

**Safety data sheet**  
according to 1907/2006/EC, Article 31 and 2020/878/EU

Printing date 02.06.2022

Version number 6 (replaces version 5)

Revision: 02.06.2022

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

**1.1 Product identifier**

Trade name: Aluminium Hartlötpulver  
Aluminium brazing powder

UFI: FAD8-S0K7-A00Y-F23F



**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 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](mailto: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](mailto:mprobst@felder.de)*

**1.4 Emergency telephone number:**

Tel.: +49(0)208/ 85035-29

*(mo-thu: 8:00-16:00, fr: 8:00-13:00)*

**EuPCS:** PC-TEC-24

**SECTION 2: Hazards identification**

**2.1 Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008



GHS07

*Skin Irrit. 2 H315 Causes skin irritation.*

*Eye Irrit. 2 H319 Causes serious eye 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**



GHS07

**Signal word** *Warning*

**Hazard statements**

*H315 Causes skin irritation.*

*H319 Causes serious eye irritation.*

**Precautionary statements**

- P101            If medical advice is needed, have product container or label at hand.
- P102            Keep out of reach of children.
- P103            Read carefully and follow all instructions.
- P264            Wash thoroughly after handling.
- P270            Do not eat, drink or smoke when using this product.
- P280            Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P332+P313      If skin irritation occurs: Get medical advice/attention.
- 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**



GHS07

**Signal word:** Warning**Hazard statements:** Void**Preccautionary statements:**

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read carefully and follow all instructions.

P270 Do not eat, drink or smoke when using this product.

P330 Rinse mouth.

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.

<b>Dangerous components:</b>		
CAS: 7447-41-8 EINECS: 231-212-3 Reg.nr.: 01-2119560574-35	<i>lithium chloride</i> ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319	<25%
CAS: 13775-52-5 EINECS: 237-409-0	<i>tripotassium hexafluoroaluminate</i> ⚠ STOT RE 2, H373; ⚠ Eye Irrit. 2, H319	<10%
CAS: 7783-49-5 EINECS: 232-001-9	<i>zinc fluoride</i> ⚠ Acute Tox. 3, H301; ⚠ Acute Tox. 4, H332; Skin Irrit. 2, H315	<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.

Supply fresh air and to be sure call for a doctor.

**After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

**After eye contact:**

Rinse opened eye for several minutes under running water.

Seek medical treatment.

**After swallowing:**

Induce vomiting and call for medical help.

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:**

Use fire extinguishing methods suitable to surrounding conditions.

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*CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray.*

**5.2 Special hazards arising from the substance or mixture** *No further relevant information available.*

**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

*Avoid formation of dust.*

*Wear protective clothing.*

*Ensure adequate ventilation*

**6.2 Environmental precautions:** *Do not allow to enter sewers/ surface or ground water.*

### 6.3 Methods and material for containment and cleaning up:

*Dispose contaminated material as waste according to item 13.*

*Pick up mechanically.*

### 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

*Prevent formation of dust.*

*Ensure that suitable extractors are available on processing machines*

**Information about fire - and explosion protection:** *Keep respiratory protective device available.*

### 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.*

**Further information about storage conditions:**

*This product is hygroscopic.*

*Protect from humidity and water.*

*Store in dry conditions.*

*Keep container tightly sealed.*

**Storage class:** 13

**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:

##### 7447-41-8 lithium chloride

AGW (Germany)	Long-term value: 0.2 E mg/m <sup>3</sup> 1(l);Y, 10, DFG, als Li
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##### 7783-49-5 zinc fluoride

IOELV (EU)	Long-term value: 2.5 mg/m <sup>3</sup> as F
AGW (Germany)	Long-term value: 1 E mg/m <sup>3</sup> 4(l);als Fluor berechnet; EU, DFG, Y, H
WEL (Great Britain)	Long-term value: 2.5 mg/m <sup>3</sup> as F
OEL (Ireland)	Long-term value: 2.5 mg/m <sup>3</sup> as F, IOELV

#### Regulatory information

AGW (Germany): TRGS 900

IOELV (EU): (EU) 2019/1831

WEL (Great Britain): EH40/2020

OEL (Ireland): 2021 CoP for the Safety, Health and Welfare at Work

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<b>Ingredients with biological limit values:</b>	
<b>7783-49-5 zinc fluoride</b>	
BGW (Germany)	<p>7.0 mg/g Kreatinin Untersuchungsmaterial: Urin Probennahmezeitpunkt: Expositionsende bzw. Schichtende Parameter: Fluorid</p> <p>4.0 mg/g Kreatinin Untersuchungsmaterial: Urin Probennahmezeitpunkt: vor nachfolgender Schicht Parameter: Fluorid</p>

**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 item 7.

### Appropriate engineering controls:

Ensure adequate ventilation.

Remove the fumes by means of suitable suction devices.

Ensure adequate ventilation. Removing the fumes by suitable suction devices.

### Individual protection measures, such as personal protective equipment

#### General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals.

Do not eat, drink, smoke or sniff while working.

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 P2

#### Hand protection



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:  $\geq 0.33$  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  $\leq 6$

#### Eye/face protection

Safety glasses

#### 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: Characteristic

Odour threshold: Not determined.

Melting point/freezing point: 580 °C

Boiling point or initial boiling point and boiling range Undetermined.

Flammability Not determined.

Lower and upper explosion limit

Lower: Not determined.

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<b>Upper:</b>	<i>Not determined.</i>
<b>Flash point:</b>	<i>Not applicable.</i>
<b>Decomposition temperature:</b>	<i>Not determined.</i>
<b>pH</b>	<i>Not applicable.</i>
<b>Viscosity:</b>	
<b>Kinematic viscosity</b>	<i>Not applicable.</i>
<b>Dynamic:</b>	<i>Not applicable.</i>
<b>Solubility</b>	
<b>water:</b>	<i>Partly soluble.</i>
<b>Partition coefficient n-octanol/water (log value)</b>	<i>Not determined.</i>
<b>Vapour pressure:</b>	<i>Not applicable.</i>
<b>Density and/or relative density</b>	
<b>Density:</b>	<i>Not determined.</i>
<b>Relative density</b>	<i>Not determined.</i>
<b>Vapour density</b>	<i>Not applicable.</i>
<b>Particle characteristics</b>	<i>See item 3.</i>
<b>9.2 Other information</b>	<i>No further relevant information available.</i>
<b>Appearance:</b>	
<b>Form:</b>	<i>Solid</i>
<b>Important information on protection of health and environment, and on safety.</b>	
<b>Auto-ignition temperature:</b>	<i>Product is not selfigniting.</i>
<b>Explosive properties:</b>	<i>Product does not present an explosion hazard.</i>
<b>Solvent content:</b>	
<b>Organic solvents:</b>	<i>0.0 %</i>
<b>VOC (EC)</b>	<i>0.0 %</i>
<b>Solids content:</b>	<i>100.0 %</i>
<b>Change in condition</b>	
<b>Evaporation rate</b>	<i>Not applicable.</i>
<b>Information with regard to physical hazard classes</b>	
<b>Explosives</b>	<i>Void</i>
<b>Flammable gases</b>	<i>Void</i>
<b>Aerosols</b>	<i>Void</i>
<b>Oxidising gases</b>	<i>Void</i>
<b>Gases under pressure</b>	<i>Void</i>
<b>Flammable liquids</b>	<i>Void</i>
<b>Flammable solids</b>	<i>Void</i>
<b>Self-reactive substances and mixtures</b>	<i>Void</i>
<b>Pyrophoric liquids</b>	<i>Void</i>
<b>Pyrophoric solids</b>	<i>Void</i>
<b>Self-heating substances and mixtures</b>	<i>Void</i>
<b>Substances and mixtures, which emit flammable gases in contact with water</b>	<i>Void</i>
<b>Oxidising liquids</b>	<i>Void</i>
<b>Oxidising solids</b>	<i>Void</i>
<b>Organic peroxides</b>	<i>Void</i>
<b>Corrosive to metals</b>	<i>Void</i>
<b>Desensitised explosives</b>	<i>Void</i>

## 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**

*Reacts with humid air.*

*Reacts with aluminium at raised temperatures.*

**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*

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## 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:**

**ATE (Acute Toxicity Estimates)**

Oral	LD50	>2,082 mg/kg (rat)
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**7447-41-8 lithium chloride**

Oral	LD50	526 mg/kg (rat)
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**7646-85-7 zinc chloride**

Oral	LD50	1,100-1,260 mg/kg (rat)
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**Skin corrosion/irritation**

Causes skin irritation.

**Serious eye damage/irritation**

Causes serious eye irritation.

**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.
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## 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** For information on endocrine disrupting properties see section 11.

**12.7 Other adverse effects** No further relevant information available.

**Additional ecological information:**

**General notes:**

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.

## 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 14: solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13

HP4: Irritant - skin irritation and eye damage

Cleaned sales packaging:

15 01 02: plastic packaging

overpack:

15 01 01: paper and cardboard packaging

**Uncleaned packaging:**

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

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H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

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

**Contact:** Dr. M. Probst**Version number of previous version: 5****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

Acute Tox. 3: Acute toxicity – Category 3

Acute Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

**Safety data sheet SD3032**

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