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

1.1 Product identifier
   Trade name : STANDART Super Ink Lining 9900 Rich Gold Bronze Powder
   Product code : 065207C20 065207C20

1.2 Relevant identified uses of the substance or mixture and uses advised against
   This information is not available.

1.3 Details of the supplier of the safety data sheet
   Company : ECKART GmbH
             Guentersthal 4
             91235 Hartenstein
   Telephone : +499152770
   Telefax : +499152777008
   E-mail address of person responsible for the SDS : msds.eckart@altana.com

1.4 Emergency telephone number
   GBK Gefahrstoff Büro GmbH, Ingelheim, Germany:
   From outside US: (001) 352-323-3500
   (First call in English, response in your language is possible)
   US & Canada (toll free) : 1-800-5355-053

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
   Classification (REGULATION (EC) No 1272/2008)
   Flammable solids, Category 1
   Acute toxicity, Category 4
   Eye irritation, Category 2
   Acute aquatic toxicity, Category 1
   Chronic aquatic toxicity, Category 1
   H228: Flammable solid.
   H302: Harmful if swallowed.
   H319: Causes serious eye irritation.
   H400: Very toxic to aquatic life.
   H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements
   Labelling (REGULATION (EC) No 1272/2008)
**Hazard pictograms**

Signal word: Danger

Hazard statements:
- H228: Flammable solid.
- H302: Harmful if swallowed.
- H319: Causes serious eye irritation.
- H410: Very toxic to aquatic life with long lasting effects.

Precautionary statements:
- Prevention:
  - P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
  - P273: Avoid release to the environment.
  - P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:
- P337 + P313: If eye irritation persists: Get medical advice/ attention.
- P370 + P378: In case of fire: Use for extinction: Special powder for metal fires.
- P370 + P378: In case of fire: Use for extinction: Dry sand.

Hazardous components which must be listed on the label:
- Copper

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**SECTION 3: Composition/information on ingredients**

3.2 Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>copper</td>
<td>7440-50-8</td>
<td>231-159-6</td>
<td>01-2119480154-42</td>
<td>&gt;= 50 - &lt;= 100</td>
</tr>
</tbody>
</table>

Acute Tox. 4; H302 Eye Irrit. 2; H319 Aquatic Acute 1; H400 Aquatic Chronic 1; H410
SECTION 4: First aid measures

4.1 Description of first aid measures

General advice: Move the victim to fresh air.

Do not leave the victim unattended.

Move out of dangerous area.

Show this safety data sheet to the doctor in attendance.

If inhaled: If unconscious, place in recovery position and seek medical advice.

If symptoms persist, call a physician.

In case of skin contact: Wash off immediately with soap and plenty of water.

If on skin, rinse well with water.

If on clothes, remove clothes.

In case of eye contact: Immediately flush eye(s) with plenty of water.

Remove contact lenses.

Keep eye wide open while rinsing.

If eye irritation persists, consult a specialist.

If swallowed: Keep respiratory tract clear.

Do not give milk or alcoholic beverages.

Never give anything by mouth to an unconscious person.

If symptoms persist, call a physician.

4.2 Most important symptoms and effects, both acute and delayed

Risks: Harmful if swallowed.

Causes serious eye irritation.

4.3 Indication of any immediate medical attention and special treatment needed

This information is not available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Special powder against metal fire
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

STANDART Super Ink Lining 9900 Rich Gold
Bronze Powder

Dry sand
ABC powder

Unsuitable extinguishing media:
Water
High volume water jet

5.2 Special hazards arising from the substance or mixture
Specific hazards during firefighting:
Do not allow run-off from fire fighting to enter drains or water courses.

5.3 Advice for firefighters
Special protective equipment for firefighters:
Wear self-contained breathing apparatus for firefighting if necessary.

Further information:
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Standard procedure for chemical fires.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Use a water spray to cool fully closed containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Personal precautions:
Use personal protective equipment.
Evacuate personnel to safe areas.
Use personal protective equipment.
Avoid dust formation.
Avoid breathing dust.
Remove all sources of ignition.

6.2 Environmental precautions
Environmental precautions:
Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up
Methods for cleaning up:
Use mechanical handling equipment.
Pick up and transfer to properly labelled containers.

Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
For personal protection see section 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Advice on safe handling
Avoid creating dust. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces.

Avoid formation of respirable particles.
Do not breathe vapours/dust.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion
Normal measures for preventive fire protection.

Avoid dust formation. Keep away from open flames, hot surfaces and sources of ignition.

Hygiene measures
General industrial hygiene practice. Do not smoke. Wash hands before breaks and at the end of workday. Keep away from food and drink. Keep away from tobacco products.

When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities
Requirements for storage areas and containers
Electrical installations / working materials must comply with the technological safety standards.

Keep away from sources of ignition - No smoking. Do not store near combustible materials. Keep containers tightly closed in a cool, well-ventilated place. To maintain product quality, do not store in heat or direct sunlight.

No smoking. Keep container tightly closed in a dry and well-ventilated place. Electrical installations / working materials must comply with the technological safety standards.
Further information on storage conditions: Protect from humidity and water.

Advice on common storage: Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions. Do not store together with oxidizing and self-igniting products.

Dampness: Keep in a dry, cool and well-ventilated place.

Further information on storage stability: Keep in a dry place. No decomposition if stored and applied as directed.

7.3 Specific end use(s)
This information is not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

**Occupational Exposure Limits**

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Basis (Version Date)</th>
</tr>
</thead>
<tbody>
<tr>
<td>copper</td>
<td>7440-50-8</td>
<td>TWA (Inhalable)</td>
<td>10 mg/m^3</td>
<td>GB EH40 (2011-12-01)</td>
</tr>
</tbody>
</table>

Further information: The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m^-3 8-hour TWA of inhalable dust or 4 mg.m^-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit. Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used.

| TWA (Respirable) | 4 mg/m^3 | GB EH40 (2011-12-01) |

Further information: The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m^-3 8-hour TWA of inhalable dust or 4 mg.m^-3 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit. Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used.

| TWA | 1 mg/m^3 (Copper) | GB EH40 (2005-04-06) |
| STEL | 2 mg/m^3 (Copper) | GB EH40 (2005-04-06) |
| TWA | 0.2 mg/m^3 (Copper) | GB EH40 (2005-04-06) |

Further information: The word 'fume' is often used to include gases and vapours. This is not the
case for exposure limits where 'fume' should normally be applied to solid particles generated by chemical reactions or condensed from the gaseous state, usually after volatilisation from melted substances. The generation of fume is often accompanied by a chemical reaction such as oxidation or thermal breakdown. Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used.

<table>
<thead>
<tr>
<th>Substance name</th>
<th>End Use</th>
<th>Exposure routes</th>
<th>Potential health effects</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>copper</td>
<td>Workers</td>
<td>Skin contact</td>
<td>short term – systemic effects</td>
<td>273 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Inhalation</td>
<td>short term – systemic effects</td>
<td>20 mg/m3</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Skin contact</td>
<td>long term – systemic effects</td>
<td>137 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Skin contact</td>
<td>short term – systemic effects</td>
<td>273 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Inhalation</td>
<td>short term – systemic effects</td>
<td>20 mg/m3</td>
</tr>
<tr>
<td>zinc powder - zinc dust (stabilized)</td>
<td>Workers</td>
<td>Inhalation</td>
<td>long term – systemic effects</td>
<td>5 mg/m3</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Skin contact</td>
<td>long term – systemic effects</td>
<td>83 mg/kg</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

STANDART Super Ink Lining 9900 Rich Gold
Bronze Powder

<table>
<thead>
<tr>
<th>Consumers</th>
<th>Ingestion</th>
<th>long term – systemic effects</th>
<th>0.83 mg/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumers</td>
<td>Skin contact</td>
<td>long term – systemic effects</td>
<td>83 mg/kg</td>
</tr>
<tr>
<td>Consumers</td>
<td>Inhalation</td>
<td>long term – systemic effects</td>
<td>2.5 mg/m³</td>
</tr>
</tbody>
</table>

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

<table>
<thead>
<tr>
<th>Substance name</th>
<th>Environmental Compartment</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>copper</td>
<td>Soil</td>
<td>65.5 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Fresh water</td>
<td>0.0078 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>87 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0.0052 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>676 mg/kg</td>
</tr>
<tr>
<td></td>
<td>STP</td>
<td>0.230 mg/l</td>
</tr>
<tr>
<td>zinc powder - zinc dust (stabilized)</td>
<td>Fresh water</td>
<td>0.0206 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>117.8 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0.0061 mg/l</td>
</tr>
<tr>
<td></td>
<td>Soil</td>
<td>35.6 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>56.5 mg/kg</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

Personal protective equipment

Eye protection : Safety glasses

Wear face-shield and protective suit for abnormal processing problems.

Hand protection

Material : Leather

Remarks : Leather gloves The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. The exact break through time can be obtained from the protective glove producer and this has to be observed. Recommended preventive skin protection

The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Skin and body protection : Long sleeved clothing

Dust impervious protective suit

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection : Use suitable breathing protection if workplace concentration requires.
Respirator with a dust filter
P1 filter

Environmental exposure controls
Water: The product should not be allowed to enter drains, water courses or the soil.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
Appearance: powder
Colour: gold
Odour: odourless
Odour Threshold: No data available
pH: No data available
Freezing point: No data available
Boiling point/boiling range: No data available
Flash point: No data available
Evaporation rate: No data available
Flammability (solid, gas): The substance or mixture is a flammable solid with the category 1.
Self-ignition: No data available
Auto-ignition temperature: No data available
Smoldering temperature: No data available
Decomposition temperature: No data available
Explosive properties : No data available
Oxidizing properties : No data available
Upper explosion limit / Upper flammability limit : No data available
Lower explosion limit / Lower flammability limit : No data available
Vapour pressure : No data available
Relative vapour density : No data available
Relative density : No data available
Density : No data available
Bulk density : No data available
Water solubility : No data available
Solubility in other solvents : No data available
Partition coefficient: n-octanol/water : No data available
Decomposition temperature : No data available
Viscosity, dynamic : No data available
Viscosity, kinematic : No data available
Flow time : No data available

9.2 Other information
No data available

SECTION 10: Stability and reactivity

10.1 Reactivity
No decomposition if stored and applied as directed.
No decomposition if stored and applied as directed.

10.2 Chemical stability
No decomposition if stored and applied as directed.

10.3 Possibility of hazardous reactions
Hazardous reactions : Stable under recommended storage conditions.
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

STANDART Super Ink Lining 9900 Rich Gold
Bronze Powder

No hazards to be specially mentioned.

No decomposition if stored and applied as directed.

Dust may form explosive mixture in air.

10.4 Conditions to avoid
Conditions to avoid : No data available
Heat, flames and sparks.

10.5 Incompatible materials

10.6 Hazardous decomposition products
Contact with water or humid air : This information is not available.

Thermal decomposition : This information is not available.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
Harmful if swallowed.

Product:

Acute oral toxicity : Acute toxicity estimate: 727.7 mg/kg
Method: Calculation method

Components:
copper:
Acute oral toxicity : Assessment: The component/mixture is moderately toxic after single ingestion.

zinc powder - zinc dust (stabilized):
Acute oral toxicity : (Rat): > 2,000 mg/kg
Acute inhalation toxicity : LC50 (Rat): 5.41 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Skin corrosion/irritation
Not classified based on available information.
Product:
Remarks: May cause skin irritation in susceptible persons.

Components:
copper:
Remarks: May cause skin irritation in susceptible persons.

Serious eye damage/eye irritation
Causes serious eye irritation.

Product:
Remarks: Eye irritation

Components:
copper:
Result: Eye irritation
Remarks: Eye irritation

Respiratory or skin sensitisation
Skin sensitisation
Not classified based on available information.

Respiratory sensitisation
Not classified based on available information.

Germ cell mutagenicity
Not classified based on available information.

Carcinogenicity
Not classified based on available information.

Reproductive toxicity
Not classified based on available information.

STOT - single exposure
Not classified based on available information.

STOT - repeated exposure
Not classified based on available information.

Aspiration toxicity
Not classified based on available information.

Further information
Product:
Remarks: No data available
Components:

copper:
Remarks: No data available

zinc powder - zinc dust (stabilized):
Remarks: No data available

SECTION 12: Ecological information

12.1 Toxicity

Components:
copper:
M-Factor (Acute aquatic toxicity) : 10

Ecotoxicology Assessment
Acute aquatic toxicity : Very toxic to aquatic life.
Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

zinc powder - zinc dust (stabilized):

Ecotoxicology Assessment
Acute aquatic toxicity : Very toxic to aquatic life.
Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
Product:
Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
12.6 Other adverse effects

**Product:**
Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.

**Components:**

copper:
Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.

zinc powder - zinc dust (stabilized):
Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

European Waste Catalogue : 12 01 04 - non-ferrous metal dust and particles
European Waste Catalogue : 12 01 04 - non-ferrous metal dust and particles
European Waste Catalogue : 10 03 21 - other particulates and dust (including ball-mill dust) containing dangerous substances
European Waste Catalogue : 10 03 21 - other particulates and dust (including ball-mill dust) containing dangerous substances

13.1 Waste treatment methods

Product : The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company. In accordance with local and national regulations.

Contaminated packaging : Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum. In accordance with local and national regulations.

SECTION 14: Transport information

14.1 UN number
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

STANDART Super Ink Lining 9900 Rich Gold
Bronze Powder

Version 1.0   Revision Date: 08.02.2018   SDS Number: 102000028912   Print Date: 20.11.2018
Date of first issue: 08.02.2018

ADR : UN 3089
IMDG : UN 3089
IATA : UN 3089

14.2 UN proper shipping name

ADR : METAL POWDER, FLAMMABLE, N.O.S.
      (Gold bronze powder, Copper metal powder)
IMDG : METAL POWDER, FLAMMABLE, N.O.S.
      (Gold bronze powder, Copper metal powder)
IATA : Metal powder, flammable, n.o.s.

14.3 Transport hazard class(es)

ADR : 4.1
IMDG : 4.1
IATA : 4.1

14.4 Packing group

ADR
Packaging group : II
Classification Code : F3
Hazard Identification Number : 40
Labels : 4.1
Tunnel restriction code : (E)

IMDG
Packaging group : II
Labels : 4.1
EmS Code : F-G, S-G
Remarks : IMDG Code segregation group 7 - Heavy metals and their salts, IMDG Code segregation group 15 - Powdered metals

IATA (Cargo)
Packing instruction (cargo aircraft) : 448
Packing instruction (LQ) : Y441
Packaging group : II
Labels : Flammable Solid

IATA (Passenger)
Packing instruction (passenger aircraft) : 445
Packing instruction (LQ) : Y441
Packaging group : II
Labels : Flammable Solid

14.5 Environmental hazards

ADR
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

STANDART Super Ink Lining 9900 Rich Gold Bronze Powder

Environmentally hazardous : yes

IMDG
Marine pollutant : yes

14.6 Special precautions for user
Not applicable

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
Not applicable for product as supplied.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).
Not applicable

15.2 Chemical safety assessment
This information is not available.

SECTION 16: Other information

Full text of H-Statements
H302 : Harmful if swallowed.
H319 : Causes serious eye irritation.
H400 : Very toxic to aquatic life.
H410 : Very toxic to aquatic life with long lasting effects.

Full text of other abbreviations
Acute Tox. : Acute toxicity
Aquatic Acute : Acute aquatic toxicity
Aquatic Chronic : Chronic aquatic toxicity
Eye Irrit. : Eye irritation
GB EH40 : UK. EH40 WEL - Workplace Exposure Limits
GB EH40 / TWA : Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL : Short-term exposure limit (15-minute reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxin; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

STANDART Super Ink Lining 9900 Rich Gold Bronze Powder

Version 1.0 Revision Date: 08.02.2018 SDS Number: 102000028912 Print Date: 20.11.2018 Date of first issue: 08.02.2018

Further information
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

GB / EN