

Safety data sheet
according to UK REACH

Printing date 19.11.2024

Version number 1

Revision: 15.11.2024

SECTION 1: Identification of the substance/mixture and of the company/undertaking

- 1.1 Product identifier
- Trade name: **Stainless steel welding rods - Co > 0.1%**
- 1.2 Relevant identified uses of the substance or mixture and uses advised against
- **Sector of Use** SU15 Manufacture of fabricated metal products, except machinery and equipment
- **Product category** PC38 Welding and soldering products, flux products
- **Application of the substance / the mixture** Welding
- 1.3 Details of the supplier of the safety data sheet
- **Manufacturer/Supplier:**
MIGAL.CO GmbH
Wattstr. 2
94405 Landau/Isar
Germany
Tel.: +49(0)9951/69059-3110
Fax.: +49(0)9951/69059-3910

Email: robert.lahnsteiner@migal.co
Internet: <http://www.migal.co>
- **Further information obtainable from:** Robert Lahnsteiner, Robert.lahnsteiner@migal.co
- 1.4 Emergency telephone number: +49 9951 69059-3110

SECTION 2: Hazards identification

- 2.1 Classification of the substance or mixture
- Classification according to Regulation (EC) No 1272/2008



GHS08 health hazard

Carc. 1B H350 May cause cancer. Route of exposure: Inhalation.

- 2.2 Label elements
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the GB CLP regulation.
- **Hazard pictograms**



GHS08

- **Signal word** Danger
- **Hazard-determining components of labelling:**
nickel
cobalt
- **Hazard statements**
H350 May cause cancer. Route of exposure: Inhalation.
- **Precautionary statements**
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read carefully and follow all instructions.
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

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P308+P313 IF exposed or concerned: Get medical advice/attention.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Additional information:**

Contains nickel, cobalt. May produce an allergic reaction.

Keep out of the reach of children

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.2 Mixtures**

· **Description:**

Alloy of iron, chromium and other metals (Ni, Mn, Mo, Co, Si, Cu, Ti) in varying proportions

See the respective data sheet for the exact composition.

· **Dangerous components:**

CAS: 7440-02-0	nickel	1-30%
EINECS: 231-111-4	Carc. 2, H351; STOT RE 1, H372; Skin Sens. 1, H317	
CAS: 7440-47-3	chromium	≥10-≤25%
EINECS: 231-157-5	substance with a Community workplace exposure limit	
CAS: 7439-96-5	manganese	≥0-≤5%
EINECS: 231-105-1	substance with a Community workplace exposure limit	
CAS: 7440-21-3	silicon	<2%
EINECS: 231-130-8	substance with a Community workplace exposure limit	
CAS: 7440-32-6	titanium	<2%
EINECS: 231-142-3	Pyr. Sol. 1, H250; Self-heat. 2, H252; Water-react. 1, H260	
CAS: 7440-50-8	copper	≥1-<2.5%
EINECS: 231-159-6	Aquatic Acute 1, H400 (M=10); Aquatic Chronic 1, H410	
Reg.nr.: 01-2119480154-42-XXXX	(M=10); Acute Tox. 4, H302; Eye Irrit. 2, H319	
CAS: 7440-44-0	carbon	<1.2%
EINECS: 231-153-3	substance with a Community workplace exposure limit	
Reg.nr.: 01-2119966900-32-xxxx		
CAS: 7440-48-4	cobalt	0.1-1%
EINECS: 231-158-0	Resp. Sens. 1, H334; Muta. 2, H341; Carc. 1B, H350; Repr. 1B, H360F; Skin Sens. 1, H317; Aquatic Chronic 4, H413	

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

· **4.1 Description of first aid measures**

· **General information:**

Immediately remove any clothing soiled by the product.

By continuous complaints consult a physician.

· **After inhalation:**

(Smoke, Powder)

The following measures relate to the effects caused by welding the product and not to the product as supplied. Machining, grinding, flame cutting or welding of these alloys will introduce foreign substances into the atmosphere.

Chromium, molybdenum, cobalt, manganese, nickel or zinc may be present depending on the alloy. As soon as dust and fumes are adequately disposed of, the other alloy elements do not pose a problem. Spot

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extraction is required for intensive machining, grinding and welding work. If this is not sufficient, personal protective equipment with appropriate filters or fresh air supply must be used.

Supply fresh air; consult doctor in case of complaints.

· After skin contact:

In case of burns from hot or molten metal, cool the wound and consult a doctor.

In case of a cut or injury, consult a doctor.

Clean with water and soap. If possible, also wash with polyethylene glycol 400.

· After eye contact:

Solid products: In case of eye injury, a doctor should be consulted

Powder, smoke, chips: In case of irritation, wash eyes with plenty of water. If irritation persists, a doctor should be consulted.

· After swallowing:

Seek medical treatment.

Do not induce vomiting.

Never give anything by mouth to an unconscious person.

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

Smoke or dust from the metals contained can irritate the nose and throat. If too much smoke is inhaled, a metallic taste is triggered. High concentrations of smoke can lead to metal vapour fever. The symptoms are similar to flu. Long-term inhalation of too much copper dust or smoke can cause anaemia. The dust can also cause skin or eye irritation after brief exposure

Prolonged exposure to manganese dust or smoke can lead to a number of serious symptoms. On the other hand, manganese is an essential trace element for human metabolism. The average daily intake necessary for human health is 2 to 5 mg, mostly from food. This intake is about 20 to 50% of the daily intake resulting from the PEL and TLV of 1mg/m³ from air.

Excessive manganese intake has effects on the central nervous system, with the following symptoms after increasing exposure: apathy, loss of appetite, uncontrolled laughter, sleep disturbance followed by drowsiness, headache, leg cramps, speech disorders, mask-like face, awkward movements, difficulty walking, frequent falls, trembling, salivation, sweating, impaired consciousness.

Grinding work on uncleaned pieces of jewellery with embedded sand can produce considerable amounts of dust with silicon. This can cause silicosis. IARC has listed crystalline silicon as class 2A: it can probably cause lung cancer

· 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures**· 5.1 Extinguishing media****· Suitable extinguishing agents:**

The product is not combustible when delivered.

Fire caused by powder and chips:

Extinguishing agent class D

· For safety reasons unsuitable extinguishing agents: halogen-containing fire extinguishing agents**· 5.2 Special hazards arising from the substance or mixture**

Prevent particles from being whirled up when you want to extinguish a powder fire.

Formation of toxic gases is possible during heating or in case of fire.

Molten metal alloys can be explosive on contact with water. They can also react strongly with water, rust and some metal oxides (e.g. copper, iron and lead oxides).

In case of fire, the following can be released:

Carbon monoxide (CO)+ Carbon dioxide (CO₂)

Under certain fire conditions, traces of other toxic gases cannot be excluded.

· 5.3 Advice for firefighters**· Protective equipment:** Wear self-contained respiratory protective device.

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Additional information

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

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

Avoid contact with hot metal. Avoid inhaling vapours and fumes generated during metal working and processing.

Use the appropriate protective equipment when welding and use suitable eye protection for arc welding. Avoid inhalation of dust and eye or skin contact.

Keep people at a distance and stay on the windward side.

Refer to protective measures listed in sections 7 and 8.

6.2 Environmental precautions: Do not allow to penetrate the ground/soil.**6.3 Methods and material for containment and cleaning up:**

Dispose contaminated material as waste according to section 13.

Pick up mechanically.

Ensure adequate ventilation.

6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage**7.1 Precautions for safe handling** Open and handle receptacle with care.**Information about fire - and explosion protection:**

In the solid form (bars, pieces, wire rods, drawn wires), the product is not flammable and does not usually present a risk in terms of fire formation or explosion.

Use of appropriate dust removal techniques that reduce the amount of finely dispersed particles in the environment to non-critical concentrations.

Keep respiratory protective device available.

7.2 Conditions for safe storage, including any incompatibilities**Storage:****Requirements to be met by storerooms and receptacles:**

Store the product in its original packaging in a dry area protected from atmospheric influences. Avoid thermal shock. Storage in unsuitable areas can result in surface oxidation, which can be detrimental to product quality.

Information about storage in one common storage facility: Store away from oxidising agents.**Further information about storage conditions:** Keep container tightly sealed.**Recommended storage temperature:** 5-30°C**VCI storage category -****7.3 Specific end use(s)** No further relevant information available.**SECTION 8: Exposure controls/personal protection****8.1 Control parameters****Ingredients with limit values that require monitoring at the workplace:****7440-02-0 nickel**WEL Long-term value: 0.5 mg/m³
as Ni; Sk; Carc**7440-47-3 chromium**WEL Long-term value: 0.5 mg/m³

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7439-96-5 manganese

WEL Long-term value: 0.2* 0.05** mg/m³
as Mn *inhalable fraction **respirable fraction

7440-21-3 silicon

WEL Long-term value: 10* 4** mg/m³
*inhalable dust **respirable dust

7440-50-8 copper

WEL Short-term value: 2** mg/m³
Long-term value: 0.2* 1** mg/m³
*fume **dusts and mists (as Cu)

7440-44-0 carbon

WEL Long-term value: 10* 4** mg/m³
*inhalable dust **respirable

7440-48-4 cobalt

WEL Long-term value: 0.1 mg/m³
as Co; Carc, Sen

· DNELs

7440-50-8 copper

Oral DNEL long term 0.041 mg/kg bw/day /systemisc (consumer)
Dermal DNEL long term 137 mg/kg bw/day /systemisch (consumer)
137 mg/kg bw/day /systemisch (worker)
DNEL short term 273 mg/kg bw/day /systemisch (consumer)
273 mg/kg bw/day /systemisch (worker)
Inhalative DNEL long term 1 mg/m³ /lokal (consumer)
20 mg/m³ /systemisch (worker)
DNEL short term 1 mg/m³ /lokal (consumer)

· PNECs

7440-50-8 copper

PNEC Fresh Water 0.0078 mg/l (fresh water)
PNEC Marine Water 0.0052 mg/l (marine water)
PNEC Soil 65 mg/kg (soil)
PNEC Sediment 87 mg/kg (fresh water)
676 mg/kg (marine water)
PNEC (Kläranlage) 0.23 mg/l (waste water treatment plant)

· **Additional information:** The lists valid during the making were used as basis.

· 8.2 Exposure controls

· **Appropriate engineering controls** No further data; see section 7.

· **Individual protection measures, such as personal protective equipment**

· **General protective and hygienic measures:**

Protect eyes and body from light and smoking while product is in use.

Respiratory protective equipment: depending on welding and environmental conditions, use suitable respiratory protective equipment during welding. Use suitable ventilation and/or fume extraction equipment.

Hand protection: use suitable UV, IR and heat protective gloves.

Eye protection: use suitable goggles or helmets with UV, IR and light protection filters.

Skin protection: use suitable body, hand and head clothing. Please use protective footwear against radiation, sparks and electric current. Avoid wearing dirty, greasy or oily clothing that can catch fire during welding.

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

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- **Respiratory protection:**
Use suitable respiratory protective device and local exhaust ventilation when aerosol or mist is formed. In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Hand protection**
Wear gloves for the protection against mechanical hazards according to EN 388. Heat resistant gloves



Protective gloves

- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **As protection from splashes gloves made of the following materials are suitable:**
Butyl rubber, BR
Nitrile rubber, NBR
- **Eye/face protection**



Tightly sealed goggles

- **Body protection:**
Welding work and in particular the handling of liquid metal require appropriate safety clothing.

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **General Information**
- **Physical state** Solid
- **Colour:** metallic
- **Odour:** Odourless
- **Odour threshold:** Not determined.
- **Melting point/freezing point:** 1325-1530 °C
- **Boiling point or initial boiling point and boiling range** Undetermined.
- **Flammability** Not determined.
- **Lower and upper explosion limit**
- **Lower:** Not determined.
- **Upper:** Not determined.
- **Flash point:** Not applicable.
- **Decomposition temperature:** Not determined.
- **pH** Not applicable.
- **Viscosity:**
- **Kinematic viscosity** Not applicable.
- **Dynamic:** Not applicable.
- **Solubility**
- **water:** Insoluble.
- **Partition coefficient n-octanol/water (log value)** Not determined.
- **Vapour pressure:** Not applicable.

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- **Density and/or relative density**
- **Density at 20 °C:** 7.7-8.3 g/cm³
- **Relative density** Not determined.
- **Vapour density** Not applicable.

- **9.2 Other information**
- **Appearance:**
- **Form:** Solid material
Wires / rods

- **Important information on protection of health and environment, and on safety.**
- **Ignition temperature:** Product is not selfigniting
- **Explosive properties:** Product does not present an explosion hazard
- **Change in condition**
- **Evaporation rate** Not applicable.

- **Information with regard to physical hazard classes**
- **Explosives** Void
- **Flammable gases** Void
- **Aerosols** Void
- **Oxidising gases** Void
- **Gases under pressure** Void
- **Flammable liquids** Void
- **Flammable solids** Void
- **Self-reactive substances and mixtures** Void
- **Pyrophoric liquids** Void
- **Pyrophoric solids** Void
- **Self-heating substances and mixtures** Void
- **Substances and mixtures, which emit flammable gases in contact with water** Void
- **Oxidising liquids** Void
- **Oxidising solids** Void
- **Organic peroxides** Void
- **Corrosive to metals** Void
- **Desensitised explosives** Void

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions**
No hazardous reactions when stored and handled according to prescribed instructions.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:**
Acids
Humidity
- **10.6 Hazardous decomposition products:**
Welding, cutting, sawing, grinding or surface treatment can generate dust or fumes from metal oxides.

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SECTION 11: Toxicological information

· **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**

· **Acute toxicity** Based on available data, the classification criteria are not met.

· **LD/LC50 values relevant for classification:**

7439-89-6 iron

Oral LD-50 30 mg/kg (Rat)

7439-96-5 manganese

Oral LD-50 9,000 mg/kg (Rat)

7440-21-3 silicon

Oral LD-50 3,160 mg/kg (Rat)

7440-48-4 cobalt

Oral LD-50 6,170 mg/kg (Rat)

· **Primary irritant effect:**

· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.

· **Serious eye damage/irritation**

Due to the product composition slight irritations of the eyes cannot be excluded.

· **Respiratory or skin sensitisation**

The actual product has no toxicity. During welding, cutting and machining, fumes and dust are produced, the composition of which depends on many influences, e.g. base material, welding processes, etc. Other conditions that can influence the fume composition are Substances on the base material surface, number of welders and room volume of the environment, quality and size of ventilation.

Contains sensitizing agents in small amounts.

· **Carcinogenicity** May cause cancer. Route of exposure: Inhalation.

· **Additional toxicological information:**

It is the responsibility of the user to comply with the laws on health protection and accident prevention in the workplace.

The assessment of the welder's potential exposure must be carried out by a competent person. This can carry out air concentration measurements.

· **Information on likely routes of exposure**

Inhalation: minor overexposure to welding fumes may cause metal fume fever, dizziness, illness, dehydration and nose/throat/eye irritation; it can also exacerbate pre-existing respiratory conditions such as asthma and emphysema. Copper welding and arc soldering can produce ozone.

Overexposure to ozone could be an irritant to the mucous membrane, and could also be the cause of irritation, congestion and oedema. Soldering on galvanised sheet metal can form zinc oxide and copper oxide.

· **11.2 Information on other hazards**

· **Endocrine disrupting properties**

None of the ingredients is listed.

SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:** No further relevant information available.

· **12.2 Persistence and degradability** No further relevant information available.

· **12.3 Bioaccumulative potential** No further relevant information available.

· **12.4 Mobility in soil** No further relevant information available.

· **12.5 Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **12.6 Endocrine disrupting properties**

The product does not contain substances with endocrine disrupting properties.

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- **12.7 Other adverse effects** No further relevant information available.
- **Additional ecological information:**
- **COD-value:** not available
- **BOD5-value:** not available
- **General notes:** Not hazardous for water.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system. After prior treatment product has to be disposed of in an incinerator for hazardous waste adhering to the regulations pertaining to the disposal of particularly hazardous waste.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

- **14.1 UN number or ID number**
- **ADR, IMDG, IATA** Void
- **14.2 UN proper shipping name**
- **ADR, IMDG, IATA** Void
- **14.3 Transport hazard class(es)**
- **ADR, IATA**
- **Class** Void
- **14.4 Packing group**
- **ADR, IMDG, IATA** Void
- **14.5 Environmental hazards:** Not applicable.
- **14.6 Special precautions for user** Not applicable.
- **14.7 Maritime transport in bulk according to IMO instruments** Not applicable.
- **Transport/Additional information:** Not dangerous according to the above specifications.
- **UN "Model Regulation":** Void

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Poisons Act**
- **Regulated explosives precursors**
None of the ingredients is listed.
- **Regulated poisons**
None of the ingredients is listed.
- **Reportable explosives precursors**
None of the ingredients is listed.
- **Reportable poisons**
None of the ingredients is listed.
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the GB CLP regulation.

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· **Hazard pictograms**



GHS08

· **Signal word** Danger

· **Hazard-determining components of labelling:**

nickel
cobalt

· **Hazard statements**

H350 May cause cancer. Route of exposure: Inhalation.

· **Precautionary statements**

- P101 If medical advice is needed, have product container or label at hand.
- P102 Keep out of reach of children.
- P103 Read carefully and follow all instructions.
- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
- P308+P313 IF exposed or concerned: Get medical advice/attention.
- P405 Store locked up.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **National regulations:**

· **Information about limitation of use:**

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.

· **Waterhazard class:** Not hazardous for water.

· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

- H250 Catches fire spontaneously if exposed to air.
- H252 Self-heating in large quantities; may catch fire.
- H260 In contact with water releases flammable gases which may ignite spontaneously.
- H302 Harmful if swallowed.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H341 Suspected of causing genetic defects.
- H350 May cause cancer.
- H351 Suspected of causing cancer.
- H360F May damage fertility.
- H372 Causes damage to organs through prolonged or repeated exposure.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.
- H413 May cause long lasting harmful effects to aquatic life.

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Contact:

Mr. Robert Lahnsteiner
Tel: +49 9951 69059-0
E-mail: Robert.Lahnsteiner@migal.co

Abbreviations and acronyms:

ADR: Accord relatif au transport international des marchandises dangereuses par route (Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (UK REACH)
PNEC: Predicted No-Effect Concentration (UK REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Pyr. Sol. 1: Pyrophoric solids – Category 1
Self-heat. 2: Self-heating substances and mixtures – Category 2
Water-react. 1: Substances and mixtures which in contact with water emit flammable gases – Category 1
Acute Tox. 4: Acute toxicity – Category 4
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Resp. Sens. 1: Respiratory sensitisation – Category 1
Skin Sens. 1: Skin sensitisation – Category 1
Muta. 2: Germ cell mutagenicity – Category 2
Carc. 1B: Carcinogenicity – Category 1B
Carc. 2: Carcinogenicity – Category 2
Repr. 1B: Reproductive toxicity – Category 1B
STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard – Category 4
