instructions / Safety data sheets.

Special labelling for certain preparations

Contains Nickel. May produce an allergic reaction.

National regulatory information

Water contaminating class : 2 - water contaminating

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16. Other information

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

- 40 Limited evidence of a carcinogenic effect.
- 42/43 May cause sensitization by inhalation and skin contact.
- 43 May cause sensitization by skin contact.
- 48/23 Toxic: danger of serious damage to health by prolonged exposure through inhalation.
- 53 May cause long-term adverse effects in the aquatic environment.

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.)