

- 1. Product application:** Tubular hardfacing electrode
- 1.1 Product identification: HF 90
colour marking: golden tip
- 1.2 company: HARDFLEX GmbH
Höffgeshofweg 2
47807 Krefeld / Germany
Tel. ++49-(0)2151-835870

2. Information on components

ingredient	quantity [%]	CAS Number	Exposure limit [mg/m ³]	carcinogenic
Iron	31 – 60	7439-89-6	5,00	no
Carbon	1 – 10	7440-44-0	3,50	no
Manganese	1 – 10	7439-98-5	1,00	no
Chromium	11 – 30	7440-47-3	0,50	yes
Nickel	< 1	7440-02-0	1,00	no
Silicon	< 1	7440-21-3	10,00	no
Tungsten	11 – 30	7440-33-7	5,00	no
Calcium Carbonate	< 1	1317-65-3	10,00	no
Phenyl Formaldehyde *	< 1	9003-35-4	10,00	suspicious
Potassium Feldspar	< 1	68476-25-5	10,00	no
Calcium Fluoride	< 1	14542-23-5	2,50	no
Silica	< 1	14808-60-7	0,10	no

* May cause headache

3. Potential dangers

During welding fumes and gases are produced. Gaseous reaction products may include carbon monoxide. Ozone and nitrogen oxides may be formed by radiation from the arc.

4. First Aid measures

after inhalation:

The person concerned has to be supplied with fresh air. If irritation persists contact a doctor.

after contact with the skin:

clean with water and soap.

after contact with the eyes:

Rinse eyes thoroughly and contact a doctor.

5. Measures necessary in the case of fire

N/A

6. Measures necessary in the case of accidental emissions

N/A

7. Handling and storage**7.1 Handling**

Adequate ventilation and air circulation must be provided together with an exhausting device to absorb welding fume.

7.2 Storage

N/A

8. Limitation of exposure and personal protective equipment	Page 2 of 2 valid from : 01.06.2004
Ingredients and exposure limits	see point 2.
Personal protective equipment	welding gloves, welding glasses or welding shield do not eat and drink in welding areas
9. Physical and chemical properties	
form:	tubular electrode
security data:	N/A
10. Stability and Reactivity	Avoid contact with acid and base. Product stable up to 1000 °C .
11. Information on toxicology	see Point 2.
12. Environmental information	N/A
13. Instructions for disposal	Prevent waste from contaminating surrounding environment. Discard any product residue, disposable container, or liner in an environmentally acceptable manner, in full compliance with Federal, State and Local regulations.
14. Transport regulations	N/A
15. Regulations	N/A
16. Miscellaneous	All information is based on current state of knowledge; this information does not represent any guarantee of product properties and does not constitute any contractual legal obligation. Products may only be used as mentioned. If the products are used improperly risks which are not described in the safety data sheet are possible. Information is provided here in a way which is best understood and acted upon by qualified personnel. According to the definitions found in EN-60204-1: Qualified personnel are persons who, based on their special training, knowledge, experience, and due to their knowledge of the relevant standards, are able to assess the tasks assigned to them and identify possible dangers.