

## Material Safety Data Sheet

According to GB/T 16483-2008 & UN GHS 4.0 revision

### 1. Chemicals and Identification

#### 1.1 products validation

product name SA0003, SA0004, SA0009, SA0010

descriptions lead-free solder

identifying information Unknown

#### 1.2 recommended and restrictions on use

1.2.1 recommended soldering for electronic parts and components

1.2.2 restrictions unknown

#### 1.3 Supplier information

Manufacturer 2direct GmbH

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### 2. Hazards summarizing

#### 2.1 classification of substances and mixture

##### 2.1.1 GHS hazards classification

physical hazards Unclassified

health hazards Inhalation hazard category 1  
Respiratory sensitization category 1B

environmental hazards Unclassified

#### 2.2 Label element

pictogram



Warning words Danger

hazard statement Inhalation and if swallowed  
May cause sensitization by skin contact  
Vapours may cause drowsiness and dizziness

#### Precautionary statement

precautionary measure Stay away from high temperature  
Far away from strong acid and alkali  
Don't inhale smoke and vapour  
Washing hands thoroughly after handling.

|                          |   |
|--------------------------|---|
| <b>accident response</b> | Don't eat and drink when soldering<br>wear gloves/goggles/face guard.<br>After swallowing, induce vomiting if person is conscious, seek medical help.<br>After skin contact, immediately wash with soap and rinse.<br>After inhalation: supply fresh air, keep breathing smooth.<br>Of fire, use dry chemical, carbon dioxide, sandy soil . |
| <b>storage</b>           | Stored in dry shade   |
| <b>disposal</b>          | According to local regulations  |

### 3. composition information

**material or mixture:** mixture

**Composition:**

| chemical name | CAS        | (%) content |
|---------------|------------|-------------|
| tin           | 7440-31-5  | >93         |
| copper        | 7440-50-8  | 0.5-0.9     |
| rosin         | 65997-06-0 | ≤2.5        |

### 4. first-aid measures

**4.1 summarize**

|   |  |
|---|--|
| <b>inhalation</b>                         | Supply fresh air, keep breathing smooth. If difficult in breath, oxygen; if respiratory arrest, artificial respiration then hospitalize. |
| <b>skin contact</b>                       | immediately wash with soap and rinse   |
| <b>eye contact</b>                        | opened eye lip, Rinse under running water, see doctor.   |
| <b>ingestion</b>                          | If person is conscious, induce vomiting, see medical help.   |
| <b>4.2 acute and late effects</b>         | Inhalation may damage respiratory tract  |
| <b>4.3 First-aid personnel protection</b> | Let medical staffs know involved matter, to take measures to protect themselves.   |
| <b>4.4 Special tips for doctor</b>        | Provide general measures, according to the treatment of symptoms   |

### 5. fire-fighting measures

|  |  |
|--|--|
| <b>5.1 out-fire method and extinguishing agent</b> | dry chemical, carbon dioxide, sandy soil   |
| <b>improper</b>                                    | Once-through water   |
| <b>5.2 special risk</b>                            | Heated to break down, or under the condition of fire, will release carbon monoxide, carbon dioxide, aliphatic aldehydes. |

### 6. Accidental release measure

|   |   |
|---|---|
| <b>6.1 personal precautions</b>                 | Ensure adequate ventilation, Avoiding contact with eye and skin, and inhalation |
| <b>6.2 environmental precautions</b>            | Do not allow product to reach sewage or any water course                        |
| <b>6.3 Leakage take in and cleaning method</b>  | No leak   |
| <b>6.4 Secondary hazard prevention measures</b> | No special advice.  |

## 7. handling and storage

### 7.1 handling

|                                    |  |
|------------------------------------|--|
| <b>technical measures</b>          | No special advice.   |
| <b>partial or full ventilation</b> | Adequate ventilation   |
| <b>precautionary measures</b>      | Develop healthy habit, avoid contact with skin and eyes. Washing after handling, equipped personal protection device. Washing hands and avoiding inhalation. |
| <b>operation instruction</b>       | Introduce personal protection from SDS part 8.   |

### 7.2 safe storage

|                           |   |
|---------------------------|---|
| <b>technical measures</b> | Far away from fire source, strong acid and alkali |
| <b>condition</b>          | Dry and cool space                                |
| <b>should be away</b>     | strong acid and alkali                            |
| <b>packing materials</b>  | no special advice                                 |

## 8. contact controls and personal protection

### 8.1 contact controls

|                                    |  |
|------------------------------------|--|
| <b>8.1.1 allowed concentration</b> | unknown  |
| <b>8.1.2 Eng control way</b>       | According to good industrial hygiene and safety practice, wash hands after handling or in break. |

### 8.2 personal protection device

|                                      |  |
|--------------------------------------|--|
| <b>respiratory system protection</b> | Avoid inhalation of steam, pls wear mask   |
| <b>eye protection</b>                | May flash or contact eyes, pls wear glass  |
| <b>skin and body protection</b>      | pls in anti-static overalls  |
| <b>sanitary measures</b>             | Before break and after handling washing hands immediately. Operation based on good industrial hygiene and safety practice. |

## 9. physical and chemical properties

### 9.1 general information

|   |                              |
|---|------------------------------|
| <b>apperance</b>                                      | slivery solid                |
| <b>physical state</b>                                 | solid                        |
| <b>shape</b>  | solid wire                   |
| <b>smell</b>  | tasteless                    |
| <b>PH value</b>                                       | unknown                      |
| <b>melting and freezing point</b>                     | 227/227°C                    |
| <b>boiling point, initial boiling point and range</b> | unknown                      |
| <b>flash point</b>                                    | unknown                      |
| <b>autoignition temperature</b>                       | unknown                      |
| <b>(%) : combustion limits-floor level</b>            | unknown                      |
| <b>(%) : upper level</b>                              | unknown                      |
| <b>(%) : explosion limits-floor level</b>             | unknown                      |
| <b>(%) : explosion limits-upper level</b>             | unknown                      |
| <b>density</b>  | 7.29g/cm <sup>3</sup> (20°C) |
| <b>solubleness</b>                                    | insoluble in water           |

### 9.2 other dates

|                          |         |
|--------------------------|---------|
| solubility               | unknown |
| smell threshold value    | unknown |
| evaporation rate         | unknown |
| ignitability(solid, gas) | unknown |
| surface tension          | unknown |
| light temperature        | unknown |
| viscosity                | unknown |
| molecular formula        | unknown |
| molecular weight         | Unknown |

## 10. stability and reactivity

|                                       |   |
|---------------------------------------|---|
| 10.1 stability                        | Under the condition of normal operation and storage stability |
| 10.2 The possibility of risk response | No hazardous reaction under normal use                        |
| 10.3 should be avoided                | High temperature  |
| 10.4 incompatible substances          | Strong acid/alkali  |
| 10.5 harmful decomposition products   | Carbonic oxide, carbon dioxide                                |

## 11. toxicological information

|  |                         |
|--|-------------------------|
| 11.1 Toxicokinetics, metabolism and distribution         | unknown                 |
| 11.2 toxicological information                           |                         |
| acute toxicity   |                         |
| LD50: per oral, rat                                      | 100mg/kg (IUCLID)       |
| LD50: per skin, hare                                     | unknown                 |
| LC50: inhalation, rat                                    | 40000 ppm 4 hr. (RTECS) |
| skin irritation or corrosion                             | unclassified            |
| eye irritation or corrosion                              | unclassified            |
| respiration or skin sensibility                          | unclassified            |
| germ cell mutagenicity                                   | unclassified            |
| carcinogenicity  | unclassified            |
| reproduction toxicity                                    | unclassified            |
| Specific target organ system toxicity- One-off contact   | unclassified            |
| Specific target organ system toxicity- Repeating contact | unclassified            |
| inhalation risk  | Unclassified            |

## 12. ecology information

|                  |         |
|------------------|---------|
| 12.1 ecotoxicity |         |
| fish             | unknown |
| daphnia          | unknown |
| algae            | unknown |

|                                       |         |
|---------------------------------------|---------|
| 12.2 durability and degradability     | unknown |
| 12.3 possible biological accumulation | unknown |
| 12.4 mobility in soil                 | unknown |
| 12.5 other harmful effects            | unknown |

### 13. abandon dispose

|                              |                               |
|------------------------------|-------------------------------|
| 13.1 residual waste          | According to local regulation |
| 13.2 polluted package        | unknown                       |
| 13.local disposal regulation | unknown                       |

### 14. transport information

|                                | ( ADR/RID )<br>road transportation | ( IMDG )<br>ocean carriage | ( ICAO/IATA )<br>air transportation |
|--------------------------------|------------------------------------|----------------------------|-------------------------------------|
| UN dangerous cargos No.        | unknown                            | unknown                    | unknown                             |
| UN carriage name               | unknown                            | unknown                    | unknown                             |
| UN perniciousness classify     | unknown                            | unknown                    | unknown                             |
| packing group                  | unknown                            | unknown                    | unknown                             |
| marine pollutant               | no                                 | no                         | no                                  |
| Special precautionary measures | See 2.2                            | See 2.2                    | See 2.2                             |

### 15. regulation information

#### 15.1 special regulation/legislation of safety, health and environmental for materials and mixtures

if recorded by chemical catalogues of other countries

|                                       |             |
|---------------------------------------|-------------|
| IECSC:                                | No recorded |
| EINECS:                               | No recorded |
| EPA TSCA:                             | No recorded |
| DSL/NDSL:                             | No recorded |
| GB12268-2012: hazardous articles list | No recorded |

Below laws, regulations and standards, make relevant stipulation for safe handling, storage, transportation, loading and unloading, classification and mark of chemicals.

the production safety law of the people's republic of china

the occupational disease prevention law of the people's republic of china

the environmental protection law of the people's republic of china

Hazardous chemical materials safety management regulation

Safety production license

## 15.2 Downstream consumption attention

Dispose should be accord with relevant law and regulation

## 16. other informations

### 16.1 change explain

According to standard GB/T16483-2008 <the chemical safety date sheet content and project order>, revised the former version SDS

### 16.2 training suggestion: No

### 16.3 detailed information

All information based on our current date, the SDS (the chemical safety date sheet) is only for this product.

### 16.4 reader attention

Owner of enterprise can only be used as beneficial supplement of other information obtained, and should be judged to this data properly. Be sure of moderate use for this product, guarantee health and safety of the workers. This data does not provide a guarantee, if there is any use behavior which violate this SDS or used with other products and programs, the consequence shall be borne by the users themselves.

### 16.5 abbr.

ADR: About international transport of dangerous goods road European protocol

IMDG: International maritime transport of dangerous goods rules.

EINECS: European Inventory of Existing Chemical Substance

IATA: International Air Transport Association

ICAO-TI: (ICAO) International Civil Aviation Organization

CAS: chemical abstracts No.

LC50: lethal concentration 50%

EC50: effect concentration 50%

LD50: lethal dose of 50%

The materials safety date sheet written based on optimum information of security and proper usage. But, we can't guarantee the timeliness and other express or hint information. To these data, our company do not bear any duty from the employ. The user should confirm the best information for their special usage after own research. Before use this product, every user should read this date carefully. If need more information for correct evaluation, pls contact with our company.