



Safety Data Sheet acc. to OSHA HCS

Printing date 12/07/2016

Reviewed on 12/07/2016

1 Identification

- **Product identifier**
- **Trade name:** *Lötdraht Kristall 400 SN100C*
- **Application of the substance / the mixture** *Brazing alloy*
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
*Stannol GmbH
Haberstr. 24
D-42551 Velbert
Deutschland
+49/2051-3120-332
sdb@stannol.de*
- **Information department:** *Product Safety Department*
- **Emergency telephone number:** *8:00 am - 5:00 pm (CET) +49 (0) 2051 3120 332*

2 Hazard(s) identification

- **Classification of the substance or mixture**
The product is not classified according to the Globally Harmonized System (GHS).
- **Label elements**
- **GHS label elements** *Does not meet labeling criteria*
- **Hazard pictograms** *Void*
- **Signal word** *Void*
- **Hazard statements** *Void*
- **Other hazards**
*Inhalation of vapors that are released during the soldering process should be avoided. Flux fumes will irritate nose, throat and lungs and may cause allergic reaction (asthma) after prolonged or repeated exposure. Therefore, we recommend the usage of fume extractions with appropriate filters.
Always wash your hands carefully with soap and water after handling the product before eating, drinking and smoking.
Do not heat the soldering materials above 500 °C.
Keep out of reach of children.*
- **Results of PBT and vPvB assessment**
- **PBT:** *Not applicable.*
- **vPvB:** *Not applicable.*

3 Composition/information on ingredients

- **Chemical characterization:** *Mixtures*
- **Description:** *Mixture of the substances listed below with nonhazardous additions.*
- **Dangerous components:**
7440-31-5 tin

4 First-aid measures

- **Description of first aid measures**
- **General information:** *No special measures required.*
- **After inhalation:** *Supply fresh air; consult doctor in case of complaints.*
- **After skin contact:** *Generally the product does not irritate the skin.*



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- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Wear protective clothing.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:** Pick up mechanically.
- **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.

- **Protective Action Criteria for Chemicals**

- **PAC-1:**

7440-31-5 tin	6 mg/m ³
7440-50-8 copper	3 mg/m ³
7440-02-0 nickel	4.5 mg/m ³
7440-22-4 silver	0.3 mg/m ³
7440-36-0 antimony	1.5 mg/m ³
7440-38-2 arsenic	1.5 mg/m ³
7440-74-6 indium	0.3 mg/m ³
7440-69-9 bismuth	15 mg/m ³
7439-89-6 iron	3.2 mg/m ³
7440-56-4 germanium	3.2 mg/m ³
7440-48-4 cobalt	0.18 mg/m ³
7440-43-9 cadmium	0.10 mg/m ³

- **PAC-2:**

7440-31-5 tin	67 mg/m ³
7440-50-8 copper	33 mg/m ³
7440-02-0 nickel	50 mg/m ³
7440-22-4 silver	170 mg/m ³
7440-36-0 antimony	13 mg/m ³

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7440-38-2 arsenic	17 mg/m ³
7440-74-6 indium	3.3 mg/m ³
7440-69-9 bismuth	170 mg/m ³
7439-89-6 iron	35 mg/m ³
7440-56-4 germanium	35 mg/m ³
7440-48-4 cobalt	2 mg/m ³
7440-43-9 cadmium	0.76 mg/m ³
· PAC-3:	
7440-31-5 tin	400 mg/m ³
7440-50-8 copper	200 mg/m ³
7440-02-0 nickel	99 mg/m ³
7440-22-4 silver	990 mg/m ³
7440-36-0 antimony	80 mg/m ³
7440-38-2 arsenic	100 mg/m ³
7440-74-6 indium	20 mg/m ³
7440-69-9 bismuth	990 mg/m ³
7439-89-6 iron	150 mg/m ³
7440-56-4 germanium	170 mg/m ³
7440-48-4 cobalt	20 mg/m ³
7440-43-9 cadmium	4.7 mg/m ³

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **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:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**
- 7440-31-5 tin
- PEL Long-term value: 2 mg/m³
metal
- REL Long-term value: 2 mg/m³

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TLV Long-term value: 2 mg/m³
metal

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Not required.
- **Protection of hands:**
Rubber gloves
Synthetic gloves
To avoid skin problems reduce the wearing of gloves to the required minimum.
- **Material of gloves**
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 can not be calculated in advance and has therefore to be checked prior to the application.
- **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.
- **Eye protection:** Not required.

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**
 - Form:** Rope
 - Color:** Grey
- **Odor:** Characteristic
- **Odor threshold:** Not determined.
- **pH-value:** Not applicable.
- **Change in condition**
 - Melting point/Melting range:** Undetermined.
 - Boiling point/Boiling range:** Undetermined.
- **Flash point:** Not applicable.
- **Flammability (solid, gaseous):** Not determined.
- **Ignition temperature:**
 - Decomposition temperature:** Not determined.
- **Auto igniting:** Product is not selfigniting.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**
 - Lower:** Not determined.
 - Upper:** Not determined.
- **Vapor pressure:** Not applicable.

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- **Density:** *Not determined.*
- **Relative density** *Not determined.*
- **Vapor 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 content:** *0.0 g/l / 0.00 lb/gl*
- **Solids content:** *100.0 %*
- **Other information** *No further relevant information available.*

10 Stability and reactivity

- **Reactivity** *No further relevant information available.*
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** *No decomposition if used according to specifications.*
- **Possibility of hazardous reactions** *No dangerous reactions known.*
- **Conditions to avoid** *No further relevant information available.*
- **Incompatible materials:** *No further relevant information available.*
- **Hazardous decomposition products:** *No dangerous decomposition products known.*

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
 - **on the skin:** *No irritant effect.*
 - **on the eye:** *No irritating effect.*
- **Sensitization:** *No sensitizing effects known.*
- **Additional toxicological information:**

*The product is not subject to classification according to internally approved calculation methods for preparations:
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.*
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)**

7440-02-0 nickel	2B
7439-92-1 lead	2B
7440-38-2 arsenic	1
7440-48-4 cobalt	2B

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7440-43-9 cadmium	
· NTP (National Toxicology Program)	
7440-02-0 nickel	R
7439-92-1 lead	R
7440-38-2 arsenic	K
7440-48-4 cobalt	R
7440-43-9 cadmium	K
· OSHA-Ca (Occupational Safety & Health Administration)	
7440-38-2 arsenic	
7440-43-9 cadmium	

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (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.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Smaller quantities can be disposed of with household waste.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- **UN-Number**
- **DOT, ADN, IMDG, IATA** not regulated
- **UN proper shipping name**
- **DOT, ADN, IMDG, IATA** not regulated
- **Transport hazard class(es)**
- **DOT, ADN, IMDG, IATA**
- **Class** not regulated

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- **Packing group**
- **DOT, IMDG, IATA** *not regulated*
- **Environmental hazards:** *Not applicable.*
- **Special precautions for user** *Not applicable.*
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** *Not applicable.*
- **UN "Model Regulation":** *not regulated*

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**
- **Section 355 (extremely hazardous substances):**
None of the ingredients is listed.
- **Section 313 (Specific toxic chemical listings):**
7440-50-8 *copper*
7440-02-0 *nickel*
7440-22-4 *silver*
7440-36-0 *antimony*
7439-92-1 *lead*
7440-38-2 *arsenic*
7440-48-4 *cobalt*
7440-43-9 *cadmium*
7429-90-5 *aluminium*
- **TSCA (Toxic Substances Control Act):**
7440-31-5 *tin*
Ester von hydriertem Kolophonium
65997-06-0 *Rosin, hydrogenated*
7440-50-8 *copper*
111-20-6 *sebacic acid*
505-48-6 *suberic acid*
124-04-9 *adipic acid*
7440-02-0 *nickel*
7440-22-4 *silver*
7440-36-0 *antimony*
7440-38-2 *arsenic*
7440-74-6 *indium*
7440-69-9 *bismuth*
7439-89-6 *iron*
7440-56-4 *germanium*

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7440-48-4 cobalt

7440-43-9 cadmium

7429-90-5 aluminium

· **Proposition 65**

· **Chemicals known to cause cancer:**

7440-02-0 nickel

7439-92-1 lead

7440-38-2 arsenic

7440-48-4 cobalt

7440-43-9 cadmium

· **Chemicals known to cause reproductive toxicity for females:**

7439-92-1 lead

· **Chemicals known to cause reproductive toxicity for males:**

7439-92-1 lead

7440-43-9 cadmium

· **Chemicals known to cause developmental toxicity:**

7439-92-1 lead

7440-43-9 cadmium

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

7440-50-8 copper

D

7440-22-4 silver

D

7439-92-1 lead

B2

7440-38-2 arsenic

A

7440-43-9 cadmium

B1

7440-66-6 zinc

II

· **TLV (Threshold Limit Value established by ACGIH)**

7440-02-0 nickel

A5

7439-92-1 lead

A3

7440-38-2 arsenic

A1

7440-48-4 cobalt

A3

7440-43-9 cadmium

A2

7429-90-5 aluminium

A4

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

7440-02-0 nickel

7440-38-2 arsenic

7440-43-9 cadmium

· **GHS label elements** Void

· **Hazard pictograms** Void

· **Signal word** Void

· **Hazard statements** Void

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- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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.

- **Department issuing SDS:** Product Safety Department
- **Contact:** Hr. Dörr
- **Date of preparation / last revision** 12/07/2016 / -
- **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
 - DOT: US Department of Transportation
 - IATA: International Air Transport Association
 - ACGIH: American Conference of Governmental Industrial Hygienists
 - 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
 - NIOSH: National Institute for Occupational Safety
 - OSHA: Occupational Safety & Health
 - TLV: Threshold Limit Value
 - PEL: Permissible Exposure Limit
 - REL: Recommended Exposure Limit