

## Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 29.10.2024

Version number 6 (replaces version 5)

Revision: 29.10.2024

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

#### 1.1 Product identifier

**Product range:** ROBODUR

*Product name*

ROBODUR K 250-G, ROBODUR K 350-G, ROBODUR K 400-G, ROBODUR K 450-G, ROBODUR K 600-G, ROBODUR K 650-G, ROBODUR K CERAMIC-G, ROBODUR K R40-G, ROBODUR K R46-G, ROBODUR K R47-G, ROBODUR K R58-G, ROBODUR F 600, ROBODUR F CERAMIC, ROBODUR K 401, ROBODUR K 550

*Product type* Cored wire for hardfacing by arc welding

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified relevant use: Arc welding of metallic materials [SU15]

Uses not recommended: Welding assembly: Other uses than welding

Reason why uses advised against: Mechanically unsafe

**Application of the substance / the mixture** Welding

#### 1.3 Details of the supplier of the safety data sheet

**Manufacturer/Supplier:**

Welding Alloys France SAS

22 rue des Américains, Holtzwhir

68320 PORTE DU RIED

FRANCE

Tel : +33(0)3.89.78.63.00

Fax : +33(0)3.89.47.40.00

Person responsible for this safety data sheet: [ibra.diop@welding-alloys.com](mailto:ibra.diop@welding-alloys.com)

#### 1.4 Emergency telephone number

24 hours a day, 7 days a week

ORFILA (INRS) : + 33 (0)1 45 42 59 59

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No 1272/2008**

The hazards below are those related to the powders contained in the core. The user is not exposed to them because they are trapped in a metal sheath.

Eye Irrit. 2 H319 Causes serious eye irritation.

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin Sens. 1 H317 May cause an allergic skin reaction.

Muta. 2 H341 Suspected of causing genetic defects.

## Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 29.10.2024

Version number 6 (replaces version 5)

Revision: 29.10.2024

---

### Product range: ROBODUR

---

STOT SE 2 H371 May cause damage to organs.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

### 2.2 Label elements

#### Labelling according to Regulation (EC) No 1272/2008

The cored wires are in compact form and can therefore be considered as solid metals or alloys. As such, they are subject to an exemption from the labelling obligation according to the regulation (EC) 1272/2008 (Article 23 and Annex I).

The product is classified and labelled according to the CLP regulation.

#### Hazard pictograms



GHS08

**Signal word** Danger

#### Hazard-determining components of labelling

chromium  
manganese  
vanadium

#### Hazard statements

H319 Causes serious eye irritation.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

H341 Suspected of causing genetic defects.

H371 May cause damage to organs.

H373 May cause damage to organs through prolonged or repeated exposure.

#### Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

P284 [In case of inadequate ventilation] wear respiratory protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P405 Store locked up.

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

---

## Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 29.10.2024

Version number 6 (replaces version 5)

Revision: 29.10.2024

**Product range: ROBODUR**

### 2.3 Other hazards

Any powder that escapes from the core should not be ingested, although it is mostly composed of physiologically inert materials.

Arc welding involves the following hazards:

Fumes and smoke are dangerous to health if the threshold limit value (TLV) in air of any of their components is exceeded (see sections 8 and 11). Symptoms, which may be delayed, can vary from mild discomfort or irritation to severe poisoning, respiratory and pulmonary difficulties, culminating in death. Electrocution may burn or kill. Radiation from the arc may burn eyes and skin; the noise may damage hearing.

These effects do not become apparent immediately, so appropriate protection is essential at all times.

Sparks and spatter may cause injuries. Hot workpieces may cause burns. Welding processes may start a fire or cause an explosion. Hot slag from the weld may jump into the air unexpectedly.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

**Description:** Mixture of substances listed below with nonhazardous additions.

Dangerous components:		
CAS: 7440-47-3 EINECS: 231-157-5 Reg.nr.: 01-2119485652-31-0039	chromium ☠ Resp. Sens. 1, H334; Muta. 2, H341; STOT SE 2, H371; ☠ Eye Irrit. 2, H319; Skin Sens. 1, H317	2-10%
CAS: 7439-98-7 EINECS: 231-107-2	molybdenum ☠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335 PBT; vPvB	0-3.5%
CAS: 7439-96-5 EINECS: 231-105-1	manganese ☠ Flam. Sol. 2, H228; ☠ STOT SE 1, H370; STOT RE 1, H372; ☠ Eye Irrit. 2, H319; Aquatic Chronic 4, H413	0.5-3%
CAS: 7440-21-3 EINECS: 231-130-8	silicon ☠ Flam. Sol. 2, H228; ☠ Eye Irrit. 2, H319	0.5-3%
CAS: 7440-33-7 EINECS: 231-143-9	tungsten ☠ Eye Irrit. 2, H319; STOT SE 3, H335	0-2%
CAS: 7440-32-6 EINECS: 231-142-3	titanium ☠ Pyr. Sol. 1, H250; Self-heat. 1, H251	0-1%
CAS: 7440-62-2 EINECS: 231-171-1	vanadium ☠ STOT RE 1, H372; ☠ Skin Irrit. 2, H315	0-1%

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

## Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 29.10.2024

Version number 6 (replaces version 5)

Revision: 29.10.2024

**Product range: ROBODUR**

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

**General information:**

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

**After inhalation:**

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

Immediately remove the victim from the polluted atmosphere, as long as this is possible without risk to the rescuers. If breathing has stopped, begin resuscitation immediately and continue until specialized help arrives. If the effect are less serious (difficulty breathing, fainting), move the victim to a quiet, warm and well-ventilated area. Take care of the victim as for shock effects and call a doctor.

**After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

In case of burns: Avoid contamination of the burn. Mild burns can be treated by cooling with clean water or by applying freely available medication. Severe burns require immediate medical attention.

**After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

In case of burns, consult a doctor immediately.

**After swallowing:** Not usually applicable.

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

In case of contact with the product: irritations, allergies.

In case of exposure to welding fumes: fainting, vertigo, breathing difficulties, dizziness, death in extreme circumstances.

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

Electrical burns should be treated in a specialized medical setting.

### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

**Suitable extinguishing agents:**

Use fire extinguishing methods suitable to surrounding conditions.

Turn off all sources of electricity and avoid the use of water near connected electrical circuits. Otherwise, any suitable extinguishing media can be used.

## Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 29.10.2024

Version number 6 (replaces version 5)

Revision: 29.10.2024

**Product range: ROBODUR**

### 5.2 Special hazards arising from the substance or mixture

During heating or in case of fire poisonous gases are produced.

### 5.3 Advice for firefighters

**Protective equipment:** Mouth respiratory protective device.

## SECTION 6: Accidental release measures

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

Mount respiratory protective device.

Wear personal protective equipment as described in Section 8.

### 6.2 Environmental precautions

No special measures required.

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

Ensure adequate ventilation.

Let it cool, collect and dispose of as metal waste as described in Section 13.

### 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

Ensure good ventilation/exhaustion at the workplace.

Read the safety information on the label before use. Wear personal protective equipment (gown, gloves, safety shoes) when handling the product.

The wire is wound with very high tension: beware of injuries caused by moving wire ends when the wire is cut or released.

**Information about fire - and explosion protection:** Keep respiratory protective device available.

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

**Storage:**

*Requirements to be met by storerooms and receptacles* No special requirements.

*Information about storage in one common storage facility*

Protect from acids, oxidizing and corrosive materials with which it may react.

## Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 29.10.2024

Version number 6 (replaces version 5)

Revision: 29.10.2024

**Product range: ROBODUR**

*Further information about storage conditions* None.

### 7.3 Specific end use(s)

Before working with this product, welders and operators must undergo appropriate training, preferably nationally recognized, and must be fully aware of the risks.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

**Ingredients with limit values that require monitoring at the workplace:**

#### CAS: 7440-47-3 chromium

IOELV (EU)	Long-term value: 2 mg/m <sup>3</sup> as Cr
WES (Australia)	Long-term value: 0.5 mg/m <sup>3</sup>
AGW (Germany)	Long-term value: 2 E mg/m <sup>3</sup> 1(l);10, EU
VLEP (France)	Long-term value: 2 mg/m <sup>3</sup> en Cr
WEL (Great Britain)	Long-term value: 0.5 mg/m <sup>3</sup>
PEL (USA)	Long-term value: 1 mg/m <sup>3</sup>
REL (USA)	Long-term value: 0.5* mg/m <sup>3</sup> *metal+inorg.compds.as Cr;See Pocket Guide App. C
TLV (USA)	Long-term value: 0.003* 0.5** mg/m <sup>3</sup> inh. fraction, *as Cr(III): A4, **metal

#### CAS: 7439-98-7 molybdenum

WES (Australia)	Long-term value: 10* 5** mg/m <sup>3</sup> as Mo; *insoluble comp.;**soluble comp.
MAK (Germany)	vgl.Abschn.IIb und XII
PEL (USA)	Long-term value: 15* mg/m <sup>3</sup> *Total dust, as Mo
TLV (USA)	Long-term value: 10* 3** mg/m <sup>3</sup> as Mo; *inhalable fraction ** respirable fraction

#### CAS: 7439-96-5 manganese

IOELV (EU)	Long-term value: 0.2* 0.05** mg/m <sup>3</sup> as Mn; *inhalable, **respirable fraction
WES (Australia)	Short-term value: 3** mg/m <sup>3</sup> Long-term value: 1* 1** mg/m <sup>3</sup> as Mn; *dust and compounds;**fume

## Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 29.10.2024

Version number 6 (replaces version 5)

Revision: 29.10.2024

### Product range: ROBODUR

AGW (Germany)	Long-term value: 0.02A; 0.2E mg/m <sup>3</sup> 8(II);DFG,Y,10, 20
VLEP (France)	Long-term value: 0.05* 0.20** mg/m <sup>3</sup> *fraction alvéolaire **inhalable; en manganèse
WEL (Great Britain)	Long-term value: 0.2* 0.05** mg/m <sup>3</sup> as Mn *inhalable fraction **respirable fraction
PEL (USA)	Ceiling limit: 5 mg/m <sup>3</sup> as Mn
REL (USA)	Short-term value: 3 mg/m <sup>3</sup> Long-term value: 1 mg/m <sup>3</sup> fume, as Mn
TLV (USA)	Long-term value: 0.02* 0.1** mg/m <sup>3</sup> as Mn; A4, *respirable **inhalable fraction
<b>CAS: 7440-21-3 silicon</b>	
WES (Australia)	Long-term value: 10 mg/m <sup>3</sup> inhalable dust
VLEP (France)	Long-term value: 10 mg/m <sup>3</sup>
WEL (Great Britain)	Long-term value: 10* 4** mg/m <sup>3</sup> *inhalable dust **respirable dust
PEL (USA)	Long-term value: 15* 5** mg/m <sup>3</sup> *total dust **respirable fraction
REL (USA)	Long-term value: 10* 5** mg/m <sup>3</sup> *total dust **respirable fraction
TLV (USA)	TLV withdrawn
<b>CAS: 7440-33-7 tungsten</b>	
WES (Australia)	Short-term value: 10 mg/m <sup>3</sup> Long-term value: 5 mg/m <sup>3</sup> as W
MAK (Germany)	vgl.Abschn.IIb
WEL (Great Britain)	Short-term value: 10 mg/m <sup>3</sup> Long-term value: 5 mg/m <sup>3</sup> as W
PEL (USA)	and insoluble compounds, as We
REL (USA)	Short-term value: 10 mg/m <sup>3</sup> Long-term value: 5 mg/m <sup>3</sup> as W

## Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 29.10.2024

Version number 6 (replaces version 5)

Revision: 29.10.2024

**Product range: ROBODUR**

TLV (USA)	Long-term value: 3* mg/m <sup>3</sup> as W; * respirable fraction
<b>CAS: 7440-62-2 vanadium</b>	
MAK (Germany)	Long-term value: 0.005E ppm einatembare Fraktion; als V
<b>CAS: 59766-31-3 Titanate de potassium</b>	
MAK (Germany)	vgl. Abschn. III

*Ingredients with biological limit values*

<b>CAS: 7440-47-3 chromium</b>	
BEI (USA)	0.7 µg/L Medium: urine Time: end of shift at end of workweek Parameter: Total chromium (population based)
<b>CAS: 7439-96-5 manganese</b>	
BGW (Germany)	20 µg/l Untersuchungsmaterial: Vollblut Probennahmezeitpunkt: bei Langzeitexposition: am Schichtende nach mehreren vorangegangenen Schichten, Expositionsende bzw. Schichtende Parameter: Mangan

*Additional Occupational Exposure Limit Values for possible hazards during processing*

<b>CAS: 1309-37-1 diiron trioxide</b>	
WES (Australia)	Long-term value: 5 mg/m <sup>3</sup>
AGW (Germany)	Long-term value: 1.25* 10** mg/m <sup>3</sup> 2(II);*alveolengängig**einatembare; AGS, DFG, Y
VLEP (France)	Long-term value: 5 mg/m <sup>3</sup>
WEL (Great Britain)	Short-term value: 10* mg/m <sup>3</sup> Long-term value: 5* 10** 4*** mg/m <sup>3</sup> *fume (as Fe), **total respirable, ***respirable
PEL (USA)	Long-term value: 10* mg/m <sup>3</sup> *Fume
REL (USA)	Long-term value: 5 mg/m <sup>3</sup> Dust & fume, as Fe
TLV (USA)	Long-term value: 5* mg/m <sup>3</sup> *Respirable particulate matter, A4



## Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 29.10.2024

Version number 6 (replaces version 5)

Revision: 29.10.2024

### Product range: ROBODUR

<b>CAS: 1333-82-0 chromium (VI) trioxide</b>	
BOELV (EU)	Long-term value: 0.005; 0.01*; 0.025** mg/m <sup>3</sup> as Cr; *until 01/17/2025**processes generating fume
WES (Australia)	Long-term value: 0.05 mg/m <sup>3</sup> Sen, as Cr
MAK (Germany)	einatembare Fr.; vgl.Abschn. XII
TRGS 910 (Germany)	Short-term value: 0.001 (E) mg/m <sup>3</sup> 8, Konzentrationen beziehen sich auf Cr-Gehalt
VLEP (France)	Short-term value: 0.005 mg/m <sup>3</sup> Long-term value: 0.001 mg/m <sup>3</sup> en Cr; C1, C2 ou C3
WEL (Great Britain)	Long-term value: 0.01 0.025* mg/m <sup>3</sup> as Cr; Carc, Sen, BMGV; *process generated
PEL (USA)	Long-term value: 0.005* mg/m <sup>3</sup> Ceiling limit: 0.1** mg/m <sup>3</sup> *as Cr(VI) **as CrO <sub>3</sub> ; see 29 CFR 1910.1026
REL (USA)	Long-term value: 0.0002 mg/m <sup>3</sup> as Cr; See Pocket Guide Apps. A and C
TLV (USA)	Short-term value: 0.0005 mg/m <sup>3</sup> Long-term value: 0.0002 mg/m <sup>3</sup> as Cr(VI); A1; inhalable, Skin; BEI, DSEN, RSEN

**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*

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

It is preferable to carry out welding operations in a specific workshop equipped with all the necessary measures for the protection of workers and others: vacuum tables and hoods, permanent walls, protective screens, emergency devices. If such a location is not available, every possible precaution against the hazards described in section 2 "hazards identification" must be taken before resorting to personal protective measures. Such precautions normally include: general or arc level vacuum so that the smoke exposure limit is not exceeded, temporary curtains or walls around the welding area, the verification of the good working order and the quality of the connections of the electrical equipment and particularly the grounding, protection or removal of flammable materials within 10 meters of the arc.

## Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 29.10.2024

Version number 6 (replaces version 5)

Revision: 29.10.2024

### Product range: ROBODUR

Wear durable, insulating, flame retardant, dry, hole-free gloves and clothing.

Wear safety shoes.

Wear a safety harness if working at height.

Wear noise-cancelling headphones or earplugs when the noise level is high.

Warn observers not to approach or look directly at the arc.

Do not eat or drink at the welding site.

Wash hands and face before leaving.

#### *Respiratory protection*

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*



Protective gloves

Wear gloves suitable for welding.

#### *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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

#### *Penetration time of glove material*

Cored wires are considered as solid metals or alloys. In their wire form, there is no risk of penetration through the gloves.

#### *Eye/face protection*



Tightly sealed goggles

**Body protection** Wear a welding helmet or a mask with an appropriate grade of eye filter.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### General Information

*Physical state*

Solid

*Colour*

Grey

## Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 29.10.2024

Version number 6 (replaces version 5)

Revision: 29.10.2024

### Product range: ROBODUR

<i>Odour</i>	Odourless
<i>Odour threshold</i>	Not determined.
<i>Melting point/freezing point</i>	Undetermined.
<i>Boiling point or initial boiling point and boiling range</i>	Undetermined.
<i>Flammability</i>	Not determined.
<i>Lower and upper explosion limit</i>	
<i>Lower</i>	Not determined.
<i>Upper</i>	Not determined.
<i>Flash point:</i>	Not applicable.
<i>Decomposition temperature</i>	Not determined.
<i>pH</i>	Mixture is non-soluble (in water).
<i>Viscosity:</i>	
<i>Kinematic viscosity</i>	Not applicable.
<i>Dynamic</i>	Not applicable.
<i>Solubility</i>	
<i>water</i>	Insoluble.
<i>Partition coefficient n-octanol/water (log value)</i>	Not determined.
<i>Vapour pressure:</i>	Not applicable.
<i>Density and/or relative density</i>	
<i>Density:</i>	Not determined.
<i>Relative density</i>	Not determined.
<i>Vapour density</i>	Not applicable.
<i>Particle characteristics</i>	See section 3.
<b>9.2 Other information</b>	
<b>Appearance</b>	
<i>Form</i>	Cored wire
<b>Important information on protection of health and environment, and on safety.</b>	
<i>Ignition temperature:</i>	Product is not selfigniting.
<i>Explosive properties:</i>	Product does not present an explosion hazard.
<i>Solvent content:</i>	
<i>Solids content</i>	100.0 %
<b>Change in condition</b>	
<i>Evaporation rate</i>	Not applicable.
<b>Information with regard to physical hazard classes</b>	
<i>Explosives</i>	Void
<i>Flammable gases</i>	Void

## Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 29.10.2024

Version number 6 (replaces version 5)

Revision: 29.10.2024

### Product range: ROBODUR

<i>Aerosols</i>	Void
<i>Oxidising gases</i>	Void
<i>Gases under pressure</i>	Void
<i>Flammable liquids</i>	Void
<i>Flammable solids</i>	Void
<i>Self-reactive substances and mixtures</i>	Void
<i>Pyrophoric liquids</i>	Void
<i>Pyrophoric solids</i>	Void
<i>Self-heating substances and mixtures</i>	Void
<i>Substances and mixtures, which emit flammable gases in contact with water</i>	Void
<i>Oxidising liquids</i>	Void
<i>Oxidising solids</i>	Void
<i>Organic peroxides</i>	Void
<i>Corrosive to metals</i>	Void
<i>Desensitised explosives</i>	Void

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

May corrode in humid conditions.

Reacts with strong acids, which may release flammable gases.

### 10.2 Chemical stability

#### Thermal decomposition / conditions to be avoided:

Stable under conditions of storage and use at normal ambient temperatures (-40°C to +40°C).

**10.3 Possibility of hazardous reactions** No dangerous reactions known.

**10.4 Conditions to avoid** No further relevant information available.

**10.5 Incompatible materials** No further relevant information available.

**10.6 Hazardous decomposition products** Flammable gases/vapours

## 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.

## Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 29.10.2024

Version number 6 (replaces version 5)

Revision: 29.10.2024

**Product range: ROBODUR**

### LD/LC50 values relevant for classification

**CAS: 7439-96-5 manganese**

Oral LD50 9000 mg/kg (rat)

**CAS: 7440-21-3 silicon**

Oral LD50 3160 mg/kg (rat)

### Primary irritant effect

**Skin corrosion/irritation** Based on available data, the classification criteria are not met.**Serious eye damage/irritation** Causes serious eye irritation.

### Respiratory or skin sensitisation

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

**Germ cell mutagenicity** Suspected of causing genetic defects.

### Carcinogenicity

Data on the toxic effects of welding fumes as a mixture are not available. The composition of the fumes may change with the welding conditions. The International Agency for Research on Cancer (IARC) has classified welding fumes as a Group 2B (possible carcinogen).

Based on available data, the classification criteria are not met.

**Reproductive toxicity** Based on available data, the classification criteria are not met.**STOT-single exposure** May cause damage to organs.**STOT-repeated exposure** May cause damage to organs through prolonged or repeated exposure.**Aspiration hazard** Based on available data, the classification criteria are not met.

## 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

This product is expected to degrade slowly through metallic corrosion processes. Test results are not available.

## Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 29.10.2024

Version number 6 (replaces version 5)

Revision: 29.10.2024

**Product range: ROBODUR****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:**

CAS: 7439-98-7 molybdenum

**vPvB:**

CAS: 7439-98-7 molybdenum

**12.6 Endocrine disrupting properties**

The product does not contain substances with endocrine disrupting properties.

**12.7 Other adverse effects****Additional ecological information:***General notes*

Not hazardous for water.

At present there are no ecotoxicological assessments.

**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Recommendation**

Welding wire and metal: recycle if possible, otherwise scrap. Do not throw in the garbage or discharge into the sewer system.

Welding slag: landfill.

Packaging: incinerate or landfill.

**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

not regulated

## Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 29.10.2024

Version number 6 (replaces version 5)

Revision: 29.10.2024

**Product range: ROBODUR**

<b>14.2 UN proper shipping name</b>	
ADR, IMDG, IATA	not regulated
<b>14.3 Transport hazard class(es)</b>	
ADR, ADN, IMDG, IATA	
<i>Class</i>	not regulated
<b>14.4 Packing group</b>	
ADR, IMDG, IATA	not regulated
<b>14.5 Environmental hazards</b>	See section 12.
<b>14.6 Special precautions for user</b>	Not applicable.
<b>14.7 Maritime transport in bulk according to IMO instruments</b>	Not applicable.
UN "Model Regulation":	not regulated

### SECTION 15: Regulatory information

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

##### Directive 2012/18/EU

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

##### DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II

None of the ingredients is listed.

##### REGULATION (EU) 2019/1148

*Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))*

None of the ingredients is listed.

*Annex II - REPORTABLE EXPLOSIVES PRECURSORS*

None of the ingredients is listed.

## Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 29.10.2024

Version number 6 (replaces version 5)

Revision: 29.10.2024

**Product range: ROBODUR**

*Regulation (EC) No 273/2004 on drug precursors*

None of the ingredients is listed.

*Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors*

None of the ingredients is listed.

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

### SECTION 16: Other information

These specifications are based on our current state of knowledge, but do not constitute a guarantee of product properties and do not give rise to a contractual legal relationship.

This welding consumable is designed and marketed for use under appropriate arc welding conditions. WELDING ALLOYS assumes no responsibility for accidents, damage, loss or any other contingency that results from unintended use. It is essential to select a welding consumable that is suitable for the intended work: the wrong choice will result in poor quality welds. It is necessary to weld using the correct parameters as indicated on the data sheet. Consult us for advice. Welding wires should not replace solid wires in electrical, mechanical, medical or food applications.

Only persons who have completed appropriate nationally recognized welding training and who are aware of the hazards should weld with this product.

*Relevant phrases*

H228 Flammable solid.

H250 Catches fire spontaneously if exposed to air.

H251 Self-heating: may catch fire.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335 May cause respiratory irritation.

H341 Suspected of causing genetic defects.

H370 Causes damage to organs.

H371 May cause damage to organs.

H372 Causes damage to organs through prolonged or repeated exposure.

H413 May cause long lasting harmful effects to aquatic life.



**Safety data sheet**

according to Regulation (EC) No 1907/2006, Article 31

Printing date 29.10.2024

Version number 6 (replaces version 5)

Revision: 29.10.2024

**Product range: ROBODUR****Classification according to Regulation (EC) No 1272/2008**

Serious eye damage/irritation Respiratory sensitisation Skin sensitisation Germ cell mutagenicity Specific target organ toxicity (single exposure) Specific target organ toxicity (repeated exposure)	The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.
--	--

**Department issuing SDS:** Service protection de l'environnement**Contact:** -**Date of previous version:** 25.07.2024**Version number of previous version:** 5**Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European 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)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Sol. 2: Flammable solids – Category 2

Pyr. Sol. 1: Pyrophoric solids – Category 1

Self-heat. 1: Self-heating substances and mixtures – Category 1

Skin Irrit. 2: Skin corrosion/irritation – Category 2

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

STOT SE 1: Specific target organ toxicity (single exposure) – Category 1

STOT SE 2: Specific target organ toxicity (single exposure) – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard – Category 4

**\* Data compared to the previous version altered.**

## Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31

Printing date 29.10.2024

Version number 6 (replaces version 5)

Revision: 29.10.2024

**Product range: ROBODUR**

### Annex: Exposure scenario

#### Description of the activities / processes covered in the Exposure Scenario

See section 1 of the annex to the Safety Data Sheet.

#### Conditions of use

**Duration and frequency** 5 workdays/week.

#### Physical parameters

**Physical state** Solid

**Concentration of the substance in the mixture** The substance is main component.

#### Other operational conditions

**Other operational conditions affecting environmental exposure** No special measures required.

**Other operational conditions affecting worker exposure**

Avoid contact with eyes.

Avoid contact with the skin.

Avoid long-term or repeated skin contact.

Avoid breathing particles.

Take precautionary measures against static discharge.

Keep away from sources of ignition - No smoking.

**Other operational conditions affecting consumer exposure** No special measures required.

**Other operational conditions affecting consumer exposure during the use of the product**

Not applicable.

#### Risk management measures

##### Worker protection

**Organisational protective measures** No special measures required.

**Technical protective measures**

Provide explosion-proof electrical equipment.

Ensure that suitable extractors are available on processing machines

**Personal protective measures**

Do not inhale dust / smoke / mist.

Avoid contact with the skin.

Avoid contact with the eyes.

Pregnant women should strictly avoid inhalation or skin contact.

Tightly sealed goggles

Protective gloves

Wear gloves suitable for welding.

**Measures for consumer protection** Ensure adequate labelling.

**Safety data sheet**

according to Regulation (EC) No 1907/2006, Article 31

Printing date 29.10.2024

Version number 6 (replaces version 5)

Revision: 29.10.2024

---

**Product range: ROBODUR**

---

**Environmental protection measures***Water* No special measures required.**Disposal measures** Ensure that waste is collected and contained.**Disposal procedures**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

**Waste type** Partially emptied and uncleaned packaging**Exposure estimation****Consumer** Not relevant for this Exposure Scenario.**Guidance for downstream users** No further relevant information available.

---