

according to Regulation (EC) No. 1907/2006 (REACH)

CF 56 H722 E-2

Version number: SDSCH 1.0 Date of compilation: 06.11.2018

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

1.1 Product identifier

Trade name CF 56 H722 E-2 Other names or synonyms CF 56 H722 E-2

Registration number (REACH) not relevant (mixture)

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

Relevant identified uses Welding and soldering product

Industrial use

Welding and soldering products (with flux coat-

ings or flux cores), flux products

Uses advised against For professional users only.

1.3 Details of the supplier of the safety data sheet

C.HAFNER GmbH + Co. KG Maybachstr. 4 71299 Wimsheim Germany

Telephone: +49-704490333-0 Telefax: +49-70449033-40 e-Mail: Website: www.c-hafner.de

Additional information

Manufacturer

Country	Name	Postal code/city	Telephone	Telefax	Website
Switzerland	HILDERBRAND & CIE SA	1226 Thonêx Geneve	+41-22-349-0024	+41-22-349-0281	www.hilderbrand. ch

Supplier of the product

Country	Name	Postal code/city	Telephone	Telefax	Website
Germany	C.HAFNER GmbH + Co. KG	71299 Wimsheim	+49-7044-90333-0	+49-7044-9033-40	www.c-hafner.de

Importer

Country	Name	Postal code/city	Telephone	Telefax	Website
Germany	C.HAFNER GmbH + Co. KG	71299 Wimsheim	+49-7044-90333-0	+49-7044-9033-40	www.c-hafner.de

e-mail (competent person) michael.huber@c-hafner.de (Dr. Michael Huber)

National contact Dr .Michael Huber

Telephone: +49-7231-424021-406 e-mail: Michael.huber@c-hafner.de

1.4 Emergency telephone number

Emergency information service This number is only for medical emergencies

Opening hours 24h-Notrufnummer

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Poison centre

Country	Name	Postal code/cit y	Telephone	Telefax	Website	Opening hours
Germany	Gemeinsames Giftinforma- tionszentrum Erfurt	99089 Er- furt	+49 (0)361- 730 730	0361-73073- 17	ggiz-erfurt.de	Mon - Fri 00:00 - 00:00

1.5 Additional relevant and available 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	Cat- egory	Hazard class and category	Hazard state- ment
4.1A	hazardous to the aquatic environment - acute hazard	1	Aquatic Acute 1	H400
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 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

GHS09



- Hazard statements

H410 Very toxic to aquatic life with long lasting effects.

- Precautionary statements

P273 Avoid release to the environment.

P391 Collect spillage.

P501 Dispose of contents/container to industrial combustion plant.

2.3 Other hazards

Special danger of slipping by leaking/spilling product. Inhalation of dust may cause respiratory irritation.

Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

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SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture)

3.2 Mixtures

Description of the mixture

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
Silver (< 1 mm)	CAS No 7440-22-4	25 - < 50	Aquatic Acute 1 / H400 Aquatic Chronic 1 / H410	**
	EC No 231-131-3			•
	REACH Reg. No 01-2119555669-21- 0024			
White Mineral Oil	CAS No 8042-47-5	10-<25	Asp. Tox. 1 / H304	
	EC No 232-455-8			•
	REACH Reg. No 01-2119487078-27- xxxx			
Copper	CAS No 7440-50-8	10-<25	Aquatic Acute 1 / H400 Aquatic Chronic 3 / H412	*
	EC No 231-159-6			•
	REACH Reg. No 01-2119480154-42- xxxx			
Zinc	CAS No 7440-66-6	10-<25	Aquatic Acute 1 / H400 Aquatic Chronic 1 / H410	*
	EC No 231-175-3			•
	Index No 030-001-00-1			
	REACH Reg. No 01-2119467174-37- xxxx			
Boric acid	CAS No 10043-35-3	1-<5	Repr. 1B / H360FD	***
	EC No 233-139-2			•
	Index No 005-007-00-2			
	REACH Reg. No 01-2119486683-25- xxxx			

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Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
tin	CAS No 7440-31-5 EC No 231-141-8 REACH Reg. No 01-2119486474-28- xxxx	1-<5		

Name of substance	Identifier	Specific Conc. Limits	M-Factors
Silver (< 1 mm)	CAS No 7440-22-4 EC No 231-131-3		M-factor (chronic) = 10.0
Boric acid	CAS No 10043-35-3 EC No 233-139-2	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 all cases of doubt, or when symptoms persist, seek medical advice. 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.

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

Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed

none

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SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray, BC-powder, Carbon dioxide (CO2)

Unsuitable extinguishing media

Water jet

5.2 Special hazards arising from the substance or mixture

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

Remove persons to safety.

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

Advices on how to contain a spill

Covering of drains

Advices on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

Appropriate containment techniques

Use of adsorbent materials.

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. Incompatible materials: see section 10. Disposal considerations: see section 13.

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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.

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

Consideration of other advice

- Packaging compatibilities

Only packagings which are approved (e.g. acc. to ADR) may be used.

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

Occupational exposure limit values (Workplace Exposure Limits)

Coun try	Name of agent	CAS No	Identi- fier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Source
DE	boric acid	10043-35-3	AGW		0.5		1	TRGS 900
DE	boric acid	10043-35-3	MAK		10		10	DFG
DE	silver	7440-22-4	AGW		0.1		0.8	TRGS 900
DE	copper	7440-50-8	MAK		0.01		0.02	DFG
DE	zinc	7440-66-6	MAK		2		4	DFG
DE	zinc	7440-66-6	MAK		0.1		0.4	DFG
DE	white mineral oil (petro- leum)	8042-47-5	MAK		5		20	DFG
DE	white mineral oil (petro- leum)	8042-47-5	AGW		5		20	TRGS 900
EU	silver	7440-22-4	IOELV		0.1			2009/161/EU

Notation

TWA

STEL short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

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Relevant DNELs of components of the mixture

Name of sub- stance	CAS No	End- point	Threshold level	Protection goal, route of expos- ure	Used in	Exposure time
Silver (< 1 mm)	7440-22-4	DNEL	0.1 mg/m ³	human, inhalatory	worker (industry)	chronic - system- ic 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 - system- ic effects
Copper	7440-50-8	DNEL	273 mg/kg bw/day	human, dermal	worker (industry)	acute - systemic effects
Zinc	7440-66-6	DNEL	83 mg/kg bw/day	human, dermal	worker (industry)	chronic - local ef- fects
Zinc	7440-66-6	DNEL	83 mg/kg bw/day	human, dermal	worker (industry)	chronic - system- ic effects
Zinc	7440-66-6	DNEL	5 mg/m³	human, inhalatory	worker (industry)	chronic - system- ic effects
Boric acid	10043-35-3	DNEL	8.3 mg/m ³	human, inhalatory	worker (industry)	chronic - system- ic effects
Boric acid	10043-35-3	DNEL	392 mg/kg bw/day	human, dermal	worker (industry)	chronic - system- ic effects
tin	7440-31-5	DNEL	71 mg/m³	human, inhalatory	worker (industry)	chronic - system- ic effects
tin	7440-31-5	DNEL	10 mg/kg bw/day	human, dermal	worker (industry)	chronic - system- ic effects

8.1.4.5 Relevant PNECs of components of the mixture

Name of sub- stance	CAS No	End- point	Threshold level	Organism	Environment- al compart- ment	Exposure time
Silver (< 1 mm)	7440-22-4	PNEC	0.04 ^{µg} / _I	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 treat- ment plant (STP)	short-term (single instance)
Silver (< 1 mm)	7440-22-4	PNEC	438.1 ^{mg} / _{kg}	aquatic organisms	freshwater sedi- ment	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 organ- isms	soil	short-term (single instance)
Copper	7440-50-8	PNEC	7.8 ^{µg} / _I	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 treat- ment plant (STP)	short-term (single instance)
Copper	7440-50-8	PNEC	87 ^{mg} / _{kg}	aquatic organisms	freshwater sedi- ment	short-term (single instance)
Copper	7440-50-8	PNEC	676 ^{mg} / _{kg}	aquatic organisms	marine sediment	short-term (single instance)

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Name of sub- stance	CAS No	End- point	Threshold level	Organism	Environment- al compart- ment	Exposure time
Copper	7440-50-8	PNEC	65 ^{mg} / _{kg}	terrestrial organ- isms	soil	short-term (single instance)
Zinc	7440-66-6	PNEC	20.6 ^{µg} / _l	aquatic organisms	freshwater	short-term (single instance)
Zinc	7440-66-6	PNEC	6.1 ^{µg} / _I	aquatic organisms	marine water	short-term (single instance)
Zinc	7440-66-6	PNEC	100 ^{µg} / _l	aquatic organisms	sewage treat- ment plant (STP)	short-term (single instance)
Zinc	7440-66-6	PNEC	117.8 ^{mg} / _{kg}	aquatic organisms	freshwater sedi- ment	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 organ- isms	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 re- lease
Boric acid	10043-35-3	PNEC	10 ^{mg} / _l	aquatic organisms	sewage treat- ment plant (STP)	short-term (single instance)
Boric acid	10043-35-3	PNEC	5.7 ^{mg} / _{kg}	terrestrial organ- isms	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

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

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. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits.

- Type of material

NR: natural rubber, latex, CR: chloroprene (chlorobutadiene) rubber, NBR: acrylonitrile-butadiene rubber, FKM: fluoroelastomer

- Other protection measures

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

Respiratory protection

Filtering half mask (EN 149). Adequate particulate filter (EN 143). P3 (filters at least 99,95 % of airborne particles, colour code: White). Anti-dust respirator (FFP3).

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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 Appearance

Physical state	liquid (paste)
Colour	grey
Odour	characteristic

Other safety parameters

pH (value)	not determined
Melting point/freezing point	-15 °C at 101.3 kPa
Initial boiling point and boiling range	not determined
Flash point	not determined
Evaporation rate	not determined
Flammability (solid, gas)	not relevant (fluid)
Explosive limits	not determined
Vapour pressure	0.01 kPa at 20 °C
Density	not determined
Vapour density	this information is not available
Relative density	information on this property is not available
Solubility(ies)	not determined

Partition coefficient

- n-octanol/water (log KOW)	this information is not available
Auto-ignition temperature	325 °C
Viscosity	not determined
Explosive properties	none
Oxidising properties	none

9.2 Other information

Of no significance.

there is no additional information

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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

There are no specific conditions known which have to be avoided.

10.5 Incompatible materials

Oxidisers

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 toxicological effects

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 in contact with skin or if inhaled.

Acute toxicity estimate (ATE) of components of the mixture

Name of substance	CAS No	Exposure route	ATE
Boric acid	10043-35-3	dermal	2,000 ^{mg} / _{kg}

Acute toxicity of components of the mixture

Name of substance	CAS No	Exposure route	Endpoint	Value	Species
Silver (< 1 mm)	7440-22-4	oral	LD50	>2,000 ^{mg} / _{kg}	rat
Silver (< 1 mm)	7440-22-4	dermal	LD50	>2,000 ^{mg} / _{kg}	rat
White Mineral Oil	8042-47-5	oral	LD50	>5,000 ^{mg} / _{kg}	rat
White Mineral Oil	8042-47-5	inhalation: dust/mist	LC50	>5 ^{mg} / _l /4h	rat
White Mineral Oil	8042-47-5	dermal	LD50	>2,000 ^{mg} / _{kg}	rabbit
Copper	7440-50-8	oral	LD50	300 ^{mg} / _{kg}	rat
Copper	7440-50-8	inhalation: dust/mist	LC50	5.11 ^{mg} / _l /4h	rat
Copper	7440-50-8	dermal	LD50	2,000 ^{mg} / _{kg}	rat

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Acute toxicity of components of the mixture

Name of substance	CAS No	Exposure route	Endpoint	Value	Species
Zinc	7440-66-6	oral	LD50	>2,000 ^{mg} / _{kg}	rat
Boric acid	10043-35-3	oral	LD50	>2,600 ^{mg} / _{kg}	rat
Boric acid	10043-35-3	dermal	LD50	>2,000 ^{mg} / _{kg}	rabbit

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

Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity (STOT)

Shall not be classified as a specific target organ toxicant.

Specific target organ toxicity - single exposure

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

Specific target organ toxicity - repeated exposure

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

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 Toxicity

Acc. to 1272/2008/EC: Very toxic to aquatic life with long lasting effects. Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (Ordinance on facilities for handling substances hazardous to water) (AwSV): WGK 3, highly hazardous to water (Germany)

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Silver (< 1 mm)	7440-22-4	LC50	1.2 ^{µg} / _l	fish	96 h
Silver (< 1 mm)	7440-22-4	ErC50	2.52 ^{µg} / _l	algae	72 h
Silver (< 1 mm)	7440-22-4	EC50	0.82 ^{µg} / _l	algae	72 h
White Mineral Oil	8042-47-5	LL50	>100 ^{mg} / _l	fish	96 h
Copper	7440-50-8	LC50	193 ^{µg} / _l	fish	96 h
Zinc	7440-66-6	LC50	439 ^{µg} / _l	fish	96 h

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Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Zinc	7440-66-6	EC50	1,833 ^{µg} / _l	aquatic invertebrates	48 h

Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Silver (< 1 mm)	7440-22-4	EC50	0.8 ^{µg} / _l	aquatic invertebrates	7 d
Zinc	7440-66-6	LC50	330 ^{µg} / _l	fish	95 h
Zinc	7440-66-6	EC50	7.1 ^{mg} / _l	aquatic invertebrates	24 h

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
Silver (< 1 mm)	7440-22-4	70		
Zinc	7440-66-6	60,960		
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 Other adverse effects

Endocrine disrupting potential

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

Endocrine disrupting chemicals (EDC)

Name of substance	CAS No	Combined cat- egory	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

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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. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Relevant provisions relating to waste

Properties of waste which render it hazardous

HP 10 toxic for reproduction

HP 11 mutagenic

HP 14 ecotoxic

- Product

06 04 99 wastes not otherwise specified

- Product residues

06 04 99 wastes not otherwise specified

Packagings

15 01 02 plastic packaging

15 01 10x packaging containing residues of or contaminated by dangerous substances

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.

SECTION 14: Transport information

14.1 UN number 3082

14.2 UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LI-

QUID, N.O.S.

Technical name (hazardous ingredients) Silver (< 1 mm), Copper

14.3 Transport hazard class(es)

Class 9

14.4 Packing group III (substance presenting low danger)

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 Transport in bulk according to Annex II of MARPOL and the IBC Code

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)

UN number 3082

Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LI-

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Classification code M6
Packing group III

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 L
Transport category (TC) 3
Tunnel restriction code (TRC) E
Hazard identification No 90

International Maritime Dangerous Goods Code (IMDG)

UN number 3082

Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LI-

QUID, N.O.S.

Class

Marine pollutant yes (hazardous to the aquatic environment)

Packing group III

Danger label(s) 9, fish and tree

Special provisions (SP) 274, 335, 969

Excepted quantities (EQ) E1
Limited quantities (LQ) 5 L
EmS F-A, S-F

Stowage category A

International Civil Aviation Organization (ICAO-IATA/DGR)

Proper shipping name Environmentally hazardous substance, liquid,

n.o.s.

3082

Class 9

Environmental hazards yes (hazardous to the aquatic environment)

Packing group III

Danger label(s) 9, fish and tree

UN number

Special provisions (SP) A97, A158, A197

Excepted quantities (EQ) E1
Limited quantities (LQ) 30 kg

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according to Regulation (EC) No. 1907/2006 (REACH)

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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)

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 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) - Annex II

none of the ingredients are listed

Regulation 166/2006/EC 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)
Zinc	7440-66-6	(8)	200
Copper	7440-50-8	(8)	100

Legend

Directive 2000/60/EC establishing a framework for Community action in the field of water policy (WFD)

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)

3 highly hazardous to water

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

Storage class (LGK) 12 (non-combustible liquids)

15.2 Chemical Safety Assessment

For this substance a chemical safety assessment has been carried out.

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



according to Regulation (EC) No. 1907/2006 (REACH)

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SECTION 16: Other information

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations		
2009/161/EU	Comission Directive establishing a third list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Commission Directive 2000/39/EC		
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de naviga- tion intérieures (European Agreement concerning the International Carriage of Dangerous Goods by In- land Waterways)		
ADR	ccord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)		
AGW	Workplace exposure limit		
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		
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		
DFG	Deutsche Forschungsgemeinschaft MAK-und BAT-Werte-Liste, Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe, Wiley-VCH, Weinheim		
DGR	Dangerous Goods Regulations (see IATA/DGR)		
DNEL	Derived No-Effect Level		
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		
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		
IMDG	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		
IOELV	Indicative occupational exposure limit value		
LGK	Lagerklasse (storage class according to TRGS 510, Germany)		
log KOW	n-Octanol/water		
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")		
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		

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Abbr.	Descriptions of used abbreviations	
PBT	Persistent, Bioaccumulative and Toxic	
PNEC	Predicted No-Effect Concentration	
ppm	Parts per million	
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)	
STEL	Short-term exposure limit	
SVHC	Substance of Very High Concern	
TRGS	Technische Regeln für GefahrStoffe (technical rules for hazardous substances, Germany)	
TRGS 900	Arbeitsplatzgrenzwerte (TRGS 900)	
TWA	Time-weighted average	
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 2015/830/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.	
H360FD	May damage fertility. May damage the unborn child.	
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.

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