

# MATERIAL SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

Product Name : Lead-free solder  
Product No. : HS-371 / HS-372 / HS-374  
Manufacturer's Name : HOZAN TOOL INDUSTRIAL Co., Ltd.  
Address : 1-2-12 Saiwaicho, Naniwa-ku, Osaka 556-0021, Japan  
Emergency Telephone Number : Japan 06(6562)1134  
Data Prepared : January 5, 2005  
Preparer : MORI, Hiroaki

## 2. CHARACTERISTICS

Substance / Mixture : Mixture product

Chemical synonym name	Ingredients & Compositions	Chemical formula	CAS registered number
Tin	99.2-99.5 %	Sn	7440-31-5
Copper	0.5-0.8%	Cu	7440-50-8
Nickel	Less than 0.1%	Ni	7440-02-0

United Nations classification & UN number : NA

## 3. HAZARDS IDENTIFICATION

Item : No applicable to hazardous substances  
Noxiousness : NA

## 4. HANDLING AND STORAGE

### Handling

Before meal or after completion of operation, make sure to wash hands and gargle the throat.

Provide local exhaust at the work area of soldering.

**Storage** : Avoid the place directly exposed to the sun rays, store in a cool and dark place.

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## 5. EXPOSURE PROTECTION

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Density allowance : 2.0 mg/m<sup>3</sup> (value as tin content)  
Facilities : Local ventilation, whole ventilation (at soldering operation)  
Protective equipment  
Inhalation : Safety face protective mask  
Eyes : Goggle

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## 6. PHYSICAL / CHEMICAL PROPERTIES

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Outer appearance : Solid  
Color : White metallic  
Melting point : 227  
Specific gravity : 7.4

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## 7. HAZARD DATA

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Inflammability : None  
Combustibility (spontaneous combustibility, reacting to water) : None  
Oxidizibility : None  
Self reactivity • Explosion : None  
Dust explosion : None  
Stability • Reactivity : Stable

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## 8. TOXICOLOGICAL INFORMATION

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It is including symptoms and epidemic information about human being.

Corrosive properties : None  
Irritant properties (skin, eyes) : None  
Carcinogenic effects : No relevant information found.  
Mutagenic effects : No relevant information found.  
(microbe • chromosome aberration)  
Effects on the reproductive system : No relevant information found.  
Teratogenic effects : No relevant information found.  
Others (including such case of producing poisonous gas when reacting to water)  
: No relevant information found.

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## 9. ECOLOGY INFORMATION

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Biodegradability : No relevant information found.  
Bioaccumulation : No relevant information found.  
Fish toxicity : No relevant information found.

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## **10. PRECAUTIONS FOR DISPOSAL**

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Strictly observe the local regulations for disposal.

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## **11. PRECAUTIONS FOR TRANSPORTATION**

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Take care handling.

Beware of fire.

Avoid such place with high temperature and high humidity and do not directly expose to the sun rays.

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## **15. OTHER INFORMATION**

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Reference literatures

\* '13398 Chemical products' issued by The Chemical Daily Co., Ltd.

\* 'Solvent Pocket Handbook' edited by The Society of Synthetic Organic Chemistry Japan

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