

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 11.01.2024



Version number 1

Revision: 11.01.2024

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

- **1.1 Product identifier**
- **Trade name: Copper Bath Cu400D**
- **Article number:** 761400C-25
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Electroplating auxiliary
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Bungard Elektronik GmbH & Co KG
Rilkestr. 1
51570 Windeck Germany
-
- **Tel. +49(0)2292-92828-0 Fax -29**
-
- **Further information obtainable from**
info@bungard.de:
-
- **1.4 Emergency telephone number:**
-Medical Emergency information in case of poisoning:
Poison Information Center Mainz – 24h – Phone: +49
6131 19240
-

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**
Skin Corr. 1A H314 Causes severe skin burns and eye damage.
Eye Dam. 1 H318 Causes serious eye damage.
Aquatic Acute 1 H400 Very toxic to aquatic life.
Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.
- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**

GHS05 GHS09
- **Signal word** Danger
- **Hazard-determining components of labelling:**
Sulphuric acid
- **Hazard statements**
H314 Causes severe skin burns and eye damage.
H410 Very toxic to aquatic life with long lasting effects.
- **Precautionary statements**
P260 Do not breathe dusts or mists.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 Immediately call a POISON CENTER/doctor.
P321 Specific treatment (see on this label).
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

(Contd. on page 2)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 11.01.2024

Version number 1

Revision: 11.01.2024

Trade name: Copper Bath

(Contd. of page 1)

2.3 Other hazards**Results of PBT and vPvB assessment**




According to Annex XIV of Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria: Self classification.

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients
3.2 Mixtures

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

Dangerous components:

CAS: 7664-93-9 EINECS: 231-639-5 Index number: 016-020-00-8 Reg.nr.: 01-2119458838-20-xxxx	Sulphuric acid	≥ 15 – < 20%
	 Met. Corr. 1, H290; Skin Corr. 1A, H314 Specific concentration limits: Skin Corr. 1A; H314:C ≥ 15 % Skin Irrit. 2; H315: 5 % ≤ C < 15 % Eye Irrit. 2; H319: 5 % ≤ C < 15 %	
CAS: 7758-98-7 EINECS: 231-847-6 Index number: 029-004-00-0	copper sulphate	5 – < 10%
	 Aquatic Acute 1, H400; Aquatic Chronic 1, H410;  Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319 ATE: LD50 oral: 481 mg/kg	

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

SECTION 4: First aid measures
4.1 Description of first aid measures**General information:**

PERSONAL PROTECTION FOR THE FIRST AIDER.

Take affected persons out of danger area and lay down.

Immediately remove any clothing soiled by the product.

After inhalation:

Supply fresh air or oxygen; call for doctor.

Take affected persons into fresh air and keep quiet.

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

After skin contact:

Call a doctor immediately.

Immediately rinse with water.

Then rinse affected areas of skin under running water for at least 10 to 20 minutes.

Immediately shower after large-area wetting. Then store injured person calmly and protect them from hypothermia.

After eye contact:

If present remove the contact lenses immediately.

Rinse opened eye for several minutes under running water.

Then as soon as possible transport to the ophthalmologist / clinic.

Continue eye rinsing during transport.

Protect unharmed eye.

After swallowing:

Call a doctor immediately.

Do not induce vomiting, risk of acid burns to mouth and throat.

Drink plenty of water and provide fresh air.

Call for a doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 11.01.2024

Version number 1

Revision: 11.01.2024

Trade name: **Copper Bath**

(Contd. of page 2)

- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **5.2 Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
Carbon monoxide (CO)
Sulphur dioxide (SO₂)
Carbon dioxide (CO₂)
- **5.3 Advice for firefighters**
In the event of fire, seal off the area immediately and evacuate all persons from the danger area.
No measures should be taken that involve personal risk and have not been sufficiently trained.
- **Protective equipment:**
Wear self-contained respiratory protective device.
Do not inhale explosion gases or combustion gases.
- **Additional information**
Collect contaminated fire fighting water separately. It must not enter the sewage system.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Observe emergency procedures
Consult an expert.
Remove persons from danger area.
Ensure adequate ventilation
- **6.2 Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
Keep contaminated washing water and dispose of appropriately.
- **6.3 Methods and material for containment and cleaning up:**
Use neutralising agent.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
Dispose contaminated material as waste according to section 13.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Observe the usual precautions when handling chemicals. The substance / product may only be handled by suitably trained personnel.
Keep receptacles tightly sealed.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:** No special measures required.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.
- **Information about storage in one common storage facility:** Store away from foodstuffs.

(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 11.01.2024

Version number 1

Revision: 11.01.2024

Trade name: Copper Bath

(Contd. of page 3)

- **Further information about storage conditions:**
Keep container tightly sealed.
Protect from heat and direct sunlight.
Protect from frost.
- **Maximum storage temperature:** 40 °C
- **Minimum storage temperature:** 5 °C
- **Storage class:** 8B
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· 8.1 Control parameters

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

7664-93-9 Sulphuric acid ($\geq 15 - < 20\%$)

AGW (Germany)	Long-term value: 0.1 E mg/m ³ 1(I);DFG, EU, Y
IOELV (EU)	Long-term value: 0.05 mg/m ³

7758-98-7 copper sulphate (5 – < 10%)

MAK (Germany)	Long-term value: 0.01 A mg/m ³ als Cu
---------------	---

7647-01-0 hydrochloric acid (< 0.1%)

AGW (Germany)	Long-term value: 3 mg/m ³ , 2 ppm 2(I);DFG, EU, Y
IOELV (EU)	Short-term value: 15 mg/m ³ , 10 ppm Long-term value: 8 mg/m ³ , 5 ppm

67-63-0 propan-2-ol (< 0.1%)

AGW (Germany)	Long-term value: 500 mg/m ³ , 200 ppm 2(II);DFG, Y
---------------	--

64-17-5 ethanol (< 0.1%)

AGW (Germany)	Long-term value: 380 mg/m ³ , 200 ppm 4(II);DFG, Y
---------------	--

67-56-1 Methanol (< 0.1%)

AGW (Germany)	Long-term value: 130 mg/m ³ , 100 ppm 2(II);DFG, EU, H, Y
IOELV (EU)	Long-term value: 260 mg/m ³ , 200 ppm Skin

· **Regulatory information**

AGW (Germany): TRGS 900

IOELV (EU): (EU) 2019/1831

MAK (Germany): MAK- und BAT-Liste

· **DNELs**

7664-93-9 Sulphuric acid

Inhalative	exposure long term - local effects	0.05 mg/m ³ (worker)
	exposure short term - local effects	0.1 mg/m ³ (worker)

7758-98-7 copper sulphate

Dermal	exposure long term - systemic effects	13.7 mg/kg bw/day (worker)
--------	---------------------------------------	----------------------------

· **PNECs**

7664-93-9 Sulphuric acid

PNEC	2.5 µg/L (fresh water)
PNEC	8.8 mg/L (sewage treatment plant)
	0.25 mg/L (marine water)

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 11.01.2024

Version number 1

Revision: 11.01.2024

Trade name: **Copper Bath**

(Contd. of page 4)

PNEC	0.0025 mg/L (fresh water) 2 µg/kg (sediment marine water) 2 µg/kg (sediment fresh water)
7758-98-7 copper sulphate	
PNEC	0.23 mg/L (sewage treatment plant) 5.2 mg/L (marine water) 7.8 mg/L (fresh water)
PNEC	65 mg/kg (soil) 676 mg/kg (sediment marine water) 87 mg/kg (sediment fresh water)
Ingredients with biological limit values:	
67-63-0 propan-2-ol (< 0.1%)	
BGW (Germany)	25 mg/l Untersuchungsmaterial: Vollblut Probennahmezeitpunkt: Expositionsende bzw. Schichtende Parameter: Aceton 25 mg/l Untersuchungsmaterial: Urin Probennahmezeitpunkt: Expositionsende bzw. Schichtende Parameter: Aceton
67-56-1 Methanol (< 0.1%)	
BGW (Germany)	15 mg/l Untersuchungsmaterial: Urin Probennahmezeitpunkt: bei Langzeitexposition: am Schichtende nach mehreren vorangegangenen Schichten, Expositionsende bzw. Schichtende Parameter: Methanol

- **Regulatory information** BGW (Germany): TRGS 903
- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Appropriate engineering controls** No further data; see section 7.
- **Individual protection measures, such as personal protective equipment**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes and skin.
- **Respiratory protection:**
Respiratory protection if vapours/aerosols are liberate. Particle filter with middle retention for solid and liquid particle (e.g. EN 143 or 149, Type P2 or FFP2).
For example: Composite filter type ABEK, company MSA-Auer by short or minimized exposure.
- **Hand protection**



Protective gloves

Check the permeability prior to each anewed use of the glove.
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several

(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 11.01.2024

Version number 1

Revision: 11.01.2024

Trade name: Copper Bath

(Contd. of page 5)

substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Chemical-protective gloves (EN 374-1, -2, -3).
Butyl rubber, BR $\geq 0,3$ mm (Level 6)

· **Penetration time of glove material**

≥ 8 h

The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **For the permanent contact in work areas without heightened risk of injury (e.g. Laboratory) gloves made of the following material are suitable:**

Butyl rubber, BR $\geq 0,3$ mm (Level 6)

· **For the permanent contact gloves made of the following materials are suitable:**

Butyl rubber, BR $\geq 0,3$ mm (Level 6)

· **Not suitable are gloves made of the following materials:**

Leather gloves

Strong material gloves

· **Eye/face protection**



Tightly sealed goggles

Ensure the eyewash stations and safety showers are close to the workplace.

When refilling wear face shield with acetate pane.(EN 166)

· **Body protection:** Protective work clothing

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· Colour:	blue
· Odour:	Odourless
· Odour threshold:	Not determined.
· Melting point/freezing point:	not determined
· Boiling point or initial boiling point and boiling range	100 °C
· Flammability	Not applicable.
· Lower and upper explosion limit	
· Lower:	Not determined.
· Upper:	Not determined.
· Flash point:	Not applicable.
· Auto-ignition temperature:	Not applicable.
· Decomposition temperature:	Not determined.
· pH at 20 °C	< 1.5 DIN 19261
· Viscosity:	
· Kinematic viscosity	Not determined.
· Dynamic:	Not determined.
· Solubility	
· water:	Fully miscible.
· Partition coefficient n-octanol/water (log value)	Not determined.
· Vapour pressure at 20 °C:	23 hPa
· Density and/or relative density	
· Density at 20 °C:	1.15 g/cm ³ DIN 53217-5
· Relative density	Not determined.

(Contd. on page 7)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 11.01.2024

Version number 1

Revision: 11.01.2024

Trade name: **Copper Bath**

(Contd. of page 6)

· Vapour density	Not determined.
· 9.2 Other information	
· Appearance:	
· Form:	Fluid
· Important information on protection of health and environment, and on safety.	
· Ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product does not present an explosion hazard.
· Solvent content:	
· Organic solvents:	0.0 %
· VOC (EU)	0 %
· Change in condition	
· Evaporation rate	Not determined.
· Information with regard to physical hazard classes	
· Explosives	Void
· Flammable gases	Void
· Aerosols	Void
· Oxidising gases	Void
· Gases under pressure	Void
· Flammable liquids	Void
· Flammable solids	Void
· Self-reactive substances and mixtures	Void
· Pyrophoric liquids	Void
· Pyrophoric solids	Void
· Self-heating substances and mixtures	Void
· Substances and mixtures, which emit flammable gases in contact with water	Void
· Oxidising liquids	Void
· Oxidising solids	Void
· Organic peroxides	Void
· Corrosive to metals	Void
· Desensitised explosives	Void
· Additional information	The physical data in section 9 correspond to typical values for this product and can not be seen as a product specification.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
The product is stable if the regulations / instructions for storage and handling are observed.
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** Hydrogen sulphide

SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
- **Acute toxicity** Based on available data, the classification criteria are not met.

(Contd. on page 8)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 11.01.2024

Version number 1

Revision: 11.01.2024

Trade name: **Copper Bath**

(Contd. of page 7)

· **LD/LC50 values relevant for classification:**

7664-93-9 Sulphuric acid

Oral	LD50	2,140 mg/kg (rat) (OECD 401)
------	------	------------------------------

7758-98-7 copper sulphate

Oral	LD50	481 mg/kg (rat) (OECD 401)
Dermal	LD50	> 2,000 mg/kg (rat) (OECD 402)

· **Skin corrosion/irritation**

Causes severe skin burns and eye damage.

· **Serious eye damage/irritation**

Causes serious eye damage.

· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

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

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

· **Reproductive toxicity** Based on available data, the classification criteria are not met.

· **STOT-single exposure** Based on available data, the classification criteria are not met.

· **STOT-repeated exposure** Based on available data, the classification criteria are not met.

· **Aspiration hazard** Based on available data, the classification criteria are not met.

· **11.2 Information on other hazards**

· **Endocrine disrupting properties**

None of the ingredients is listed.

SECTION 12: Ecological information

· **12.1 Toxicity**

· **Aquatic toxicity:**

7664-93-9 Sulphuric acid

LC50/96h	16 – 28 mg/L (Iepomis macrochirus - bluegill) (ECHA)
EC50/48h (static)	> 100 mg/L (daphnia magna - water flea) (OECD 402)
EC50/72h (static)	> 100 mg/L (desmodesmus subspicatus - green algae) (OECD 201)

7758-98-7 copper sulphate

LC50/96h	0.31 mg/L (pimephales promelas - fathead minnow) (GESTIS)
EC50/48h	1.6 mg/L (aquatic invertebrates) (GESTIS)
EC50/96h	1.7 mg/L (selenastrum capricornutum - algae) (GESTIS)

· **12.2 Persistence and degradability**

The contained anorganic product(s), is (are) not eliminable from water by means of biological cleaning processes.

· **12.3 Bioaccumulative potential** No further relevant information available.

· **12.4 Mobility in soil** No further relevant information available.

· **12.5 Results of PBT and vPvB assessment**

According to Annex XIV of Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria: Self classification.

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **12.6 Endocrine disrupting properties**

The product does not contain substances with endocrine disrupting properties.

· **12.7 Other adverse effects**

· **Additional ecological information:**

· **General notes:**

The classification into the water hazard class resulted according to the rule about plants for handling water-polluting substances (AwSV Annex 1 No. 5) dated 18.04.2017.

Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water

(Contd. on page 9)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 11.01.2024

Version number 1

Revision: 11.01.2024

Trade name: Copper Bath

(Contd. of page 8)

The product does not contain AOX.
 The product does not contain VOC.
 The product does not contain EDTA
 Also poisonous for fish and plankton in water bodies.
 Do not allow product to reach ground water, water course or sewage system, even in small quantities.
 Must not reach sewage water or drainage ditch undiluted or unneutralised.
 Danger to drinking water if even extremely small quantities leak into the ground.
 Very toxic for aquatic organisms
 Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

SECTION 13: Disposal considerations

· 13.1 Waste treatment methods

· Recommendation

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

Contact manufacturer for recycling information.

· European waste catalogue

06 00 00	WASTES FROM INORGANIC CHEMICAL PROCESSES
06 01 00	wastes from the manufacture, formulation, supply and use (MFSU) of acids
06 01 01*	sulphuric acid and sulphurous acid
06 00 00	WASTES FROM INORGANIC CHEMICAL PROCESSES
06 03 00	wastes from the MFSU of salts and their solutions and metallic oxides
06 03 13*	solid salts and solutions containing heavy metals
HP8	Corrosive
HP14	Ecotoxic

· Uncleaned packaging:

· **Recommendation:** Disposal must be made according to official regulations.

· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

· 14.1 UN number or ID number

· ADR, IMDG, IATA

UN3264

· 14.2 UN proper shipping name

· ADR

3264 CORROSIVE LIQUID, ACIDIC,
 INORGANIC, N.O.S. (Sulphuric acid, copper
 sulphate), ENVIRONMENTALLY HAZARDOUS
 CORROSIVE LIQUID, ACIDIC, INORGANIC,
 N.O.S. (SULPHURIC ACID, copper sulphate),
 MARINE POLLUTANT

· IMDG

· IATA

CORROSIVE LIQUID, ACIDIC, INORGANIC,
 N.O.S. (SULPHURIC ACID, copper sulphate)

(Contd. on page 10)

DE

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 11.01.2024

Version number 1

Revision: 11.01.2024

Trade name: **Copper Bath**

(Contd. of page 9)

· **14.3 Transport hazard class(es)**· **ADR, IMDG**

· **Class** 8 Corrosive substances.
 · **Label** 8

· **IATA**

· **Class** 8 Corrosive substances.
 · **Label** 8

· **14.4 Packing group**

· **ADR, IMDG, IATA** II

· **14.5 Environmental hazards:**

· **Marine pollutant:** Yes
 Symbol (fish and tree)
 · **Special marking (ADR):** Symbol (fish and tree)

· **14.6 Special precautions for user**

· **Hazard identification number (Kemler code):** 80
 · **EMS Number:** F-A,S-B
 · **Segregation groups** Acids
 · **Stowage Category** B
 · **Stowage Code** SW2 Clear of living quarters.

· **14.7 Maritime transport in bulk according to IMO instruments**

Not applicable.

· **Transport/Additional information:**

Not dangerous according to the above specifications.

· **ADR**

· **Limited quantities (LQ)** 1L
 · **Excepted quantities (EQ)** Code: E2
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 500 ml
 · **Transport category** 2
 · **Tunnel restriction code** E

· **IMDG**

· **Limited quantities (LQ)** 1L
 · **Excepted quantities (EQ)** Code: E2
 Maximum net quantity per inner packaging: 30 ml
 Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":**

UN 3264 CORROSIVE LIQUID, ACIDIC,
 INORGANIC, N.O.S. (SULPHURIC ACID,
 COPPER SULPHATE), 8, II,
 ENVIRONMENTALLY HAZARDOUS

DE

(Contd. on page 11)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 11.01.2024

Version number 1

Revision: 11.01.2024

Trade name: **Copper Bath**

(Contd. of page 10)

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU - SEVESO III**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category E1** Hazardous to the Aquatic Environment
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 100 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3

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

None of the ingredients is listed.

- **REGULATION (EU) 2019/1148**

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

7664-93-9	Sulphuric acid	Limit value: > 15 – ≤ 40 %	≥ 15 – < 20%
-----------	----------------	----------------------------	--------------

- **Annex II - REPORTABLE EXPLOSIVES PRECURSORS**

None of the ingredients is listed.

- **National regulations:**
- **Technical instructions (air):**

Class	Share in %
III	5 – < 10

- **Waterhazard class:** Water hazard class 3 (Self-assessment): extremely hazardous for water.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Make-up and operation of the ready electrolyte/bath are outside our liability. The data refer to a new make-up according to the operation data sheet. Operational variances of the composition may also cause a change of the declaration.

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Material Safety Data Sheets are to be kept for at least 10 years, according to Article 36 of REACH Regulation (EC) No 1907/2006.

- **Relevant phrases**

H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

- **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
RRN: REACH Registration Number
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)

(Contd. on page 12)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 11.01.2024

Version number 1

Revision: 11.01.2024

Trade name: Copper Bath

(Contd. of page 11)

VOC: Volatile Organic Compounds (USA, EU)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Met. Corr. 1: Corrosive to metals – Category 1
Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

DE