

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

- **1.1 Product identifier**
- **Trade name:** Kupfer A (Copper)
- **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** Discharging agent
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:** BYLA GmbH, Industriestr. 12, D-65594 Runkel
- **Further information obtainable from:** Abteilung Umweltschutz, eMail: contact@byla.de
- **1.4 Emergency telephone number:** Tel. +49-(0)-6482-91200, contact@byla.de

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS06 skull and crossbones

Acute Tox. 3 H331 Toxic if inhaled.



GHS08 health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Muta. 1B H340 May cause genetic defects.

Carc. 1B H350 May cause cancer.

Repr. 1B H360FD May damage fertility. May damage the unborn child.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS05 corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



GHS09 environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Sens. 1 H317 May cause an allergic skin reaction.

STOT SE 3 H335 May cause respiratory irritation.

- **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, GHS06, GHS08, GHS09
- **Signal word** Danger

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· **Hazard-determining components of labelling:**

potassium dichromate
sulphuric acid

· **Hazard statements**

H302 Harmful if swallowed.
H331 Toxic if inhaled.
H314 Causes severe skin burns and eye damage.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H340 May cause genetic defects.
H350 May cause cancer.
H360FD May damage fertility. May damage the unborn child.
H335 May cause respiratory irritation.
H373 May cause damage to organs through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.

· **Precautionary statements**

P260 Do not breathe dusts or mists.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P284 [In case of inadequate ventilation] wear respiratory protection.
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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).
P362+P364 Take off contaminated clothing and wash it before reuse.
P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
P363 Wash contaminated clothing before reuse.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

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

SECTION 3: Composition/information on ingredients

· **3.2 Chemical characterisation: Mixtures**

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

· **Dangerous components:**

CAS: 7664-93-9 EINECS: 231-639-5	sulphuric acid ⚠ Skin Corr. 1A, H314	<12.0%
CAS: 7778-50-9 EINECS: 231-906-6	potassium dichromate ⚠ Ox. Sol. 2, H272; ⚠ Acute Tox. 3, H301; Acute Tox. 2, H330; ⚠ Resp. Sens. 1, H334; Muta. 1B, H340; Carc. 1B, H350; Repr. 1B, H360FD; STOT RE 1, H372; ⚠ Skin Corr. 1B, H314; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H312; Skin Sens. 1, H317	<7.0%

· **SVHC**

7778-50-9 potassium dichromate

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- **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:** Immediately remove any clothing soiled by the product.
- **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** 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.
- **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:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2 Special hazards arising from the substance or mixture**
No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:** No special measures required.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **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.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralising agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
- **Information about fire - and explosion protection:** Keep respiratory protective device available.

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- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Storage class:** 6.1 B
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

· 8.1 Control parameters

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

7664-93-9 sulphuric acid

WEL Long-term value: 0.05* mg/m³
*mist: defined as thoracic fraction

7778-50-9 potassium dichromate

WEL Long-term value: 0.05 mg/m³
as Cr; Carc, Sen, BMGV

- **Ingredients with biological limit values:**

7778-50-9 potassium dichromate

BMGV 10 µmol/mol creatinine
Medium: urine
Sampling time: post shift
Parameter: chromium

- **Additional information:** The lists valid during the making were used as basis.

· 8.2 Exposure controls

- **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.
Store protective clothing separately.
Avoid contact with the eyes and skin.

- **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

Nitrile rubber, NBR

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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· **Penetration time of glove material**

Value for the permeation: Level ≤ 6 | ≥ 480 min | 0.4 mm

The determined penetration times according to EN 374 part III are not performed under practical conditions. Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended.

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

· **Eye protection:**



Tightly sealed goggles

SECTION 9: Physical and chemical properties

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

· **General Information**

· **Appearance:**

Form:	Fluid
Colour:	Orange
Odour:	Characteristic

· **pH-value at 20 °C:** < 1

· **Change in condition**

Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	100 °C

· **Flash point:** Not applicable.

· **Auto-ignition temperature:** Product is not selfigniting.

· **Explosive properties:** Product does not present an explosion hazard.

· **Vapour pressure at 20 °C:** 23 hPa

· **Density at 20 °C:** 1.201 g/cm³

· **Solubility in / Miscibility with water:** Fully miscible.

· **Solvent content:**

Organic solvents:	0.0 %
Water:	83.0 %

· **Solids content:** < 7 %

· **9.2 Other information** No further relevant information available.

SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.

· **10.2 Chemical stability**

· **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:** No dangerous decomposition products known.

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SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
Harmful if swallowed.
Toxic if inhaled.
- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**
Causes serious eye damage.
- **Respiratory or skin sensitisation**
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity**
May cause genetic defects.
- **Carcinogenicity**
May cause cancer.
- **Reproductive toxicity**
May damage fertility. May damage the unborn child.
- **STOT-single exposure**
May cause respiratory irritation.
- **STOT-repeated exposure**
May cause damage to organs through prolonged or repeated exposure.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- **12.1 Toxicity**

- **Aquatic toxicity:**

7664-93-9 sulphuric acid

LC50/EC50/IC50 (Daphnia Magna)	42.3 mg/l 48 h
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- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**
Must not reach sewage water or drainage ditch undiluted or unneutralised.
Also poisonous for fish and plankton in water bodies.
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.
Water danger class 3 (German Regulation) (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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- **12.6 Other adverse effects** No further relevant information available.

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.

- **European waste catalogue**

06 01 01* sulphuric acid and sulphurous acid

- **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**

- **ADR, IMDG, IATA**

UN2922

- **14.2 UN proper shipping name**

- **ADR**

2922 CORROSIVE LIQUID, TOXIC, N.O.S.
(potassium dichromate, SULPHURIC ACID),
ENVIRONMENTALLY HAZARDOUS
CORROSIVE LIQUID, TOXIC, N.O.S. (potassium
dichromate, SULPHURIC ACID)

- **IMDG, IATA**

- **14.3 Transport hazard class(es)**

- **ADR**



- **Class**

8 (CT1) Corrosive substances.

- **Label**

8+6.1

- **IMDG**



- **Class**

8 Corrosive substances.

- **Label**

8/6.1

- **IATA**



- **Class**

8 Corrosive substances.

- **Label**

8 (6.1)

- **14.4 Packing group**

- **ADR, IMDG, IATA**

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Printing date 26.09.2018

Revision: 26.09.2018

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<ul style="list-style-type: none"> · 14.5 Environmental hazards: · Marine pollutant: No · Special marking (ADR): Symbol (fish and tree)
<ul style="list-style-type: none"> · 14.6 Special precautions for user Warning: Corrosive substances. · Danger code (Kemler): 86 · EMS Number: F-A,S-B · Segregation groups Acids · Stowage Category B · Stowage Code SW2 Clear of living quarters.
<ul style="list-style-type: none"> · 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code Not applicable.
<ul style="list-style-type: none"> · Transport/Additional information:
<ul style="list-style-type: none"> · 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
<ul style="list-style-type: none"> · 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
<ul style="list-style-type: none"> · UN "Model Regulation": UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S. (POTASSIUM DICHROMATE, SULPHURIC ACID), 8 (6.1), II, ENVIRONMENTALLY HAZARDOUS

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category**
H2 ACUTE TOXIC
E2 Hazardous to the Aquatic Environment
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t

· LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)

7778-50-9	potassium dichromate	Sunset date: 2017-09-21
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- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3, 28, 29, 30, 47

· National regulations:

- **Waterhazard class:** Water danger class 3 (Self-assessment): extremely hazardous for water.
- **Other regulations, limitations and prohibitive regulations**

· Substances of very high concern (SVHC) according to REACH, Article 57

7778-50-9	potassium dichromate
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· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

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.

· Relevant phrases

- H272 May intensify fire; oxidiser.
- H301 Toxic if swallowed.
- H312 Harmful in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- H330 Fatal if inhaled.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H340 May cause genetic defects.
- H350 May cause cancer.
- H360FD May damage fertility. May damage the unborn child.
- H372 Causes damage to organs through prolonged or repeated exposure.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.

· **Contact:** Herr Simon

· 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
- ADR: Accord européen sur le transport 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)
- PBT: Persistent, Bioaccumulative and Toxic
- SVHC: Substances of Very High Concern
- vPvB: very Persistent and very Bioaccumulative
- Ox. Sol. 2: Oxidizing solids – Category 2
- Acute Tox. 3: Acute toxicity – Category 3
- Acute Tox. 4: Acute toxicity – Category 4
- Acute Tox. 2: Acute toxicity – Category 2
- Skin Corr. 1A: Skin corrosion/irritation – Category 1A
- Skin Corr. 1B: Skin corrosion/irritation – Category 1B
- Eye Dam. 1: Serious eye damage/eye irritation – Category 1
- Resp. Sens. 1: Respiratory sensitisation – Category 1
- Skin Sens. 1: Skin sensitisation – Category 1
- Muta. 1B: Germ cell mutagenicity – Category 1B
- Carc. 1B: Carcinogenicity – Category 1B
- Repr. 1B: Reproductive toxicity – Category 1B
- STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
- STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1
- STOT RE 2: Specific target organ toxicity (repeated exposure) – 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
- Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

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