

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

Printing date 06.06.2018

Version number 3

Revision: 06.06.2018

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

**1.1 Product identifier**

Trade name: Ag 244, B-Ag44CuZn-675/735 (L-Ag44, AG203)



**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 Lippertfeld 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:** Not necessary, due to the fact that the product does not need to be labelled.

**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 Chemical characterisation: Mixtures**

Description: Mixture: consisting of the following components.

**Dangerous components:**

CAS: 7440-22-4 EINECS: 231-131-3 Reg.nr.: 01-2119555669-21	silver	substance with a Community workplace exposure limit	43.0-45.0%
CAS: 7440-50-8 EINECS: 231-159-6 Reg.nr.: 01-2119480154-42	copper	substance with a Community workplace exposure limit	29.0-31.0%
CAS: 7440-66-6 EINECS: 231-175-3 Reg.nr.: 01-2119467174-37	zinc	substance with a Community workplace exposure limit	24.0-28.0%

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.

No special measures required.

**After inhalation:** Supply fresh air; consult doctor in case of complaints.

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**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.***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:** *No special measures required.***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***Ensure that suitable extractors are available on processing machines**No special measures required.***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:** 11**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:****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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**7440-66-6 zinc**

MAK (Germany)	Long-term value: 0.1A* 2E** mg/m <sup>3</sup> *alveolengängig; **einatembar
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**Regulatory information**

IOELV (EU): (EU) 2017/164

AGW (Germany): TRGS 900

MAK (Germany): MAK- und BAT-Liste

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**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)

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

7440-66-6 zinc: NIOSH 7300, 7301, 7303(E), OSHA ID 121(E)

**Additional information:** The lists valid during the making were used as basis.**8.2 Exposure controls****Appropriate engineering controls:** Not required if no contact.**Personal protective equipment:****General protective and hygienic measures:** Avoid skin contact with the liquefied material.**Respiratory protection:**

Use suitable respiratory protective device in case of insufficient ventilation.

Filter P2

**Protection of hands:**

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

**Material of gloves** Leather gloves.**Eye 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****Appearance:**

Form:

Solid

Colour:

Gold coloured

Odour:

Odourless

Odour threshold:

Not determined.

**pH-value:**

Not applicable.

**Change in condition**

Melting point/freezing point: 675-735 °C

Initial boiling point and boiling range: Undetermined.

Flash point:

Not applicable.

Flammability (solid, gas):

Not determined.

Decomposition temperature:

Not determined.

Auto-ignition temperature:

Product is not selfigniting.

Explosive properties:

Product does not present an explosion hazard.

**Explosion limits:**

Lower:

Not determined.

Upper:

Not determined.

Vapour pressure:

Not applicable.

Density at 20 °C:

9.8 g/cm<sup>3</sup>

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)

0.00 %

Solids content:

100.0 %

**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:**

Stable at environment temperature.

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*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 toxicological effects****Acute toxicity** *Based on available data, the classification criteria are not met.***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.***CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)****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.***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.***Additional ecological information:****General notes:***The product contains heavy metals. Avoid transfer into the environment. Specific preliminary treatments are necessary  
Generally not hazardous for water***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** *Contact manufacturer for recycling information.***European waste catalogue***17 04 07: mixed metals**Plastic packaging:**15 01 02: plastic packaging**Outer packaging or cardboard packaging:**15 01 01: paper and cardboard packaging***Uncleaned packaging:****Recommendation:** *Disposal must be made according to official regulations.***SECTION 14: Transport information****14.1 UN-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*

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<b>14.4 Packing group</b>	
ADR, IMDG, IATA	Void
<b>14.5 Environmental hazards:</b>	
Marine pollutant:	No
<b>14.6 Special precautions for user</b>	Not applicable.
<b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b>	Not applicable.
UN "Model Regulation":	Void

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

#### National regulations:

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

**Waterhazard class:** Generally not 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/EU, 2012/18/EU

06.06.2018: section 8.2, 13, 15

**Contact:** Dr. M. Probst

#### Abbreviations and acronyms:

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)

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

**Safety data sheet SD3100**

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