

Safety data sheet

according to 1907/2006/EC, Article 31 and 453/2010/EC

Printing date 17.03.2016

Version number 3

Revision: 17.03.2016

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

1.1 Product identifier

Trade name: **Fittingslötpaste "Cu-Rofix 3"**
Fitting solder paste "Cu-Rofix 3"

**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

Soldering flux

Brazing alloy

1.3 Details of the supplier of the safety data sheet**Manufacturer/Supplier:**

Felder GmbH
 Im Lipperfeld 11
 D-46047 Oberhausen

Tel.: +49 (0)208/ 85035-0

Fax.: +49 (0)208/ 26080

<http://www.felder.de>

e-mail: info@felder.de

Further information obtainable from:

Labor

(Mo-Do. 8:00-16:00/ Fr. 8:00-13:00)

Tel.: +49(0)208/ 8 50 35-0

e-mail: mprobst@felder.de

1.4 Emergency telephone number:

24 hr. emergency information:

Poison emergency call Berlin

"Giftnotruf Berlin"

Tel.: 0049-30-30686 790

SECTION 2: Hazards identification

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

GHS05 corrosion

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

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

STOT SE 3 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

Aquatic Chronic 3 H412 Harmful 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 GHS07

Signal word *Danger*

Hazard-determining components of labelling:

zinc chloride

Hazard statements

H314 Causes severe skin burns and eye damage.

H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

H412 Harmful to aquatic life with long lasting effects.

(Contd. on page 2)

— EU —

Safety data sheet

according to 1907/2006/EC, Article 31 and 453/2010/EC

Printing date 17.03.2016

Version number 3

Revision: 17.03.2016

Trade name: Fittingslötpaste "Cu-Rofix 3"
Fitting solder paste "Cu-Rofix 3"

(Contd. of page 1)

Precautionary statements

P101 *If medical advice is needed, have product container or label at hand.*
 P102 *Keep out of reach of children.*
 P103 *Read label before use.*
 P303+P361+P353 *IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/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.*
 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.*

Labelling of packages where the contents do not exceed 125 ml**Hazard pictograms**

GHS05 GHS07

Signal word *Danger***Hazard-determining components of labelling:***zinc chloride***Hazard statements**

H314 *Causes severe skin burns and eye damage.*
 H335-H336 *May cause respiratory irritation. May cause drowsiness or dizziness.*
 H412 *Harmful to aquatic life with long lasting effects.*

Precautionary statements

P101 *If medical advice is needed, have product container or label at hand.*
 P102 *Keep out of reach of children.*
 P103 *Read label before use.*
 P303+P361+P353 *IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/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.*
 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: consisting of the following components.*

| Dangerous components: | | |
|--|---|-------|
| CAS: 7646-85-7 EINECS: 231-592-0 Reg.nr.: 01-2119472431-44 | zinc chloride ⚠ Skin Corr. 1B, H314; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Acute Tox. 4, H302 | <10% |
| CAS: 7440-50-8 EINECS: 231-159-6 Reg.nr.: 01-2119480154-42 | copper substance with a Community workplace exposure limit | <2,5% |

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:** *Take affected persons out into the fresh air.***After inhalation:** *In case of unconsciousness place patient stably in side position for transportation.***After skin contact:***After contact with the molten product, cool rapidly with cold water.**Do not pull solidified product off the skin.*

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31 and 453/2010/EC

Printing date 17.03.2016

Version number 3

Revision: 17.03.2016

Trade name: Fittingslötpaste "Cu-Rofix 3"
Fitting solder paste "Cu-Rofix 3"

(Contd. of page 2)

*Seek medical treatment.**Immediately wash with water and soap and rinse thoroughly.***After eye contact:***Protect unharmed eye.**Seek medical treatment.**Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.***After swallowing:***Rinse out mouth and then drink plenty of water.**Call 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.**Use fire extinguishing methods suitable to surrounding conditions.***5.2 Special hazards arising from the substance or mixture***In case of fire, the following can be released:**Hydrogen chloride (HCl)***5.3 Advice for firefighters****Protective equipment:***Wear self-contained respiratory protective device.**Do not inhale explosion gases or combustion gases.*

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures*Wear protective clothing.**Product forms slippery surface when combined with water.**Ensure adequate ventilation***6.2 Environmental precautions:***Do not allow product to reach sewage system or any water course.**Inform respective authorities in case of seepage into water course or sewage system.**Do not allow to enter sewers/ surface or ground water.***6.3 Methods and material for containment and cleaning up:** *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 *No special precautions are necessary if used correctly.***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:** *No special requirements.***Information about storage in one common storage facility:** *Store away from foodstuffs.***Further information about storage conditions:***Protect from frost.**Keep container tightly sealed.***Storage class:** 8 A**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.*

(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31 and 453/2010/EC

Printing date 17.03.2016

Version number 3

Revision: 17.03.2016

Trade name: Fittingslötpaste "Cu-Rofix 3"
Fitting solder paste "Cu-Rofix 3"

(Contd. of page 3)

8.1 Control parameters

| Ingredients with limit values that require monitoring at the workplace: | |
|---|---|
| 7440-31-5 tin | |
| MAK (Germany) | vgl. Abschn. IIb |
| 7646-85-7 zinc chloride | |
| MAK (Germany) | Long-term value: 0,1A* 2E** mg/m ³ *alveolengängig; **eintembar |
| 7440-50-8 copper | |
| MAK (Germany) | Long-term value: 0,01 A mg/m ³ als Cu |

Regulatory information MAK (Germany): MAK- und BAT-Liste

recommended monitoring procedures in accordance with 453/2010/EU no. 8.1.2:

7440-50-8 copper: BIA 7755 (D), NIOSH 7301(E), MétroPol Fiche 003(F), MTA/MA-025/A92(ESP)

7646-85-7 zinc chloride: NIOSH 7300, 7301, 7303(E) "Zinc", OSHA, ID-121(E)

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

8.2 Exposure controls

Appropriate engineering controls:

Ensure adequate ventilation.

Removing the fumes by suitable suction devices.

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.

Avoid contact with the eyes and skin.

Respiratory protection:

Use suitable respiratory protective device in case of insufficient ventilation.

Filter B

Filter P1

Protection of hands:



Protective gloves

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 cannot be calculated in advance and has therefore to be checked prior to the application.

Recommended thickness of the material: $\geq 0,4$ mm

Penetration time of glove material

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

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.

Value for the permeation: Level ≤ 6

Eye protection:



Tightly sealed goggles

Body protection: Protective work clothing

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Appearance:

| | |
|------------------|-----------------|
| Form: | Pasty |
| Colour: | Dark grey |
| Odour: | Characteristic |
| Odour threshold: | Not determined. |

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31 and 453/2010/EC

Printing date 17.03.2016

Version number 3

Revision: 17.03.2016

Trade name: Fittingslötpaste "Cu-Rofix 3"
Fitting solder paste "Cu-Rofix 3"

(Contd. of page 4)

| | |
|---|---|
| pH-value (100 g/l) at 20 °C: | 6,5 |
| Change in condition | |
| Melting point/Melting range: | 230-250 °C |
| Boiling point/Boiling range: | 100 °C |
| Flash point: | 135 °C |
| Flammability (solid, gaseous): | Not determined. |
| Ignition temperature: | |
| Decomposition temperature: | Not determined. |
| Self-igniting: | Product is not selfigniting. |
| Danger of explosion: | Product does not present an explosion hazard. |
| Explosion limits: | |
| Lower: | Not determined. |
| Upper: | Not determined. |
| Vapour pressure at 20 °C: | 23 hPa |
| Density at 20 °C: | 2,8 g/cm ³ |
| Relative density | Not determined. |
| Vapour density | Not applicable. |
| Evaporation rate | Not applicable. |
| Solubility in / Miscibility with water: | Insoluble. |
| Partition coefficient (n-octanol/water): | Not determined. |
| Viscosity: | |
| Dynamic: | Not applicable. |
| Kinematic: | Not applicable. |
| Solvent content: | |
| Organic solvents: | 0,0 % |
| VOC (EC) | 0,0 % |
| | 0,00 % |
| 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 and stored according to specifications.
- 10.3 Possibility of hazardous reactions** Reacts with strong oxidising agents.
- 10.4 Conditions to avoid** No further relevant information available.
- 10.5 Incompatible materials:** No further relevant information available.
- 10.6 Hazardous decomposition products:**
Irritant gases/vapours
Hydrogen chloride (HCl)
Chlorine
Ammonia

SECTION 11: Toxicological information

- 11.1 Information on toxicological effects**
- Acute toxicity** Based on available data, the classification criteria are not met.

| |
|--|
| LD/LC50 values relevant for classification: |
| 7646-85-7 zinc chloride |
| Oral LD50 350 mg/kg (rat) |

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

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

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

(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31 and 453/2010/EC

Printing date 17.03.2016

Version number 3

Revision: 17.03.2016

Trade name: Fittingslötpaste "Cu-Rofix 3"
Fitting solder paste "Cu-Rofix 3"

(Contd. of page 5)

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

May cause respiratory irritation. May cause drowsiness or dizziness.

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.

SECTION 12: Ecological information

12.1 Toxicity**Aquatic toxicity:**

| | |
|------------|-------------------|
| EC50 | >100 mg/kg (fish) |
| EC(48h) | 33 mg/l (daphnia) |
| ErC50(72h) | 73 mg/l (algae) |

chronic aquatic toxicity: NOEC(daphnia, fish, algae)>10 mg/kg(l)

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: Harmful to fish

Additional ecological information:**General notes:**

Harmful to aquatic organisms

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

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 03 13* | solid salts and solutions containing heavy metals |
| HP 8 | Corrosive |
| HP 14 | Ecotoxic |

Uncleaned packaging:

Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport information

14.1 UN-Number

ADR, IMDG, IATA

UN3260

14.2 UN proper shipping name

ADR

3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S.
(ZINC CHLORIDE)

IMDG, IATA

CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (ZINC
CHLORIDE)

14.3 Transport hazard class(es)

ADR, IMDG, IATA



Class
Label

8 Corrosive substances.
8

(Contd. on page 7)

Safety data sheet

according to 1907/2006/EC, Article 31 and 453/2010/EC

Printing date 17.03.2016

Version number 3

Revision: 17.03.2016

Trade name: Fittingslötpaste "Cu-Rofix 3"
Fitting solder paste "Cu-Rofix 3"

(Contd. of page 6)

| | |
|--|---|
| 14.4 Packing group | <i>III</i> |
| ADR, IMDG, IATA | |
| 14.5 Environmental hazards: | |
| Marine pollutant: | <i>No</i> |
| 14.6 Special precautions for user | <i>Warning: Corrosive substances.</i> |
| Danger code (Kemler): | <i>80</i> |
| EMS Number: | <i>F-A, S-B</i> |
| Segregation groups | <i>Acids</i> |
| Stowage Category | <i>A</i> |
| 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code | <i>Not applicable.</i> |
| <hr/> | |
| Transport/Additional information: | |
| <hr/> | |
| ADR | |
| Limited quantities (LQ) | <i>5 kg</i> |
| Excepted quantities (EQ) | <i>Code: E1</i> |
| | <i>Maximum net quantity per inner packaging: 30 g</i> |
| | <i>Maximum net quantity per outer packaging: 1000 g</i> |
| Transport category | <i>3</i> |
| Tunnel restriction code | <i>E</i> |
| <hr/> | |
| IMDG | |
| Limited quantities (LQ) | <i>1 kg</i> |
| Excepted quantities (EQ) | <i>Code: E2</i> |
| | <i>Maximum net quantity per inner packaging: 30 g</i> |
| | <i>Maximum net quantity per outer packaging: 500 g</i> |
| UN "Model Regulation": | <i>UN 3260 CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (ZINC CHLORIDE), 8, III</i> |

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.*

National regulations:

Information about limitation of use: *Employment restrictions concerning juveniles must be observed.*

Waterhazard class: *Water hazard class 2 (Self-assessment): hazardous for water.*

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.

Reasons for changes:

03/07/2016: Adjustment Regulations 453/2010/EC, 830/2015/EU, 2012/18/EU

03/17/2016: chapter 13, chapter 14

Relevant phrases

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

Contact: *Dr. M. Probst*

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)

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organisation

ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)

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

(Contd. on page 8)

Safety data sheet
according to 1907/2006/EC, Article 31 and 453/2010/EC

Printing date 17.03.2016

Version number 3

Revision: 17.03.2016

Trade name: Fittingslötpaste "Cu-Rofix 3"
Fitting solder paste "Cu-Rofix 3"

(Contd. of page 7)

CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 4: Acute toxicity, Hazard Category 4
Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3
Aquatic Acute 1: Hazardous to the aquatic environment - Acute Hazard, Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1
Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3

Safety data sheet SD3003

— EU —