CF 18KWS H722 x-Y

Version number: GHS 1.0 Date of compilation: 08.07.2021

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

1.1 Product identifier

x = Percentage of alloy in paste
Y = Particle size (0, 1, 2)

Registration number (REACH) not relevant (mixture)

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

Sector(s) of use: Professional use
Brazing paste
Goods for resale
Welding and soldering products (with flux coatings or flux cores), flux products
Industrial use

Product category/ies: laboratory chemicals

Process category: use as laboratory reagent

Environmental release category/ies: industrial use resulting in manufacture of another substance (use of intermediates)

Uses advised against: Do not use for private purposes (household).

1.3 Details of the supplier of the safety data sheet

C. HAFNER & HILDERBRAND SA
Route de la Galaise 11b
1228 Plan-les-Ouates Genève
PO Box: Switzerland

Telephone: +41 22 349 00 24
Telefax: +41 22 349 02 81
e-Mail: Info@hilderbrand.ch
Website: www.hilderbrand.ch

Additional information

Manufacturer

Country	Name	Postal code/ city	Telephone	Telefax	Website	Opening hours
Switzerland	C. HAFNER & HILDERBRAND SA	1228 Plan-les-Ouates, Geneve	+41-22-349-0024	+41-22-349-0281	www.hilderbrand.ch	Mon - Thu 08:00 - 17:00 Fri 08:00 - 16:00

e-mail (competent person) ls@hilderbrand.ch (Starrenberger Laurent)

1.4 Emergency telephone number

Emergency information service: This number is only for medical emergencies

Opening hours: 24h/24h 7/7

Poison centre

Country	Name	Postal code/ city	Telephone	Website
Switzerland	Tox Info Suisse	8032 Zürich	145	http://toxinfo.ch/startseite_de

1.5 Additional relevant and available information there is no additional information

1.6 Remarks there is no additional information

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

Section	Hazard class	Category	Hazard class and category	Hazard statement
3.4S	skin sensitisation	1	Skin Sens. 1	H317
3.6	carcinogenicity	2	Carc. 2	H351
3.9	specific target organ toxicity - repeated exposure	2	STOT RE 2	H373
4.1C	hazardous to the aquatic environment - chronic hazard	1	Aquatic Chronic 1	H410

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects

Delayed or immediate effects can be expected after short or long-term exposure. Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

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

- Signal word warning

- Pictograms

GHS07, GHS08, GHS09

- Hazard statements

H317	May cause an allergic skin reaction.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H410	Very toxic to aquatic life with long lasting effects.

- Precautionary statements

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P314	Get medical advice/attention if you feel unwell.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P391	Collect spillage.
P501	Dispose of contents/container to industrial combustion plant.

Tactile warning of danger yes

- Hazardous ingredients for labelling nickel powder < 1mm

2.3 Other hazards

Material intended for fusion. During melting, it can produce noxious fumes if inhaled. May produce: pulmonary edema, irritation of the mucous membranes of the nose and throat.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description of the mixture

Hazardous ingredients acc. to GHS

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
White Mineral Oil	CAS No 8042-47-5 EC No 232-455-8 REACH Reg. No 01-2119487078-27-xxxx	10 – < 25	Asp. Tox. 1 / H304	
Zinc	CAS No 7440-66-6 EC No 231-175-3 Index No 030-001-00-1 REACH Reg. No 01-2119467174-37-xxxx	5 – < 10	Aquatic Acute 1 / H400 Aquatic Chronic 1 / H410	
nickel powder < 1mm	CAS No 7440-02-0 EC No 231-111-4 Index No 028-002-01-4 REACH Reg. No 01-2119438727-29-xxxx	5 – < 10	Skin Sens. 1 / H317 Carc. 2 / H351 STOT RE 1 / H372 Aquatic Chronic 3 / H412	
Copper	CAS No 7440-50-8 EC No 231-159-6 REACH Reg. No 01-2119480154-42-xxxx	1 – < 5	Aquatic Acute 1 / H400 Aquatic Chronic 3 / H412	
Silver (< 1 mm)	CAS No 7440-22-4 EC No 231-131-3 REACH Reg. No 01-2119555669-21-0024	1 – < 5	Aquatic Acute 1 / H400 Aquatic Chronic 1 / H410	

Hazardous ingredients acc. to GHS

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
Boric acid	CAS No 10043-35-3 EC No 233-139-2 Index No 005-007-00-2 REACH Reg. No 01-2119486683-25-xxxx	1 – < 5	Repr. 1B / H360FD	

Name of substance	Specific Conc. Limits	M-Factors	ATE	Exposure route
nickel powder < 1mm	-	M-factor (acute) = 100.0	-	
Silver (< 1 mm)	-	M-factor (chronic) = 10.0	-	
Boric acid	Repr. 1B; H360FD: C ≥ 5.5 %	-	-	

For full text of abbreviations: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In case of accident or if you feel unwell, seek medical advice immediately (show the label or safety data sheet where possible). In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

Following skin contact

Wash with plenty of soap and water. Take off immediately all contaminated clothing.

Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Causes serious eye damage.

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water, Foam, ABC-powder, Sand

Unsuitable extinguishing media

Water jet

5.2 Special hazards arising from the substance or mixture

none

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

Wear self-contained breathing apparatus

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Provision of sufficient ventilation. Remove persons to safety. Remove unequipped persons.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains, Take up mechanically

Advice on how to clean up a spill

Take up mechanically.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Personal protective equipment: see section 8. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas. Prevent from heating up above 870 °C. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

- Specific notes/details

Dust deposits may accumulate on all deposition surfaces in a technical room. The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

- Explosive atmospheres

Removal of dust deposits. Store at temperatures not exceeding 30 °C.

Consideration of other advice

- Packaging compatibilities

Keep only in original container. Only packagings which are approved (e.g. acc. to ADR) may be used. Plastic packaging.

7.3 Specific end use(s)

See section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

This information is not available.

Relevant DNELs of components of the mixture

Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Zinc	7440-66-6	DNEL	83 mg/kg bw/day	human, dermal	worker (industry)	chronic - local effects
Zinc	7440-66-6	DNEL	83 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Zinc	7440-66-6	DNEL	5 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
nickel powder < 1mm	7440-02-0	DNEL	0.05 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
nickel powder < 1mm	7440-02-0	DNEL	0.05 mg/m³	human, inhalatory	worker (industry)	chronic - local effects
nickel powder < 1mm	7440-02-0	DNEL	4 mg/m³	human, inhalatory	worker (industry)	acute - local effects
Copper	7440-50-8	DNEL	20 mg/m³	human, inhalatory	worker (industry)	acute - systemic effects
Copper	7440-50-8	DNEL	137 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Copper	7440-50-8	DNEL	273 mg/kg bw/day	human, dermal	worker (industry)	acute - systemic effects
Silver (< 1 mm)	7440-22-4	DNEL	0.1 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
Boric acid	10043-35-3	DNEL	8.3 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects

PT&T Precision Tools & Technology
DENTAL BRANDS AUSTRALIA AJS AUSTRALIAN JEWELLERS SUPPLIES
IMPORTED BY:
PRECISION TOOLS & TECHNOLOGY
57 Caswell Street. East Brisbane. QLD. 4169.
EMERGENCY PHONE: 1300 852 999

Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Boric acid	10043-35-3	DNEL	392 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

Relevant PNECs of components of the mixture

Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
Zinc	7440-66-6	PNEC	20.6 µg/l	aquatic organisms	freshwater	short-term (single instance)
Zinc	7440-66-6	PNEC	6.1 µg/l	aquatic organisms	marine water	short-term (single instance)
Zinc	7440-66-6	PNEC	100 µg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Zinc	7440-66-6	PNEC	117.8 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Zinc	7440-66-6	PNEC	56.5 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Zinc	7440-66-6	PNEC	35.6 mg/kg	terrestrial organisms	soil	short-term (single instance)
Copper	7440-50-8	PNEC	7.8 µg/l	aquatic organisms	freshwater	short-term (single instance)
Copper	7440-50-8	PNEC	5.2 µg/l	aquatic organisms	marine water	short-term (single instance)
Copper	7440-50-8	PNEC	230 µg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Copper	7440-50-8	PNEC	87 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Copper	7440-50-8	PNEC	676 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Copper	7440-50-8	PNEC	65 mg/kg	terrestrial organisms	soil	short-term (single instance)
Silver (< 1 mm)	7440-22-4	PNEC	0.04 µg/l	aquatic organisms	freshwater	short-term (single instance)
Silver (< 1 mm)	7440-22-4	PNEC	0.86 µg/l	aquatic organisms	marine water	short-term (single instance)
Silver (< 1 mm)	7440-22-4	PNEC	0.025 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Silver (< 1 mm)	7440-22-4	PNEC	438.1 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Silver (< 1 mm)	7440-22-4	PNEC	438.1 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Silver (< 1 mm)	7440-22-4	PNEC	1.41 mg/kg	terrestrial organisms	soil	short-term (single instance)
Boric acid	10043-35-3	PNEC	2.9 mg/l	aquatic organisms	freshwater	short-term (single instance)
Boric acid	10043-35-3	PNEC	13.7 mg/l	aquatic organisms	water	intermittent release

Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
Boric acid	10043-35-3	PNEC	10 $^{mg}/_{l}$	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Boric acid	10043-35-3	PNEC	5.7 $^{mg}/_{kg}$	terrestrial organisms	soil	short-term (single instance)
Boric acid	10043-35-3	PNEC	2.9 $^{mg}/_{l}$	aquatic organisms	marine water	short-term (single instance)

8.2 Exposure controls

Appropriate engineering controls

Provision of sufficient ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection. Folow norm EN 166.

Skin protection

Preventive skin protection (barrier creams/ointments) is recommended.

- Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374 and regulation (EU) Nr. 2016/425.

- Type of material

CR: chloroprene (chlorobutadiene) rubber, NBR: acrylonitrile-butadiene rubber

- Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. P3 (filters at least 99,95 % of airborne particles, colour code: White). Type: B (against inorganic gases and vapours, colour code: Grey).

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	solid (waxy)
Colour	grey
Odour	odourless
Melting point/freezing point	770 °C
Boiling point or initial boiling point and boiling range	
Flammability	non-combustible
Lower and upper explosion limit	not determined

Flash point	not determined
Auto-ignition temperature	
Decomposition temperature	not relevant
pH (value)	not determined
Kinematic viscosity	not relevant

Vapour pressure	0.01 kPa at 20 °C

Density and/or relative density

Density	See technical data sheet

Particle characteristics	no data available

9.2 Other information

may intensify fire; oxidiser

Data are conclusive but not sufficient for classification.

Information with regard to physical hazard classes	hazard classes acc. to GHS (physical hazards): not relevant

Other safety characteristics

Temperature class (EU, acc. to ATEX)	T2 (maximum permissible surface temperature on the equipment: 300°C)

SECTION 10: Stability and reactivity

10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

10.2 Chemical stability

See below "Conditions to avoid".

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

Keep away from heat.

Hints to prevent fire or explosion

The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

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

Data apply to the technically active substance. Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification according to GHS (1272/2008/EC, CLP)

Acute toxicity

Shall not be classified as acutely toxic.

GHS of the United Nations, annex 4: May be harmful if swallowed.

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitisation

May cause an allergic skin reaction.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Suspected of causing cancer.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity (STOT)

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

11.2 Information on other hazards

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Very toxic to aquatic life with long lasting effects.

Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Zinc	7440-66-6	LC50	330 $^{\mu g}/_{l}$	fish	95 h
Zinc	7440-66-6	EC50	7.1 $^{mg}/_{l}$	aquatic invertebrates	24 h
nickel powder < 1mm	7440-02-0	ErC50	8,363 $^{\mu g}/_{l}$	fish	40 d

Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
nickel powder < 1mm	7440-02-0	LC50	204 µg/l	aquatic invertebrates	21 d
nickel powder < 1mm	7440-02-0	EC50	406 µg/l	aquatic invertebrates	24 h
nickel powder < 1mm	7440-02-0	EbC50	6.2 µg/l	aquatic invertebrates	30 d
Silver (< 1 mm)	7440-22-4	EC50	0.8 µg/l	aquatic invertebrates	7 d

12.2 Persistence and degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

Bioaccumulative potential of components of the mixture

Name of substance	CAS No	BCF	Log KOW	BOD5/COD
Zinc	7440-66-6	60,960		
nickel powder < 1mm	7440-02-0	26,500		
Silver (< 1 mm)	7440-22-4	70		
Boric acid	10043-35-3		-1.09 (pH value: 7.5, 22 °C)	

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Endocrine disrupting properties

The mixture contains substance(s) with an endocrine disrupting potential.

Endocrine disrupting chemicals (EDC)

Name of substance	CAS No	Combined category	Human health category	Wildlife category
Boric acid	10043-35-3	CAT1	CAT1	CAT2

Legend

CAT1	Category 1 - evidence of endocrine disruption in at least one species using intact animals
CAT2	Category 2 - at least some in vitro evidence of biological activity related to endocrine disruption

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Handle contaminated packages in the same way as the substance itself.

Relevant provisions relating to waste

Properties of waste which render it hazardous

Code.	Characteristics of material.
HP 5	specific target organ toxicity (STOT)/aspiration toxicity
HP 7	carcinogenic
HP 10	toxic for reproduction
HP 14	ecotoxic

Recovery operations

R4 recycling/reclamation of metals and metal compounds

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Assign arising waste to a waste code according to the national list of waste.

SECTION 14: Transport information

14.1 UN number or ID number

ADR/RID/ADN	UN 3077
IMDG-Code	UN 3077
ICAO-TI	UN 3077

14.2 UN proper shipping name

ADR/RID/ADN	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
IMDG-Code	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
ICAO-TI	Environmentally hazardous substance, solid, n.o.s.
Technical name (hazardous ingredients)	Zinc, Copper

14.3 Transport hazard class(es)

ADR/RID/ADN	9
IMDG-Code	9
ICAO-TI	9

14.4 Packing group

ADR/RID/ADN	III
IMDG-Code	III
ICAO-TI	III

14.5 Environmental hazards

hazardous to the aquatic environment

14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - Additional information

Classification code	M7
Danger label(s)	9, fish and tree

Environmental hazards	yes (hazardous to the aquatic environment)
Special provisions (SP)	274, 335, 375, 601
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 kg
Transport category (TC)	3
Tunnel restriction code (TRC)	-
Hazard identification No	90

International Maritime Dangerous Goods Code (IMDG) - Additional information

Marine pollutant	yes (hazardous to the aquatic environment) (Zinc)
Danger label(s)	9, fish and tree

Special provisions (SP)	274, 335, 966, 967, 969
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 kg
EmS	F-A, S-F
Stowage category	A

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Environmental hazards	yes (hazardous to the aquatic environment)
Danger label(s)	9, fish and tree

Special provisions (SP)	A97, A158, A179, A197
Excepted quantities (EQ)	E1
Limited quantities (LQ)	30 kg

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Restrictions according to REACH, Annex XVII

Dangerous substances with restrictions (REACH, Annex XVII)

Name of substance	Name acc. to inventory	CAS No	Restriction	No
nickel powder < 1mm	nickel	7440-02-0	R27	27

Legend

R27 1. Shall not be used:
(a) in any post assemblies which are inserted into pierced ears and other pierced parts of the human body unless the rate of nickel release from such post assemblies is less than 0,2 µg/cm2/week (migration limit);
(b) in articles intended to come into direct and prolonged contact with the skin such as:
- earrings,
- necklaces, bracelets and chains, anklets, finger rings,
- wrist-watch cases, watch straps and tighteners,
- rivet buttons, tighteners, rivets, zippers and metal marks, when these are used in garments,
if the rate of nickel release from the parts of these articles coming into direct and prolonged contact with the skin is greater than 0,5 µg/cm2/week.
(c) in articles referred to in point (b) where these have a non-nickel coating unless such coating is sufficient to ensure that the rate of nickel release from those parts of such articles coming into direct and prolonged contact with the skin will not exceed 0,5 µg/cm2/week for a period of at least two years of normal use of the article.
2. Articles which are the subject of paragraph 1 shall not be placed on the market unless they conform to the requirements set out in that paragraph.
3. The standards adopted by the European Committee for Standardisation (CEN) shall be used as the test methods for demonstrating the conformity of articles to paragraphs 1 and 2.

List of substances subject to authorisation (REACH, Annex XIV) / SVHC - candidate list

Substance of Very High Concern (SVHC)

Name acc. to inventory	CAS No	Listed in	Remarks
boric acid	10043-35-3	Candidate list	Repr. A57c

Legend

candidate list Substances meeting the criteria referred to in Article 57 and for eventual inclusion in Annex XIV
Repr. A57c Toxic for reproduction (article 57c)

Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

none of the ingredients are listed

Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

Pollutant release and transfer registers (PRTR)

Name of substance	CAS No	Remarks	Threshold for releases to air (kg/year)
nickel powder < 1mm	7440-02-0	(8)	50
Zinc	7440-66-6	(8)	200
Copper	7440-50-8	(8)	100

Legend

(8) All metals shall be reported as the total mass of the element in all chemical forms present in the release

Water Framework Directive (WFD)

List of pollutants (WFD)

Name of substance	CAS No	Listed in	Remarks
nickel powder < 1mm	7440-02-0	B)	

Legend
B) List of priority substances in the field of water policy

Regulation on persistent organic pollutants (POP)

None of the ingredients are listed.

National regulations (Germany)

Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (Ordinance on facilities for handling substances hazardous to water) (AwSV)

Wassergefährdungsklasse, WGK (water hazard class) 2 obviously hazardous to water

Storage of hazardous substances in non-stationary containers (TRGS 510) (Germany)

Storage class (LGK) 13 (non-combustible solids)

National inventories

Country	Inventory	Status
EU	REACH Reg.	all ingredients are listed

Legend
REACH Reg. REACH registered substances

15.2 Chemical Safety Assessment

SECTION 16: Other information

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
ADR/RID/ADN	European Agreements concerning the International Carriage of Dangerous Goods by Road/Rail/Inland Waterways (ADR/RID/ADN)
Aquatic Acute	Hazardous to the aquatic environment - acute hazard
Aquatic Chronic	Hazardous to the aquatic environment - chronic hazard
Asp. Tox.	Aspiration hazard
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BOD	Biochemical Oxygen Demand
Carc.	Carcinogenicity

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Abbr.	Descriptions of used abbreviations
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
COD	Chemical oxygen demand
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EbC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LGK	Lagerklasse (storage class according to TRGS 510, Germany)
log KOW	n-Octanol/water
M-factor	Means a multiplying factor. It is applied to the concentration of a substance classified as hazardous to the aquatic environment acute category 1 or chronic category 1, and is used to derive by the summation method the classification of a mixture in which the substance is present
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
Repr.	Reproductive toxicity
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)

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Abbr.	Descriptions of used abbreviations
Skin Sens.	Skin sensitisation
STOT RE	Specific target organ toxicity - repeated exposure
SVHC	Substance of Very High Concern
TRGS	Technische Regeln für GefahrStoffe (technical rules for hazardous substances, Germany)
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Health hazards. Environmental hazards. The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in chapter 2 and 3)

Code	Text
H304	May be fatal if swallowed and enters airways.
H317	May cause an allergic skin reaction.
H351	Suspected of causing cancer.
H360FD	May damage fertility. May damage the unborn child.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.