

CF 56 H722 E-2

 Version number: SDSCH 2.0
 Replaces version of: 2025-11-28 (SDSCH 1)

Revision: 2026-03-24

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

1.1 Product identifier

 Trade name **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

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

Product category/ies laboratory chemicals

 Process category industrial use of substances in closed systems
 use in batch and other process (synthesis) where opportunity for
 exposure arises
 mixing or blending in batch processes for formulation of prepara-
 tions and articles (multistage and/or significant contact)
 transfer of substance or preparation (charging/discharging)
 from/to vessels/large containers at facilities
 roller application or brushing
 production of preparations or articles by tableting, compression,
 extrusion, pelletisation
 low energy manipulation of substances bound in materials
 and/or articles
 open processing and transfer operations with minerals/metals at
 elevated temperature
 handling of solid inorganic substances at ambient temperature

 Environmental release category/ies industrial use resulting in manufacture of another substance (use
 of intermediates)
 industrial use resulting in inclusion into or onto a matrix

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 Switzerland

 Telephone: +41 22 349 00 24
 e-Mail: Quality@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		www.hilderbrand.ch	Mon - Thu 08:00 - 17:00 Fri 08:00 - 16:00

 e-Mail quality@hilderbrand.ch

1.4 Emergency telephone number

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Emergency information service This number is only for medical emergencies
24h/24h 7/7

Poison centre				
Country	Name	Postal code/city	Telephone	Website
Belgium	Belgisch Antigifcentrum/Centre Antipoisons Belge/Belgian Poison Centre		070 245 245	

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	Cat-egory	Hazard class and category	Hazard statement
3.7	reproductive toxicity	1B	Repr. 1B	H360FD
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 danger

- Pictograms

GHS08, GHS09



- Hazard statements

H360FD

May damage fertility. May damage the unborn child.

H410

Very toxic to aquatic life with long lasting effects.

- Precautionary statements

P202

Do not handle until all safety precautions have been read and understood.

P273

Avoid release to the environment.

P280

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

P308+P313

IF exposed or concerned: Get medical advice/attention.

P391

Collect spillage.

P405

Store locked up.

P501

Dispose of contents/container to industrial combustion plant.

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- Hazardous ingredients for labelling Boric acid

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.

Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of $\geq 0,1\%$.






Endocrine disrupting properties

Contains an endocrine disruptor (ED) at a concentration of $\geq 0,1\%$.

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
Silver (< 1 mm)	CAS No 7440-22-4 EC No 231-131-3 REACH Reg. No 01-2119555669-21-0024	25 - < 50	Aquatic Acute 1 / H400 Aquatic Chronic 1 / H410	
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	
Copper, powder	CAS No 7440-50-8 EC No 231-159-6 Index No 029-024-00-X REACH Reg. No 01-2119480154-42-xxxx	10 - < 25	Aquatic Acute 1 / H400 Aquatic Chronic 2 / H411	
Zinc	CAS No 7440-66-6 EC No 231-175-3 Index No 030-001-01-9 REACH Reg. No 01-2119467174-37-xxxx	10 - < 25	Aquatic Acute 1 / H400 Aquatic Chronic 1 / H410	
Boric acid	CAS No 10043-35-3 EC No	1 - < 5	Repr. 1B / H360FD	

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Hazardous ingredients acc. to GHS				
Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
	233-139-2 Index No 005-007-00-2 REACH Reg. No 01-2119486683-25- xxxx			

Remarks

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

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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. 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 25 °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**

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Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Notation	Identifier	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	STEL [mg/m ³]	Ceiling-C [ppm]	Ceiling-C [mg/m ³]	Source
BE	boric acid	10043-35-3		VLEP/GWB B		2		6			Moniteur Belge
BE	silver	7440-22-4		VLEP/GWB B		0.1					Moniteur Belge
BE	tin	7440-31-5	Be-D	VLEP/GWB B		2					Moniteur Belge
BE	copper	7440-50-8	dm	VLEP/GWB B		1					Moniteur Belge
BE	copper	7440-50-8	fume	VLEP/GWB B		0.2					Moniteur Belge
EU	silver	7440-22-4		IOEL V		0.1					2000/39/EC

Notation

- Be-D The agent through the skin, mucous membranes or eyes is an important part of the total exposure. This resorption can occur both by direct contact and by the presence of the agent in the air.
- Ceiling-C ceiling value is a limit value above which exposure should not occur
- dm as dusts and mists
- fume as fume
- 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)
- TWA 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)

Relevant DNELs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Silver (< 1 mm)	7440-22-4	DNEL	0.1 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
Copper, powder	7440-50-8	DNEL	20 mg/m ³	human, inhalatory	worker (industry)	acute - systemic effects
Copper, powder	7440-50-8	DNEL	137 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Copper, powder	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 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/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
Boric acid	10043-35-3	DNEL	8.3 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
Boric acid	10043-35-3	DNEL	392 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

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Relevant PNECs of components of the mixture

Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
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)
Copper, powder	7440-50-8	PNEC	7.8 µg/l	aquatic organisms	freshwater	short-term (single instance)
Copper, powder	7440-50-8	PNEC	5.2 µg/l	aquatic organisms	marine water	short-term (single instance)
Copper, powder	7440-50-8	PNEC	230 µg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Copper, powder	7440-50-8	PNEC	87 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Copper, powder	7440-50-8	PNEC	676 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Copper, powder	7440-50-8	PNEC	65 mg/kg	terrestrial organisms	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/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)
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
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

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Provision of sufficient ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection. Follow 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

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

- 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 - opaque
Odour	odourless
Melting point/freezing point	655 °C
Boiling point or initial boiling point and boiling range	not determined
Flammability	not combustible but contains combustible materials
Lower and upper explosion limit	not relevant (solid)
Flash point	not determined
Auto-ignition temperature	not determined
Decomposition temperature	not relevant
pH (value)	not determined
Kinematic viscosity	not relevant

Vapour pressure	not determined
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Density	See technical data sheet
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Particle characteristics	no data available
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9.2 Other information

Data are conclusive but not sufficient for classification.

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

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

Keep away from heat.

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 in contact with skin or if inhaled.

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

May damage the unborn child. May damage fertility.

Specific target organ toxicity (STOT)

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Shall not be classified as a specific target organ toxicant.

Specific target organ toxicity - single exposure

The classification criteria for this hazard class are not met.

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.

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 (acute) of components					
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, powder	7440-50-8	LC50	193 µg/l	fish	96 h
Zinc	7440-66-6	LC50	439 µg/l	fish	96 h
Zinc	7440-66-6	EC50	1,833 µg/l	aquatic invertebrates	48 h

Aquatic toxicity (chronic) of components					
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

Bioaccumulative potential of components				
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

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

12.6 Endocrine disrupting properties

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

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 10 toxic for reproduction

HP 14 ecotoxic

List of wastes

- 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 10* packaging containing residues of or contaminated by hazardous 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. 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) Silver (< 1 mm), Copper, powder

14.3 Transport hazard class(es)

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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
Environmentally hazardous substance (aquatic environment)	Silver (< 1 mm), Copper, powder
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) (Silver (< 1 mm))
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

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Environmental hazards	YES (hazardous to the aquatic environment)
Danger label(s)	9, fish and tree
	
Special provisions (SP)	A97, A158, A179, A197, A215
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
White Mineral Oil	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC		R3	3
Boric acid	toxic for reproduction		R28-30	30
Boric acid	substances in tattoo inks and permanent make-up		R75	75

Legend

- R28-30** 1. Shall not be placed on the market, or used,
- as substances,
- as constituents of other substances, or,
- in mixtures,
for supply to the general public when the individual concentration in the substance or mixture is equal to or greater than:
- either the relevant specific concentration limit specified in Part 3 of Annex VI to Regulation (EC) No 1272/2008, or,
- the relevant generic concentration limit specified in Part 3 of Annex I of Regulation (EC) No 1272/2008.
Without prejudice to the implementation of other Community provisions relating to the classification, packaging and labelling of substances and mixtures, suppliers shall ensure before the placing on the market that the packaging of such substances and mixtures is marked visibly, legibly and indelibly as follows:
'Restricted to professional users'.
2. By way of derogation, paragraph 1 shall not apply to:
(a) medicinal or veterinary products as defined by Directive 2001/82/EC and Directive 2001/83/EC;
(b) cosmetic products as defined by Directive 76/768/EEC;
(c) the following fuels and oil products:
- motor fuels which are covered by Directive 98/70/EC,
- mineral oil products intended for use as fuel in mobile or fixed combustion plants,
- fuels sold in closed systems (e.g. liquid gas bottles);
(d) artists' paints covered by Regulation (EC) No 1272/2008;
(e) the substances listed in Appendix 11, column 1, for the applications or uses listed in Appendix 11, column 2. Where a date is specified in column 2 of Appendix 11, the derogation shall apply until the said date;
(f) devices covered by Regulation (EU) 2017/745.
- R3** 1. Shall not be used in:
- ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,
- tricks and jokes,
- games for one or more participants, or any article intended to be used as such, even with ornamental aspects,
2. Articles not complying with paragraph 1 shall not be placed on the market.
3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they:
— can be used as fuel in decorative oil lamps for supply to the general public, and
— present an aspiration hazard and are labelled with H304.
4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN).
5. Without prejudice to the implementation of other Union provisions relating to the classification, labelling and packaging of substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:
(a) lamp oils, labelled with H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: "Keep lamps filled with this liquid out of the reach of children"; and, by 1 December 2010, "Just a sip of lamp oil – or even suck-

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- ing the wick of lamps – may lead to life-threatening lung damage”;
- (b) grill lighter fluids, labelled with H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as follows: ‘Just a sip of grill lighter fluid may lead to life threatening lung damage’;
- (c) lamps oils and grill lighters, labelled with H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.’;
- R75
1. Shall not be placed on the market in mixtures for use for tattooing purposes, and mixtures containing any such substances shall not be used for tattooing purposes, after 4 January 2022 if the substance or substances in question is or are present in the following circumstances:
 - (a) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as carcinogen category 1A, 1B or 2, or germ cell mutagen category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight;
 - (b) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as reproductive toxicant category 1A, 1B or 2, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by weight;
 - (c) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin sensitiser category 1, 1A or 1B, the substance is present in the mixture in a concentration equal to or greater than 0,001 % by weight;
 - (d) in the case of a substance classified in Part 3 of Annex VI to Regulation (EC) No 1272/2008 as skin corrosive category 1, 1A, 1B or 1C or skin irritant category 2, or as serious eye damage category 1 or eye irritant category 2, the substance is present in the mixture in a concentration equal to or greater than:
 - (i) 0,1 % by weight, if the substance is used solely as a pH regulator;
 - (ii) 0,01 % by weight, in all other cases;
 - (e) in the case of a substance listed in Annex II to Regulation (EC) No 1223/2009 (*1), the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight;
 - (f) in the case of a substance for which a condition of one or more of the following kinds is specified in column g (Product type, Body parts) of the table in Annex IV to Regulation (EC) No 1223/2009, the substance is present in the mixture in a concentration equal to or greater than 0,00005 % by weight:
 - (i) “Rinse-off products”;
 - (ii) “Not to be used in products applied on mucous membranes”;
 - (iii) “Not to be used in eye products”;
 - (g) in the case of a substance for which a condition is specified in column h (Maximum concentration in ready for use preparation) or column i (Other) of the table in Annex IV to Regulation (EC) No 1223/2009, the substance is present in the mixture in a concentration, or in some other way, that does not accord with the condition specified in that column;
 - (h) in the case of a substance listed in Appendix 13 to this Annex, the substance is present in the mixture in a concentration equal to or greater than the concentration limit specified for that substance in that Appendix.
 2. For the purposes of this entry use of a mixture “for tattooing purposes” means injection or introduction of the mixture into a person’s skin, mucous membrane or eyeball, by any process or procedure (including procedures commonly referred to as permanent make-up, cosmetic tattooing, micro-blading and micro-pigmentation), with the aim of making a mark or design on his or her body.
 3. If a substance not listed in Appendix 13 falls within more than one of points (a) to (g) of paragraph 1, the strictest concentration limit laid down in the points in question shall apply to that substance. If a substance listed in Appendix 13 also falls within one or more of points (a) to (g) of paragraph 1, the concentration limit laid down in point (h) of paragraph 1 shall apply to that substance.
 4. By way of derogation, paragraph 1 shall not apply to the following substances until 4 January 2023:
 - (a) Pigment Blue 15:3 (CI 74160, EC No 205-685-1, CAS No 147-14-8);
 - (b) Pigment Green 7 (CI 74260, EC No 215-524-7, CAS No 1328-53-6).
 5. If Part 3 of Annex VI to Regulation (EC) No 1272/2008 is amended after 4 January 2021 to classify or re-classify a substance such that the substance then becomes caught by point (a), (b), (c) or (d) of paragraph 1 of this entry, or such that it then falls within a different one of those points from the one within which it fell previously, and the date of application of that new or revised classification is after the date referred to in paragraph 1 or, as the case may be, paragraph 4 of this entry, that amendment shall, for the purposes of applying this entry to that substance, be treated as taking effect on the date of application of that new or revised classification.
 6. If Annex II or Annex IV to Regulation (EC) No 1223/2009 is amended after 4 January 2021 to list or change the listing of a substance such that the substance then becomes caught by point (e), (f) or (g) of paragraph 1 of this entry, or such that it then falls within a different one of those points from the one within which it fell previously, and the amendment takes effect after the date referred to in paragraph 1 or, as the case may be, paragraph 4 of this entry, that amendment shall, for the purposes of applying this entry to that substance, be treated as taking effect from the date falling 18 months after entry into force of the act by which that amendment was made.
 7. Suppliers placing a mixture on the market for use for tattooing purposes shall ensure that, after 4 January 2022, the mixture is marked with the following information:
 - (a) the statement “Mixture for use in tattoos or permanent make-up”;
 - (b) a reference number to uniquely identify the batch;
 - (c) the list of ingredients in accordance with the nomenclature established in the glossary of common ingredient names pursuant to Article 33 of Regulation (EC) No 1223/2009, or in the absence of a common ingredient name, the IUPAC name. In the absence of a common ingredient name or IUPAC name, the CAS and EC number. Ingredients shall be listed in descending order by weight or volume of the ingredients at the time of formulation. “Ingredient” means any substance added during the process of formulation and present in the mixture for use for tattooing purposes. Impurities shall not be regarded as ingredients. If the name of a substance, used as ingredient within the meaning of this entry, is already required to be stated on the label in accordance with Regulation (EC) No 1272/2008, that ingredient does not need to be marked in accordance with this Regulation;
 - (d) the additional statement “pH regulator” for substances falling under point (d)(i) of paragraph 1;
 - (e) the statement “Contains nickel. Can cause allergic reactions.” if the mixture contains nickel below the concentration limit specified in Appendix 13;
 - (f) the statement “Contains chromium (VI). Can cause allergic reactions.” if the mixture contains chromium (VI) below the concentration limit specified in Appendix 13;
 - (g) safety instructions for use insofar as they are not already required to be stated on the label by Regulation (EC) No 1272/2008.
- The information shall be clearly visible, easily legible and marked in a way that is indelible.
The information shall be written in the official language(s) of the Member State(s) where the mixture is placed on the market, unless the Member State(s) concerned provide(s) otherwise.

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Where necessary because of the size of the package, the information listed in the first subparagraph, except for point (a), shall be included instead in the instructions for use.
Before using a mixture for tattooing purposes, the person using the mixture shall provide the person undergoing the procedure with the information marked on the package or included in the instructions for use pursuant to this paragraph.
8. Mixtures that do not contain the statement "Mixture for use in tattoos or permanent make-up" shall not be used for tattooing purposes.
9. This entry does not apply to substances that are gases at temperature of 20 °C and pressure of 101,3 kPa, or generate a vapour pressure of more than 300 kPa at temperature of 50 °C, with the exception of formaldehyde (CAS No 50-00-0, EC No 200-001-8).
10. This entry does not apply to the placing on the market of a mixture for use for tattooing purposes, or to the use of a mixture for tattooing purposes, when placed on the market exclusively as a medical device or an accessory to a medical device, within the meaning of Regulation (EU) 2017/745, or when used exclusively as a medical device or an accessory to a medical device, within the same meaning. Where the placing on the market or use may not be exclusively as a medical device or an accessory to a medical device, the requirements of Regulation (EU) 2017/745 and of this Regulation shall apply cumulatively.

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)
Zinc	7440-66-6	(8)	200
Copper, powder	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
Silver (< 1 mm)		a)	
Boric acid		a)	
Zinc		a)	
Copper, powder		a)	

Legend

a) Indicative list of the main pollutants

Regulation on persistent organic pollutants (POP)

none of the ingredients are listed

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National inventories

Country	Inventory	Status
EU	REACH Reg.	not all ingredients are listed
CN	IECSC	all ingredients are listed
US	TSCA	all ingredients are listed (ACTIVE)

Legend

IECSC Inventory of Existing Chemical Substances Produced or Imported in China
 REACH Reg. REACH registered substances
 TSCA Toxic Substance Control Act

15.2 Chemical safety assessment
SECTION 16: Other information
Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
1.4	Emergency information service: This number is only for medical emergencies	Emergency information service: This number is only for medical emergencies 24h/24h 7/7	yes
1.4	Opening hours: 24h/24h 7/7		yes
3.2		Hazardous ingredients acc. to GHS: change in the listing (table)	yes
8.1		Relevant DNELs of components of the mixture: change in the listing (table)	yes
8.1		Relevant PNECs of components of the mixture: change in the listing (table)	yes
12.1		Aquatic toxicity (acute) of components: change in the listing (table)	yes
14.2	Technical name (hazardous ingredients): Silver (< 1 mm), Copper	Technical name (hazardous ingredients): Silver (< 1 mm), Copper, powder	yes
14.5	Environmentally hazardous substance (aquatic environment): Silver (< 1 mm), Copper	Environmentally hazardous substance (aquatic environment): Silver (< 1 mm), Copper, powder	yes
15.1		Pollutant release and transfer registers (PRTR): change in the listing (table)	yes
15.1		List of pollutants (WFD): change in the listing (table)	yes
16		Abbreviations and acronyms: change in the listing (table)	yes

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
2000/39/EC	Commission Directive establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC
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)

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Abbr.	Descriptions of used abbreviations
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
ADR/RID/ADN	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
BCF	Bioconcentration factor
BOD	Biochemical Oxygen Demand
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
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
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)
ED	Endocrine disruptor
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
IOELV	Indicative occupational exposure limit value
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LL50	Lethal Loading 50 %: the LL50 corresponds to the loading rate causing 50 % lethality
log KOW	n-Octanol/water
Moniteur Belge	Arrêté royal établissant le livre VI - Agents chimiques, cancérigènes et mutagènes du code du bien-être au travail
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic

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Abbr.	Descriptions of used abbreviations
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
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 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 section 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.
H411	Toxic 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.