

Safety data sheet

according to Regulation (EC) No 1907/2006, Article 31 and 2020/878/
EU

Printing date 07.01.2026

Version number 9 (replaces version 8)

Revision: 30.04.2025

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

1.1 Product identifierTrade name: **Hartlötpaste "Universal"**

UFI: 0WC8-8047-T00G-5C64

**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***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:**

lab

(mo-thu. 8:00 a.m. - 4:00 p.m./ fr. 8:00 a.m. - 1:00 p.m.)

email: mprobst@felder.de**1.4 Emergency telephone number:**

24-hour emergency information:

Giftnotruf Berlin, counselling in German and English

Phone: (030) 30686 700

EuPCS: PC-TEC-24

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008



GHS08 health hazard

Repr. 2 H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.

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

GHS08

Signal word *Warning***Hazard-determining components of labelling:***potassium pentaborate - hydrat***Hazard statements**

H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.

Precautionary statements

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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



GHS08

Signal word *Warning*

Hazard-determining components of labelling:

potassium pentaborate - hydrat

Hazard statements

H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.

Precautionary statements

*P201 Obtain special instructions before use.**P202 Do not handle until all safety precautions have been read and understood.**P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.**P308+P313 IF exposed or concerned: Get medical advice/attention.**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 Mixtures

Description: *Mixture: consisting of the following components.*

Dangerous components:

CAS: 12229-13-9	<i>potassium pentaborate - hydrat</i>	<i>Repr. 2, H361fd</i>	<i>≥10-<50%</i>
EINECS: 234-371-7			
Reg.nr.: 01-2119970729-20			

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: *Supply fresh air; consult doctor in case of complaints.*After skin contact: *If skin irritation continues, consult a doctor.*After eye contact: *Seek medical treatment.*

After swallowing:

*Rinse out mouth and then drink plenty of water.**Seek medical treatment.*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.*For safety reasons unsuitable extinguishing agents: *None*5.2 Special hazards arising from the substance or mixture *No further relevant information available.*

5.3 Advice for firefighters

Protective equipment: *Do not inhale explosion gases or combustion gases.*

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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures *Wear protective clothing.*

6.2 Environmental precautions:

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).

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 *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.*

Storage class: 12

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:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

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.*

Appropriate engineering controls:

Ensure adequate ventilation.

Remove the fumes by means of suitable suction devices.

Individual protection measures, such as personal protective equipment

General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

Respiratory protection:

Use suitable respiratory protective device in case of insufficient ventilation.

Filter P2

Filter B

Hand protection

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: ≥ 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 16523-1:2015 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

As protection from splashes gloves made of the following materials are suitable: *Nitrile rubber, NBR*

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Eye/face protection *in cases of application: protective goggles*
Body protection: *Protective work clothing*

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Colour:	Whitish
Odour:	Odourless
Odour threshold:	Not determined
Melting point/freezing point:	ca.500 °C
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
Decomposition temperature:	Not determined
pH at 20 °C	8.2
Viscosity:	
Kinematic viscosity at 20 °C	1.050 cm ³ /s
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:	1.26 g/cm ³
Relative density	Not determined
Vapour density	Not determined

9.2 Other information

Appearance:	
Form:	Pasty
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:	
Water:	38.0 %
VOC (EC)	0.0 % 0.00 %
Solids content:	62.0 %
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

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Corrosive to metals
Desensitised explosives

Void
Void

SECTION 10: Stability and reactivity

10.1 Reactivity No further relevant information available.

10.2 Chemical stability

Thermal decomposition / conditions to be avoided: Can decompose slowly with localised heating above 150°C.

10.3 Possibility of hazardous reactions Reacts with strong acids.

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

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.

LD/LC50 values relevant for classification:

12229-13-9 potassium pentaborate - hydrat

Oral	LD50	3,690 mg/kg (rat) (OECD 401)
Dermal	LD50	>2,000 mg/kg (rabbit) (U.S. EPA FIFRA)

Primary irritant effect:

Skin corrosion/irritation Based on available data, the classification criteria are not met.

Serious eye damage/irritation Based on available data, the classification criteria are not met.

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

Suspected of damaging fertility. Suspected of damaging the unborn child.

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: No further relevant information available.

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.

12.5 Results of PBT and vPvB assessment

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:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

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.

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European waste catalogue

06 03 14: solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13
HP10: Toxic for reproduction

cleaned plastic can:

15 01 02: plastic packaging

overpack:

15 01 01: paper and cardboard packaging

Uncleaned packaging: 15 01 10*: packaging containing residues of or contaminated by hazardous substances**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, ADN, IMDG, IATA Void

14.2 UN proper shipping name

ADR, ADN, IMDG, IATA Void

14.3 Transport hazard class(es)

ADR, ADN, IMDG, IATA

Class Void

14.4 Packing group

ADR, IMDG, IATA Void

14.5 Environmental hazards:**Marine pollutant:** No**14.6 Special precautions for user** Not applicable**14.7 Maritime transport in bulk according to IMO instruments** Not applicable**UN "Model Regulation":** Void**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.**REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)** None of the ingredients are included.**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))**

None of the ingredients is listed.

Annex II - REPORTABLE EXPLOSIVES PRECURSORS

None of the ingredients is listed.

Regulation (EC) No 273/2004 on drug precursors

None of the ingredients is listed.

Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

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 1 (Self-assessment): slightly hazardous for water.**15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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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:

30.09.2015: chapter 1, 8, 15 - adaption to Regulation 453/2010/EC, 830/2012/EU und 18/2012/EU

18.01.2017: chapter 13 (HP 10), chapter 7

13.04.2018: chapter 13

30.03.2020: chapter 1

02.02.2021: chapter 1, 13, 15, 16

03.02.2023: chapter 12, 15

17.08.2023: chapter 9

30.04.2025: chapter 3

Information referred to in Annex I, point 1.3.4.2 of Regulation 1272/2008/EC:

Relevant phrases

H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.

Contact: Dr. M. Probst

Version number of previous version: 8

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 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)

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

ATE: Acute toxicity estimate values

Repr. 2: Reproductive toxicity – Category 2

Safety data sheet SD3027