Safety data sheet

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

Printing date 29.10.2024 *Version number 2 (replaces version 1)* *Revision: 08.10.2024*

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

1.1 Product identifier

Product range: HARDFACE

Product name BN-O

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

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.

Skin Sens. 1	H317	May cause an allergic skin reaction.
Carc. 2	H351	Suspected of causing cancer. Route of exposure: Inhalation.
STOT SE 2	H371	May cause damage to organs.
STOT RE 2	H373	May cause damage to the respiratory system through prolonged or repeated exposure. Route of exposure: Inhalation.

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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

GHS07 GHS08

Signal word Warning

Hazard-determining components of labelling

boron
manganese
nickel
trisodium hexafluoroaluminate

Hazard statements

H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer. Route of exposure: Inhalation.
H371 May cause damage to organs.
H373 May cause damage to the respiratory system through prolonged or repeated exposure. Route of exposure: Inhalation.

Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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.

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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: consisting of the following components.

Dangerous components:		
CAS: 7440-42-8 EINECS: 231-151-2	boron Carc. 2, H351; STOT RE 1, H372; Acute Tox. 4, H302; Skin Sens. 1, H317	3-6%
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	1-3%
CAS: 7440-02-0 EINECS: 231-111-4 Index number: 028-002-00-7	nickel Carc. 2, H351; STOT RE 1, H372; Skin Sens. 1, H317	1-3%
CAS: 7440-21-3 EINECS: 231-130-8	silicon Flam. Sol. 2, H228; Eye Irrit. 2, H319	0-2%
CAS: 7440-32-6 EINECS: 231-142-3	titanium Pyr. Sol. 1, H250; Self-heat. 1, H251	0-1%
CAS: 7440-44-0 EINECS: 231-153-3	carbon Flam. Sol. 1, H228	0-1%
CAS: 7440-67-7 EINECS: 231-176-9 Index number: 040-001-00-3	zirconium powder (pyrophoric) Pyr. Sol. 1, H250; Water-react. 1, H260	0-1%
CAS: 15096-52-3 EINECS: 239-148-8 Index number: 009-016-00-2	trisodium hexafluoroaluminate STOT RE 1, H372; Aquatic Chronic 2, H411; Acute Tox. 4, H332	0-1%

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

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* 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:
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: 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.

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

Wear protective equipment. Keep unprotected persons away.
Mount respiratory protective device.
Wear personal protective equipment as described in Section 8.

6.2 Environmental precautions

Do not allow to enter sewers/ surface or ground water.

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.

Further information about storage conditions Keep container tightly sealed.

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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: 7440-42-8 boron	
MAK (Germany)	Long-term value: 0.75E mg/m³
CAS: 7439-96-5 manganese	
IOELV (EU)	Long-term value: 0.2* 0.05** mg/m³ as Mn; *inhalable, **respirable fraction
WES (Australia)	Short-term value: 3** mg/m³ Long-term value: 1* 1** mg/m³ as Mn; *dust and compounds;**fume
AGW (Germany)	Long-term value: 0.02A; 0.2E mg/m³ 8(II);DFG,Y,10, 20
VLEP (France)	Long-term value: 0.05* 0.20** mg/m³ *fraction alvéolaire **inhalable; en manganèse
WEL (Great Britain)	Long-term value: 0.2* 0.05** mg/m³ as Mn *inhalable fraction **respirable fraction
PEL (USA)	Ceiling limit: 5 mg/m³ as Mn
REL (USA)	Short-term value: 3 mg/m³ Long-term value: 1 mg/m³ fume, as Mn
TLV (USA)	Long-term value: 0.02* 0.1** mg/m³ as Mn; A4, *respirable **inhalable fraction
CAS: 7440-02-0 nickel	
WES (Australia)	Long-term value: 1 mg/m³ Metal: Sen
AGW (Germany)	Long-term value: 0.006A; 0.030E* mg/m³ 8(II);AGS, 24, Sh, Y, 10*, 31*
VLEP (France)	Long-term value: 1 mg/m³ C2

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WEL (Great Britain)	Long-term value: 0.5 mg/m³ as Ni; Sk; Carc
PEL (USA)	Long-term value: 1 mg/m³
REL (USA)	Long-term value: 0.015 mg/m³ as Ni; See Pocket Guide App. A
TLV (USA)	Long-term value: 1.5* mg/m³ elemental, *inhalable fraction, A5, BEI
CAS: 7440-21-3 silicon	
WES (Australia)	Long-term value: 10 mg/m³ inhalable dust
VLEP (France)	Long-term value: 10 mg/m³
WEL (Great Britain)	Long-term value: 10* 4** mg/m³ *inhalable dust **respirable dust
PEL (USA)	Long-term value: 15* 5** mg/m³ *total dust **respirable fraction
REL (USA)	Long-term value: 10* 5** mg/m³ *total dust **respirable fraction
TLV (USA)	TLV withdrawn
CAS: 12069-32-8 boron carbide	
MAK (Germany)	einatembare Fraktion
CAS: 7440-44-0 carbon	
AGW (Germany)	Long-term value: 1.25* 10** mg/m³ 2(II);*alveolengängig**einatembar; AGS, DFG, Y
WEL (Great Britain)	Long-term value: 10* 4** mg/m³ *inhalable dust **respirable
CAS: 7440-67-7 zirconium powder (pyrophoric)	
WES (Australia)	Short-term value: 10 mg/m³ Long-term value: 5 mg/m³ as Zr
MAK (Germany)	vgl Abschnitt IIb
PEL (USA)	Long-term value: 5 mg/m³ as Zr
REL (USA)	Short-term value: 10 mg/m³ Long-term value: 5 mg/m³ as Zr

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TLV (USA)	Short-term value: 10 mg/m³ Long-term value: 5 mg/m³ as Zr; A4
CAS: 15096-52-3 trisodium hexafluoroaluminate	
WES (Australia)	Long-term value: 2.5 mg/m³ as F
AGW (Germany)	Long-term value: 1 E mg/m³ 4(II);als Fluor berechnet; EU, DFG, Y, H
VLEP (France)	Long-term value: 2.5 mg/m³ en F
PEL (USA)	Long-term value: 2.5 mg/m³ as F
REL (USA)	Long-term value: 2.5 mg/m³ as F

Ingredients with biological limit values	
CAS: 7439-96-5 manganese	
BGW (Germany)	20 µg/l Untersuchungsmaterial: Vollblut Probennahmezeitpunkt: bei Langzeitexposition: am Schichtende nach mehreren vorangegangenen Schichten, Expositionsende bzw. Schichtende Parameter: Mangan
CAS: 7440-02-0 nickel	
BEI (USA)	5 µg/L Medium: urine Time: post-shift at end of workweek Parameter: Nickel (background) 30 µg/L Medium: urine Time: post-shift at end of workweek Parameter: Nickel (background)

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CAS: 15096-52-3 trisodium hexafluoroaluminate	
BGW (Germany)	7.0 mg/g Kreatinin Untersuchungsmaterial: Urin Probennahmezeitpunkt: Expositionsende bzw. Schichtende Parameter: Fluorid 4.0 mg/g Kreatinin Untersuchungsmaterial: Urin Probennahmezeitpunkt: vor nachfolgender Schicht Parameter: Fluorid
BEI (USA)	2 mg/L Medium: urine Time: prior to shift Parameter: Fluoride (background, nonspecific) 3 mg/L Medium: urine Time: end of shift Parameter: Fluoride (background, nonspecific)

Additional Occupational Exposure Limit Values for possible hazards during processing

CAS: 1309-37-1 diiron trioxide	
WES (Australia)	Long-term value: 5 mg/m³
AGW (Germany)	Long-term value: 1.25* 10** mg/m³ 2(II);*alveolengängig**einatembar; AGS, DFG, Y
VLEP (France)	Long-term value: 5 mg/m³
WEL (Great Britain)	Short-term value: 10* mg/m³ Long-term value: 5* 10** 4*** mg/m³ *fume (as Fe),**total respirable,***respirable
PEL (USA)	Long-term value: 10* mg/m³ *Fume
REL (USA)	Long-term value: 5 mg/m³ Dust & fume, as Fe
TLV (USA)	Long-term value: 5* mg/m³ *Respirable particulate matter, A4

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 identifiction" 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.
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
Odour	Odourless
Odour threshold	Not determined.
Melting point/freezing point	Undetermined.
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	Mixture is non-soluble (in water).
Viscosity:	
Kinematic viscosity	Not applicable.
Dynamic	Not applicable.
Solubility	
water	Insoluble.
Partition coefficient n-octanol/water (log value)	Not determined.
Vapour pressure:	Not applicable.
Density and/or relative density	
Density:	Not determined.
Relative density	Not determined.
Vapour density	Not applicable.
Particle characteristics	See section 3.

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9.2 Other information

Appearance	
Form	Cored wire
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.
Solvent content:	
Solids content	100.0 %
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 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.

LD/LC50 values relevant for classification		
CAS: 7440-42-8 boron		
Oral	LD50	650 mg/kg (rat)
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 Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation May cause an allergic skin reaction.

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

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).
Suspected of causing cancer. Route of exposure: Inhalation.

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 the respiratory system through prolonged or repeated exposure. Route of exposure: Inhalation.

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.

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.

12.7 Other adverse effects

Additional ecological information:

General notes
Not hazardous for water.
At present there are no ecotoxicological assessments.

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

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* 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.

REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 27

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.

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.

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Relevant phrases

H228 Flammable solid.
H250 Catches fire spontaneously if exposed to air.
H251 Self-heating: 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.
H332 Harmful if inhaled.
H351 Suspected of causing cancer.
H370 Causes damage to organs.
H372 Causes damage to organs through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.
H413 May cause long lasting harmful effects to aquatic life.

Classification according to Regulation (EC) No 1272/2008	
Skin sensitisation Carcinogenicity 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: 23.01.2023

Version number of previous version: 1

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. 1: Flammable solids – Category 1
Flam. Sol. 2: Flammable solids – Category 2
Pyr. Sol. 1: Pyrophoric solids – Category 1
Self-heat. 1: Self-heating substances and mixtures – Category 1
Water-react. 1: Substances and mixtures which in contact with water emit flammable gases – Category 1
Acute Tox. 4: Acute toxicity – Category 4

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Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Skin Sens. 1: Skin sensitisation – Category 1
Carc. 2: Carcinogenicity – 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 RE 1: Specific target organ toxicity (repeated exposure) – Category 1
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard – Category 4

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

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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

Ensure that suitable extractors are available on processing machines
Provide explosion-proof electrical equipment.

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

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Product range: HARDFACE

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.