


## MATERIAL SAFETY DATA SHEET

signed by

  
Hidehito Omoto  
 Manager of Copper Strips Gr.  
 Engineering Dept.

Company Name : Hitachi Cable, LTD.		Issue Date 2006/5/9	Identification Number
Address : Tsuchiura Works 3550 Kidamari-Cho, Tsuchiura-Shi Ibaraki-Ken 300-0026 Japan			
Product Name :  Copper Strip	Formula :  Copper	DOT Identification Number  N/A	

### I. Ingredients

Base Metal CAD No.	Chemical requirements:	Permissible Exposure Limits : (OSHA PEL)
C19400	P:0.015~0.15; Fe:2.1~2.6; Zn:0.05~0.2; Cu:97%min.	0.2 mg/m <sup>3</sup> as copper fume and 1.0 mg/m <sup>3</sup> as copper dust & mist

### II. Physical Data

1. Physical State : Solid 2. Appearance and Odor : Copper Color, Odorless 3. Melting Point / Boiling Point : 1090 ° C /2582 ° C 4. Specific Gravity (H <sub>2</sub> O = 1) : 8.94
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### III. Personal Protective Equipment

1. Respiratory Protection : NIOSH / MSHA approved dust and fume respirator should be used if OSHA PEL is exceeded. 2. Hands, Arms, Body/Eyes, Face Protection : Wear appropriate protection in handling copper tubing.
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### IV. Health / Safety Information

Health	Note : Copper tubing under normal conditions does not present an inhalation, ingestion or contact health hazard. Major Exposure Hazard : N/A
Safety	Fire and Explosion : Copper Products in the solid state present no fire and explosion hazard. Reactivity : Stable under normal conditions

### V. Environmental

1. Spillage and Leakage : N/A to copper products in the solid state. 2. Disposal : N/A
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While the information and recommendations of this sheet are believed to be accurate as of the present date, the issuer of this sheet makes no warranty with respect thereon and disclaims all liability from reliance thereon.

MSHA : U.S. Mine Safety and Health Administration  
 OSHA : U.S. Occupational Safety and Health Administration  
 PEL : Permissible Exposure Limit  
 NIOSH : National Institute for occupational Safety and Health

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Product Name :  Copper Strip	Formula :  Copper	DOT Identification Number  N/A	

### I. Ingredients

Base Metal: CDA No.  C15100	Chemical Requirements  Zr:0.05-0.15%; Cu+Zr:99.96%min.	Permissible Exposure Limits : (OSHA PEL) 0.2 mg/m <sup>3</sup> as copper fume and 1.0 mg/m <sup>3</sup> as copper dust & mist
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### II. Physical Data

1. Physical State : Solid 2. Appearance and Odor : Copper Color, Odorless 3. Melting Point / Boiling Point : 1083 ° C /2582 ° C 4. Specific Gravity (H <sub>2</sub> O = 1) : 8.94
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### I. Ingredients

Base Metal CDA No.	Chemical requirements(%)	Permissible Exposure Limits : (OSHA PEL)
C14415	Sn: 0.10 - 0.15; Cu+Sn: Min.99.96	0.2 mg/m <sup>3</sup> as copper fume and 1.0 mg/m <sup>3</sup> as copper dust & mist

### II. Physical Data

1. Physical State : Solid 2. Appearance and Odor : Copper Color, Odorless 3. Melting Point / Boiling Point : 1083 ° C /2336 ° C 4. Specific Gravity (H <sub>2</sub> O = 1) : 8.90
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### III. Personal Protective Equipment

1. Respiratory Protection : NIOSH / MSHA approved dust and fume respirator should be used if OSHA PEL is exceeded. 2. Hands, Arms, Body/Eyes, Face Protection : Wear appropriate protection in handling copper tubing.
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