

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

Printing date 21.04.2021

Version number 5

Revision: 21.04.2021

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

**1.1 Product identifier**

Trade name: Ag 156, B-Ag56CuZnSn-620/655, (L-Ag55Sn, AG 102)  
UFI: not applicable.



**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 Hard solder**

**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

**EuPCs:** PC-TEC-24

**SECTION 2: Hazards identification**

**2.1 Classification of the substance or mixture**

**Classification according to Regulation (EC) No 1272/2008**

*The product is not classified, according to the CLP regulation.*

**2.2 Label elements**

**Labelling according to Regulation (EC) No 1272/2008** *Void*

**Hazard pictograms** *Void*

**Signal word** *Void*

**Hazard statements** *Void*

**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: 7440-22-4 EINECS: 231-131-3 Reg.nr.: 01-2119555669-21	silver	substance with a Community workplace exposure limit	55.0-57.0%
CAS: 7440-50-8 EINECS: 231-159-6 Index number: 029-024-00-X Reg.nr.: 01-2119480154-42	copper	 <i>Aquatic Chronic 2, H411</i>	21.0-23.0%
CAS: 7440-66-6 EINECS: 231-175-3 Index number: 030-001-01-9 Reg.nr.: 01-2119467174-37	zinc	substance with a Community workplace exposure limit	15.0-19.0%
CAS: 7440-31-5 EINECS: 231-141-8 Reg.nr.: 01-2119486474-28	tin	substance with a Community workplace exposure limit	1.5-2.5%

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

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## 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:**

After contact with the molten product, cool rapidly with cold water.

Do not pull solidified product off the skin.

Seek medical treatment.

**After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

**After swallowing:** If symptoms persist consult doctor.

**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:**

CO<sub>2</sub>, 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:** 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.

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

**6.3 Methods and material for containment and cleaning up:** Allow to solidify. 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

Extractors are required on all machines used for thermal processing or splinter removal processes.

Ensure that suitable extractors are available on processing machines

**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:** Store in dry conditions.

**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:**

7440-22-4 silver	
IOELV (EU)	Long-term value: 0.1 mg/m <sup>3</sup>
AGW (Germany)	Long-term value: 0.1 E mg/m <sup>3</sup> 8(II);DFG, EU
7440-50-8 copper	
MAK (Germany)	Long-term value: 0.01 A mg/m <sup>3</sup> als Cu

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<b>7440-66-6 zinc</b>	
MAK (Germany)	Long-term value: 0.1A* 2E** mg/m <sup>3</sup> *alveolengängig; **einatembar
<b>7440-31-5 tin</b>	
MAK (Germany)	vgl. Abschn. IIb

**Regulatory information**

IOELV (EU): (EU) 2017/164

AGW (Germany): TRGS 900

MAK (Germany): MAK- und BAT-Liste

**recommended monitoring procedures in accordance with 2020/878/EU no. 8.1.2:**

7440-22-4 silver: ISO 15202(F, E), BIA 8600(D), NIOSH 7301(E)

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

7440-66-6 zinc: OSHA ID121(E), NIOSH 7300, 7301, 7303(E)

**Additional information:** The lists valid during the making were used as basis.**8.2 Exposure controls****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:**

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

**Respiratory protection:**

Use suitable respiratory protective device in case of insufficient ventilation.

Filter P2

**Hand protection** Leather gloves**Material of gloves** Leather gloves**Penetration time of glove material** Value for the permeation: Level ≤ -**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:	Silver-coloured
Odour:	Odourless
Odour threshold:	Not determined.
Melting point/freezing point:	620-655 °C
Boiling point or initial boiling point and boiling range	Undetermined.
Flammability	Not determined.
Lower and upper explosion limit	
Lower:	Not determined.
Upper:	Not determined.
Flash point:	Not applicable.
Auto-ignition temperature:	Product is not selfigniting.
Decomposition temperature:	Not determined.
pH	Not applicable.
Viscosity:	
Kinematic viscosity	Not applicable.
Dynamic:	Not applicable.
Solubility	
water:	Insoluble.
Partition coefficient n-octanol/water (log value)	Not determined.
Vapour pressure:	Not applicable.
Density and/or relative density	
Density at 20 °C:	9.4 g/cm <sup>3</sup>
Relative density	Not determined.
Vapour density	Not applicable.
Particle characteristics	See item 3.

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**9.2 Other information****Appearance:****Form:** *Solid***Important information on protection of health and environment, and on safety.****Explosive properties:***Product does not present an explosion hazard.***Solvent content:****Organic solvents:** *0.0 %***VOC (EC)** *0.00 %***Solids content:***100.0 %***Change in condition****Evaporation rate** *Not applicable.***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***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.**Stable up to melting point.***10.3 Possibility of hazardous reactions***Reacts with strong oxidising agents.**Reacts with acids, alkalis and 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:** *No dangerous decomposition products known.***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.***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** *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.*

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**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** For information on endocrine disrupting properties see section 11.**12.7 Other adverse effects****Additional ecological information:****General notes:***The product contains heavy metals. Avoid transfer into the environment. Specific preliminary treatments are necessary**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** Contact manufacturer for recycling information.**European waste catalogue**

17 04 07: mixed metals

*cardboard packaging:*

15 01 01: paper and cardboard packaging

*Plastic packaging, inner foil:*

15 01 02: plastic packaging

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

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## 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.*

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.*

## 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.*

## 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:

25.08.2015: adaption to Regulation 453/2010/EG, 830/2015, 2012/18/EU

10.05.2017: chapter 8

15.03.2018: chapter 13

07.11.2018: chapter 3

21.04.2021: chapter 1, 3, 8, 15, 16

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

## Relevant phrases

H411 Toxic to aquatic life with long lasting effects.

Contact: Dr. M. Probst

Version number of previous version: 4

## Abbreviations and acronyms:

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)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

Safety data sheet SD3098

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