

**Safety Data Sheet**

according to Regulation (EC) No 1907/2006

Niborit 4-P

Print date: 12.04.2013

Product code: DEW_4697.26

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SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

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

Products for welding

1.3. Details of the supplier of the safety data sheet

Company name: Deutsche Edelstahlwerke GmbH
Street: Oberschlesienstraße 16
Place: D-47807 Krefeld
Telephone: +49 (0)2151 3633-4139 Telefax: +49 (0)2151 3633-3877
Responsible for the safety data sheet: sds@gbk-ingelheim.de

1.4. Emergency telephone

+49 (0) 6132 / 84463 (GBK Gefahrgut Büro GmbH)

number:**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture**

Indications of danger: T - Toxic
R phrases:
Limited evidence of a carcinogenic effect.
May cause sensitisation by skin contact.
Toxic: danger of serious damage to health by prolonged exposure through inhalation.
Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Brazing/welding vapours and fumes from brazing/welding may cause metal fumes fever. Symptoms can appear 4 to 12 hours after. (headache, dizziness, dryness, cough, nausea and fever)
May cause irritation by prolonged inhalation of brazing/welding fumes.
Welding fumes (not otherwise specified) are considered to be carcinogenic with no further categorization by NIOSH (National Institute for Occupational Safety and Health) and IARC (International Agency for the Research on Cancer).
IARC - International Agency for Research on Cancer
NIOSH - National Institute for Occupational Safety and Health

GHS classification

Hazard categories:
Respiratory/skin sensitization: Skin Sens. 1
Carcinogenicity: Carc. 2
Specific target organ toxicity - repeated exposure: STOT RE 1
Hazardous to the aquatic environment: Aquatic Chronic 3
Hazard Statements:
May cause an allergic skin reaction.
Suspected of causing cancer.
Causes damage to organs through prolonged or repeated exposure.
Harmful to aquatic life with long lasting effects.

2.2. Label elements**Hazardous components which must be listed on the label**

nickel powder, cobalt

Signal word: Danger

Pictograms: GHS07-GHS08



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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

- P202 Do not handle until all safety precautions have been read and understood.
 P260 Do not breathe dust/fume/gas/mist/vapours/spray.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P501 Dispose of contents/container to waste treatment facility in accordance with local and national regulations. .

2.3. Other hazards

Welding and brazing processes can cause spatter, melting metal and UV/IR heat can cause burns or start fires.

During welding- and brazing processes formed metallic fumes are suspected of being cancer causing agents.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous components

EC No	Chemical name	Quantity
CAS No	Classification	
Index No	GHS classification	
REACH No		
231-111-4	nickel powder	
7440-02-0	Carc. Cat. 3, T - Toxic R40-48/23-43-52-53	80 - 85 %
028-002-01-4	Carc. 2, STOT RE 1, Skin Sens. 1, Aquatic Chronic 3; H351 H372 ** H317 H412	
231-157-5	Chromium	5 - 10 %
7440-47-3		
231-151-2	Boron	0,1-5 %
7440-42-8	Xn - Harmful R22	
	Acute Tox. 4; H302	
231-158-0	cobalt	0,1 - 1 %
7440-48-4	R42/43-53	
027-001-00-9	Resp. Sens. 1, Skin Sens. 1, Aquatic Chronic 4; H334 H317 H413	

Full text of R and H phrases: see Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

After inhalation

Take affected person into fresh air.
 Consult a physician if necessary.

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After contact with skin

Wash off immediately with plenty of water for at least 15 minutes.
In the event of persistent symptoms receive medical treatment.

After contact with eyes

Rinse thoroughly with plenty of water, also under the eyelids.
In the event of persistent symptoms receive medical treatment.

After ingestion

Rinse mouth.
Consult a physician.

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

No data available.

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.

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Use fire fighting measures that suit the environment and products stored

Extinguishing media which must not be used for safety reasons

Do not use water. Do not use dry chemical, CO₂ or halon.

5.2. Special hazards arising from the substance or mixture

No data available.

5.3. Advice for firefighters

In case of fire, wear suitable respiratory equipment with positive air supply.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Breathing apparatus (particle filter) only if dust is formed.
Ensure adequate ventilation.
Use personal protective clothing.

6.2. Environmental precautions

Do not discharge into the drains or bodies of water.

6.3. Methods and material for containment and cleaning up

Pick up mechanically, avoiding dust, and provide disposal in suitable recipients.

6.4. Reference to other sections

Observe protective instructions (see Sections 7 and 8).
Information for disposal look up chapter 13.

SECTION 7: Handling and storage**7.1. Precautions for safe handling****Advice on safe handling**

Keep container tightly closed.
Avoid contact with skin, eyes and clothing.
Use only in well-ventilated areas.
ANSI Z49.1 Safety in Welding, Cutting and allied processes.

7.2. Conditions for safe storage, including any incompatibilities**Requirements for storage rooms and vessels**

Keep in a dry place.



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Advice on storage compatibility

Incompatible with strong acids and oxidizing agents.

7.3. Specific end use(s)

Products for welding, Thermal spraying

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
-	Chromium (VI) compounds (as Cr)	-	0.05	-	TWA (8 h)	WEL
-	-	-	-	-	STEL (15 min)	WEL
7440-47-3	Chromium	-	0.5	-	TWA (8 h)	WEL
-	-	-	-	-	STEL (15 min)	WEL
1309-37-1	Iron oxide, fume (as Fe)	-	5	-	TWA (8 h)	WEL
-	-	-	10	-	STEL (15 min)	WEL
7440-21-3	Silicon, respirable dust	-	4	-	TWA (8 h)	WEL
-	-	-	-	-	STEL (15 min)	WEL

8.2. Exposure controls

Occupational exposure controls

Provide appropriate exhaust ventilation at machinery and at places where dust or smoke can be generated.

Protective and hygiene measures

At work do not eat, drink and smoke.

Wash hands and skin before breaks and after work.

Respiratory protection

Use suitable breathing apparatus if there is inadequate ventilation. Multi-purpose filter ABEK/P3

Hand protection

Use protective gloves for welders (DIN 4841-4).

Use inner-gloves to prevent from allergic reactions due to direct skin contact.

Protective gloves resistant to chemicals made off polychloropren, Minimum coat thickness 0.6 mm, Permeation resistance (wear duration) approx. 480 minutes, i.e. protective glove <Camapren 722> made by www.kcl.de.

Requirements can vary as a function of the use. Therefore it is necessary to adhere additionally to the recommendations given by the manufacturer of protective gloves.

This recommendation refers exclusively to the chemical compatibility and the lab test conforming to EN 374 carried out under lab conditions.

Eye protection

Safety goggles with side protection.

Skin protection

Dust resistant protective clothing.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Solid
Colour:	Product-specific
Odour:	Odourless

Test method



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pH-Value:

n.a.

Changes in the physical state

Boiling point:

n.a.

Flash point:

n.a.

9.2. Other information

No data available.

SECTION 10: Stability and reactivity

10.1. Reactivity

No data available.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

No data available.

10.5. Incompatible materials

Oxidizing agents. Strong acids and strong bases.

10.6. Hazardous decomposition products

Metallic oxides

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Brazing/welding vapours and fumes from brazing/welding may cause metal fumes fever. Symptoms can appear 4 to 12 hours after. (headache, dizziness, dryness, cough, nausea and fever)

CAS No	Chemical name				
	Exposure routes	Method	Dose	Species	Source
7440-42-8	Boron				
	oral	ATE	500 mg/kg		
7440-48-4	cobalt				
	oral	LD50	6170 mg/kg	Rat	

Irritation and corrosivity

May cause irritation by prolonged inhalation of brazing/welding fumes.

Carcinogenic/mutagenic/toxic effects for reproduction

Welding fumes (not otherwise specified) are considered to be carcinogenic with no further categorization by NIOSH (National Institute for Occupational Safety and Health) and IARC (International Agency for the Research on Cancer).

Further information

The product was classified on the basis of the calculation procedure of the preparation directive (1999/45/EC).

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.

SECTION 12: Ecological information

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12.1. Toxicity

Harmful to aquatic life with long lasting effects.

12.2. Persistence and degradability

No data available.

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

No data available.

12.6. Other adverse effects

No data available.

Further information

Do not flush into surface water or sanitary sewer system.

SECTION 13: Disposal considerations**13.1. Waste treatment methods****Advice on disposal**

Where possible recycling is preferred to disposal.

Dust and in exhaust systems separated particles dispose of in compliance with local regulations.

Waste disposal number of used product

100203 WASTES FROM THERMAL PROCESSES; wastes from the iron and steel industry

SECTION 14: Transport information**Land transport (ADR/RID); Marine transport (IMDG); Air transport (ICAO)****14.1. UN number:**

No hazardous material as defined by the transport regulations.

14.2. UN proper shipping name:

No hazardous material as defined by the transport regulations.

14.3. Transport hazard class(es):

No hazardous material as defined by the transport regulations.

14.4. Packing group:

No hazardous material as defined by the transport regulations.

14.5. Environmental hazards

No hazardous material as defined by the transport regulations.

14.6. Special precautions for user

No hazardous material as defined by the transport regulations.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

No hazardous material as defined by the transport regulations.

Other applicable information

No hazardous material as defined by the transport regulations.

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

1999/13/EC (VOC): 0 %

National regulatory information

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Water contaminating class (D): 2 - water contaminating

SECTION 16: Other information**Changes**

Changes in chapter:

Full text of R phrases referred to under Sections 2 and 3

- | | |
|-------|---|
| 22 | Harmful if swallowed. |
| 40 | Limited evidence of a carcinogenic effect. |
| 42/43 | May cause sensitisation by inhalation and skin contact. |
| 43 | May cause sensitisation 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

- | | |
|------|--|
| H302 | Harmful if swallowed. |
| H317 | May cause an allergic skin reaction. |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H351 | Suspected of causing cancer. |
| H372 | Causes damage to organs through prolonged or repeated exposure. |
| H412 | Harmful to aquatic life with long lasting effects. |
| H413 | May cause long lasting harmful effects to aquatic life. |

Further Information

Data of items 4 to 8, as well as 10 to 12, do partly not refer to the use and the regular employing of the product (in this sense consult information on use and on product), but to liberation of major amounts in case of accidents and irregularities.

The information describes exclusively the safety requirements for the product(s) and is based on the present level of our knowledge.

The delivery specifications are contained in the corresponding product sheet.

This data does not constitute a guarantee for the characteristics of the product(s) as defined by the legal warranty regulations.

(n.a. = not applicable; n.d. = not determined)

Literature:

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