

6. Accidental Release Measures

Sweep up, then place into a suitable container for disposal.
If molten metal spilled, steam explosion which can be occurred.

7. Handling and Storage

Handling:

Heating can release harmful fume. Avoid breathing dust, vapor, mist or gas.
Avoid contact with skin and eyes.
Do not have any food, drink or smoke during soldering. Wash hands before eating or smoking after handling solder.

Storage:

Store in a cool, dry place prevent from direct sun shine.

8. Exposure Controls/Personal Protection

Engineering controls:

Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Personal protective equipment:

Use protective gloves, safety glasses or goggles, and appropriate protective clothing to prevent exposure.

Exposure guidelines:

Sn: 2 mg/m³ (OSHA : PEL, TWA)

Sn: 2 mg/m³ (ACGIH: TLV-TWA)

Sn: 2 mg/m³ (AUSTRALIA, BELGIUM, DENMARK, FINLAND, GERMANY, NETHERLAND, SWITZERLAND, PHILIPPINES, THAILAND: OEL-TWA)

Ag: 0.01 mg/m³ (OSHA : PEL,TWA)

Ag: 0.1 mg/m³ (ACGIH: TLV-TWA)

Ag: 0.01 mg/m³ (DENMARK, GERMANY, SWITZERLAND: OEL-TWA)

Ag: 0.1 mg/m³ (BELGIUM, FINLAND, FRANCE, UNITED KINGDOM: OEL-TWA)

Cu: 1 mg/m³ (OSHA : PEL, TWA)

Cu: 1 mg/m³ (ACGIH: TLV-TWA)

Cu: 1 mg/m³ (FINLAND, GERMANY, SWITZERLAND, THAILAND: OEL-TWA)

Rosin: Reduce to expose as low as possible. Thermal decomposition products, as resin acid – colophony, are sensitizer (ACGIH)

9. Physical and Chemical Properties

Appearance/Color : Gray solid wire.

Odor : Odorless

Boiling Point : Sn: 2270°C, Cu: 2582°C, Ag:2155°C, Rosin:approx.200°C

Melting Point : Alloys: 217~226°C, Rosin: approx.70°C

Specific Gravity : Alloys: approx.7.3 (H₂O=1 at 20°C)

Solubility in Water : Insoluble

10. Stability and Reactivity

Chemical Stability:

Stable under normal temperatures and pressures.

Conditions to Avoid:

Strong oxidants.

Incompatibilities with other Materials:

Strong oxidizing agents, acids.

Hazardous Decomposition Products:

Not available.

Hazardous Polymerization:

Will not occur.

11. Toxicological Information

Inhalation Effects:

Soldering fumes can respiratory irritation, kidney and liver damage.

Skin Effects:

May cause irritation, dermatitis.

Eyes Effects:

Can cause irritation and abrasion.

Ingestion Effects:

May cause kidney and liver damage.

12. Ecological Information

No information available.

13. Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

14. Transport Information

US DOT Hazard Class : Not regulated

US DOT ID number : Not applicable

Keep away from direct sunlight and contact with water. Avoid overturn, fall-down and any other damage on loading and transporting.

Transport material under competent regulations in your country.

15. Regulatory Information

European/International Regulations:

European Labeling in Accordance with EC Directives for Tin(Sn), Silver(Ag) and Copper(Cu).

Hazard Symbols: Not available.

Risk Phrases : Not available..

Safety Phrases : S 24/25 Avoid contact with skin and eyes.

Please refer to any other national measures that may be relevant.

16. Other Information

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