1. Identification of the Substance/Preparation and of the Company/Undertaking

(a) Product name
   Copper adhesive tape

(b) Other means of identification
   Product Code
   P627-00002

(c) Recommended Use
   Conductive tape; for EMI and RFI shielding; shield enhancement on woven braid shielding cable; die cutting.

(d) Supplier Address
   Nitto, Inc.
   1990 Rutgers University Blvd. Lakewood, NJ08701, U.S.A.
   TEL.+1-732-901-7905  FAX.+1-732-901-9354

Emergency telephone number
   +1-732-901-7905 (Nitto, Inc.)

2. Hazards Identification

(a) GHS - Classification
   Not applicable for article

(b) Label elements
   Not Applicable

Physical state
   Solid

Odor
   Slight

Precautionary statements
   Skin contact
   IF ON SKIN: Wash with plenty of soap and water
   If skin irritation or rash occurs: Get medical advice/attention
   Wash contaminated clothing before reuse

(c) Other Hazards
   Very toxic to aquatic life with long lasting effects
   Very toxic to aquatic life

(d) Numerical measures of toxicity
   (such as acute toxicity estimates)
   99.70% of the mixture consists of ingredient(s) of unknown toxicity

3. Composition/information on Ingredients

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No.</th>
<th>Concentration or concentration ranges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>7440-50-8</td>
<td>80-90</td>
</tr>
<tr>
<td>Acrylic polymer</td>
<td>-</td>
<td>10-20</td>
</tr>
<tr>
<td>Nickel</td>
<td>7440-02-0</td>
<td>&lt;1</td>
</tr>
<tr>
<td>Release liner</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

The exact percentage (concentration) of composition has been withheld as a trade secret

4. First aid measures

(a) General information
   Inhalation
   Will not occur
   Eye contact
   Immediately flush with large amounts of water for at least 15 minutes. Examination and treatment by a physician if necessary
   Skin contact
   Wash off immediately with soap and plenty of water
   In the case of skin irritation or allergic reactions see a physician
   Ingestion
   Immediately induce vomiting and then consult a doctor

(b) Most important symptoms/effects, acute and delayed:
   No information available

(c) Self-protection of the first aider
   Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves

Note to physicians
   No information available
5. Fire-fighting measures

(a) Fire extinguishing agent
- Prohibited media
  Dry chemical, CO2, water spray or regular foam
  No information available

(b) Special exposure hazards in a fire
- Hazardous combustion products
  No information available
- Explosion data
  No information available
- Sensitivity to Mechanical Impact
  No information available
- Sensitivity to Static Discharge
  No information available

(c) Special protective equipment and precautions for firefighters
- In the event of fire, wear self-contained breathing apparatus
- Use personal protective equipment as required

6. Accidental release measures

(a) Personal Precautions
- Protective equipment and emergency procedures
  Use personal protective equipment as required
  Protective gloves and safety glasses recommended

(b) Environmental precautions
- Prevent product from entering drains
- Keep out of waterways
- Dike to collect large liquid spills
- Collect spillage

7. Handling and Storage

(a) Precautions for safe handling
- Protective gloves and safety glasses recommended

(b) Storage conditions
- Store at room temperature and normal humidity away from direct sunlight

8. Exposure Controls/Personal Protection

(a) Control parameters
- None under normal use conditions
- Other information
  No information available

(b) Appropriate engineering controls
- Ensure adequate ventilation, especially in confined areas

(c) Personal protective equipment [PPE]
- Respiratory Protection
  No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required
  Wear non-permeable gloves
- Hand protection
  Wear protective gloves
- Skin protection
  Wear protective gloves and protective clothing

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

(a) Physical state
- Solid

(b) Color
- Copper

(c) Odor
- Slight

(d) pH
- Not Applicable

(e) Melting point / Freezing point
- No information available

(f) Boiling point / boiling range
- No information available
  boiling point
  No information available

(g) Flash Point
- No data available

(h) Evaporation rate
- No data available

(i) Flammability (solid, gas)
- No data available

(j) Upper/lower flammability or explosive limits
- Upper
  No data available
- Lower
  No data available

(k) vapor pressure
- No data available

(l) Vapor density
- No data available

(m) Specific gravity
- No information available

(n) Solubility
- No information available
9.2 Other information

(o) Partition Coefficient (n-octanol/water)  
No information available

(p) Autoignition temperature  
No information available

(q) Decomposition temperature  
No data available

(r) Kinematic viscosity  
No data available

(s) Molecular weight  
No data available

10. Stability and Reactivity

(a) Reactivity  
Stable under normal conditions

(b) Chemical stability  
Stable under normal conditions

(c) Possibility of hazardous reactions  
No data available

(d) Conditions to avoid  
No information available

(e) Incompatible materials  
No information available

(f) Hazardous decomposition products:  
None under normal use conditions

11. Toxicological Information

(a) Information on likely routes of exposure

Inhalation  
No information available

Ingestion  
Not Applicable

Skin contact  
No information available

Eye contact  
No information available

(b) Most important symptoms/effects, acute and delayed:  
No information available

(c) Delayed and immediate effects and also chronic effects from short- and long-term exposure

Acute Toxicity  
No information available

Germ cell mutagenicity  
No data available on finished product

Reproductive Toxicity  
No data available on finished product

Target organ effects  
No data available

Specification target internal organs/systemic toxicity (single exposure)  
No data available on finished product

Specification target internal organ/systemic toxicity (repeat exposure)  
No data available on finished product

Aspiration hazard  
Not Applicable

(d) Unknown Acute Toxicity  
99.70% of the mixture consists of ingredient(s) of unknown toxicity

(e) Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH (American Conference of Governmental Industrial Hygienists):</th>
<th>International Agency for Research on Cancer (IARC):</th>
<th>NTP (National Toxicology Program):</th>
<th>OSHA (Occupational Safety and Health Administration of the US Department of Labor):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel 7440-02-0</td>
<td>-</td>
<td>Group 2B</td>
<td>Reasonably Anticipated</td>
<td>X</td>
</tr>
</tbody>
</table>

International Agency for Research on Cancer (IARC): Group 2B - Possibly Carcinogenic to Humans

NTP (National Toxicology Program): Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

OSHA (Occupational Safety and Health Administration of the US Department of Labor): X - Present

X - Present

12. Ecological Information

(a) Ecotoxicity  
No data available on finished product

(b) Mobility in soil  
No data available on finished product

(c) Persistence and degradability  
No data available on finished product

(d) Bioaccumulation  
No data available on finished product
13. Disposal Considerations

Waste treatment methods

Disposal of wastes

Dispose of in accordance with federal, state and local regulations. The Customer is responsible for the proper disposal of any waste generated as a result of the use of the Product or of the Product itself, and is responsible for complying with all applicable laws, rules and regulations relating to the management, storage, treatment, shipment and disposal of such waste or Product ("Waste Management Practices"). “Product” includes anything sold by Nitto Denko Corporation and/or any affiliates or subsidiaries ("Company") to Customer. The Company is not responsible for any of the Customer's Waste Management Practices. As part of these practices, Customer must separate packaging from Product before disposal. Further, Customer should review and comply with this SDS prior to any such disposal. Customer shall hold harmless the Company, its agents, contractors, successors and assigns from any and all liability, claims, loss, damage, death or injury, including reasonable attorneys fees and costs, arising out of or relating to Customer's Waste Management Practices.

Contaminated packaging

Disposal considerations

See Disposal of Wastes

Should not be released into the environment

14. Transport Information

DOT(U.S. Department of Transportation)

UN number Not Applicable
UN Proper Shipping Name Not regulated
Transport hazard class Not Applicable
Environmental hazards This product contains a chemical which is listed as a marine pollutant according to IMDG/IMO
(Applicable/not applicable)
Special precautions in connection with transport or conveyance Store in a cool area away from heat

TDG: Not regulated
MEX(Transport is specifically for Mexico) Not regulated
ICAO (air) Not regulated
IATA: Not regulated
IMDG

UN number Not Applicable
UN Proper Shipping Name Not regulated
Transport hazard class Not Applicable
Special precautions in connection with transport or conveyance Store in a cool area away from heat

RID (Regulations concerning the International Carriage of Dangerous Goods by Rail)

ADR: (European Agreement concerning International Carriage of Dangerous Goods by Road) Not regulated

ADN Technical Name Not regulated

15. Regulatory information

US Federal Regulations

CWA (Clean Water Act): This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CWA - Reportable Quantities</th>
<th>CWA - Toxic Pollutants</th>
<th>CWA - Priority Pollutants</th>
<th>CWA - Hazardous Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td>7440-50-8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nickel</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td>7440-02-0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Hazardous Substances RQs</th>
<th>CERCLA/SARA RQ</th>
<th>Reportable Quantity (RQ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper 7440-50-8</td>
<td>5000 lb</td>
<td>-</td>
<td>RQ 5000 lb final RQ</td>
</tr>
<tr>
<td>Nickel 7440-02-0</td>
<td>100 lb</td>
<td>-</td>
<td>RQ 100 lb final RQ</td>
</tr>
</tbody>
</table>

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals:

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>California Proposition 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel 7440-02-0</td>
<td>Carcinogen</td>
</tr>
</tbody>
</table>

The following statement is provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (CALIFORNIA PROPOSITION 65): WARNING: This product contains a chemical known to the state of California to cause cancer.

This PRODUCT CONTAINS A CHEMICAL THAT HAS BEEN LISTED PURSUANT TO PROPOSITION 65, CALIFORNIA HEALTH & SAFETY CODE SECTION 25249.8. EMPLOYERS MAY HAVE OBLIGATION TO WARN THEIR EMPLOYEES AND OTHER ON THEIR PREMISES OF POTENTIAL EXPOSURE TO PROPOSITION 65 LISTED SUBSTANCES. IF THIS PRODUCT IS SOLD OR USED IN OR INCORPORATED INTO A PRODUCT SOLD IN CALIFORNIA, CALIFORNIA LAW MAY REQUIRE THAT THE MANUFACTURER, DISTRIBUTOR AND RETAILER OF THE PRODUCT PROVIDE A WARNING PURSUANT TO PROPOSITION 65, CALIFORNIA HEALTH & SAFETY CODE SECTION 25249.6. FAILURE TO PROVIDE REQUIRED WARNING MAY RESULT IN LEGAL LIABILITY. THIS PRODUCT MAY NOT BE DISCHARGED INTO LAND OR INTO ANY SOURCE OF DRINKING WATER IN CALIFORNIA. This product will not contain compounds in particulate (respirable) form under normal conditions.

U.S. State Right-to-Know Regulations

Not applicable.

REACH 7 Article 33 Article SVHC notification (> 0.1wt%) None based on the current SVHC listing, as of the date of this SDS.

16. Other information

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and Chemical Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HMIS</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Physical Hazards</th>
<th>Personal protective equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>X</td>
</tr>
</tbody>
</table>

Issue date 07-Sep-2016
Date prepared 07-Sep-2016
Version 1
Source information Raw material SDS
LOLI(Chem ADVISOR) GHS classification data

Disclaimer

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End of Safety Data Sheet