Copper Sheet and Strip for Building Construction per ASTM B370
by Copper Development Association

Health Product Declaration v2.1
created via: HPDC Online Builder

CLASSIFICATION: N/A

PRODUCT DESCRIPTION: Copper sheet and strip for building construction, as manufactured by a Copper Development Association member, per ASTM B370. ASTM B370 establishes the requirements for rolled copper sheet and strip in flat lengths or coils in ounce-weight thicknesses for roofing, flashing, gutters, downspouts, and general sheet metal work in building construction. These materials may be used as finished products or as part of larger products or systems. In the latter case, the materials do not experience any chemical changes; rather, they are physically altered to meet the application requirements.

Section 1: Summary

CONTENT INVENTORY

Inventory Reporting Format
- Nested Materials Method
- Basic Method

Threshold Disclosed Per
- Material
- Product

Threshold level
- 100 ppm
- 1,000 ppm
- Per GHS SDS
- Per OSHA MSDS
- Other

Residuals/Impurities
- Considered
- Partially Considered
- Not Considered

Are All Substances Above the Threshold Indicated:
- Characterized
- Yes
- No

Percent Weight and Role Provided?

Screened
- Yes
- No

Using Priority Hazard Lists with Results Disclosed?

Identified
- Name and Identifier Provided?
- Yes
- No

CONTENT IN DESCENDING ORDER OF QUANTITY
Summary of product contents and results from screening individual chemical substances against HPD Priority Hazard Lists and the GreenScreen for Safer Chemicals®. The HPD does not assess whether using or handling this product will expose individuals to its chemical substances or any health risk. Refer to Section 2 for further details.

MATERIAL | SUBSTANCE | RESIDUAL OR IMPURITY
COPPER SHEET AND STRIP FOR BUILDING CONSTRUCTION PER ASTM B370 [ COPPER LT-UNK ] SILVER BM-1 | MUL |

VOLATILE ORGANIC COMPOUND (VOC) CONTENT
VOC Content data is not applicable for this product category.

CERTIFICATIONS AND COMPLIANCE
See Section 3 for additional listings.

CONSISTENCY WITH OTHER PROGRAMS
Pre-checked for LEED v4 Material Ingredients, Option 1

Third Party Verified?
- Yes
- No

PREPARER: Self-Prepared
VERIFIER: WAP Sustainability Consulting
VERIFICATION #: zPr-5401
SCREENING DATE: 2018-12-13
PUBLISHED DATE: 2018-12-13
EXPIRY DATE: 2021-12-13
Section 2: Content in Descending Order of Quantity

This section lists contents in a product based on specific threshold(s) and reports detailed health information including hazards. This HPD uses the inventory method indicated above, which is one of three possible methods:

- Basic Inventory method with Product-level threshold.
- Nested Material Inventory method with Product-level threshold
- Nested Material Inventory method with individual Material-level thresholds

Definitions and requirements for the three inventory methods and requirements for each data field can be found in the HPD Open Standard version 2.1, available on the HPDC website at: www.hpd-collaborative.org/hpd-2-1-standard

COPPER SHEET AND STRIP FOR BUILDING CONSTRUCTION PER ASTM B370

PRODUCT THRESHOLD: 1000 ppm
RESIDUALS AND IMPURITIES CONSIDERED: Yes

RESIDUALS AND IMPURITIES NOTES: Per ASTM B370, the product may be any copper with a minimum copper content, including silver, of 99.5%. Silver is not intentionally added and may only be present as a residual of the process by which raw material (i.e., copper ore) is refined. However, due to the high value of silver, refining operations prioritize its removal to the highest extent practical.

OTHER PRODUCT NOTES: none

COPPER

ID: 7440-50-8

%: 99.5000 - 100.0000
GS: LT-UNK
RC: Both
NANO: No
ROLE: Primary ingredient

HAZARDS:
AGENCY(IES) WITH WARNINGS:
None Found
No warnings found on HPD Priority lists

SUBSTANCE NOTES:
Per ASTM B370, the product may be any copper with a minimum copper content, including silver, of 99.5%. Silver is not intentionally added and may only be present as a residual of the process by which raw material (i.e., copper ore) is refined. However, due to the high value of silver, refining operations prioritize its removal to the highest extent practical. Pre Consumer Recycled Content Products: Recyclable copper materials generated during production which is recycled within the plant where it originates, or bought back from customers or scrap dealers (i.e., punchings from stamping operations, clippings, gates/risers from castings) Post Consumer Recycled Content Products: Scrap copper wires, cables, tubes, busbar, and strip, plate, and sheet (e.g., roofing, cladding, gutters, flashing) products

SILVER

ID: 7440-22-4

%: Impurity/Residual
GS: BM-1
RC: None
NANO: No
ROLE: Impurity/Residual

HAZARDS:
AGENCY(IES) WITH WARNINGS:
MULTIPLE
German FEA - Substances Hazardous to Waters
Class 3 - Severe Hazard to Waters

SUBSTANCE NOTES:
Per ASTM B370, the product may be any copper with a minimum copper content, including silver, of 99.5%. Silver is not intentionally added and may only be present as a residual of the process by which raw material (i.e., copper ore) is refined. However, due to the high value of silver, refining operations prioritize its removal to the highest extent practical. The GreenScreen Assessment was performed by NSF International on 1/10/2013, revised on 2/19/2015, and can be found at https://www.pharosproject.net/uploads/files/gs/66b94fbbd794b5e37bdeec8d321a3ec47cb6c44b.pdf.
Section 3: Certifications and Compliance

This section lists applicable certification and standards compliance information for VOC emissions and VOC content. Other types of health or environmental performance testing or certifications completed for the product may be provided.

VOC EMISSIONS

<table>
<thead>
<tr>
<th>CERTIFYING PARTY:</th>
<th>Self-declared</th>
</tr>
</thead>
<tbody>
<tr>
<td>APPLICABLE FACILITIES:</td>
<td>All</td>
</tr>
<tr>
<td>CERTIFICATE URL:</td>
<td></td>
</tr>
<tr>
<td>ISSUE DATE:</td>
<td>2018-12-13</td>
</tr>
<tr>
<td>EXPIRY DATE:</td>
<td></td>
</tr>
<tr>
<td>CERTIFIER OR LAB:</td>
<td>Self-Declared</td>
</tr>
</tbody>
</table>

Section 4: Accessories

This section lists related products or materials that the manufacturer requires or recommends for installation (such as adhesives or fasteners), maintenance, cleaning, or operations. For information relating to the contents of these related products, refer to their applicable Health Product Declarations, if available.

No accessories are required for this product.

Section 5: General Notes

A list of Copper Development Association members can be found at https://www.copper.org/about/cda-members.html. Please see https://www.copper.org/applications/architecture/arch_dhb/ for more information available in the Copper in Architecture - Design Handbook, a comprehensive resource presenting as much information about copper’s properties, existing technology and application to the educational design and construction field as presently exists. The handbook is part of a multi-faceted program geared to the student, architect or contractor who is involved in the design or installation of copper, brass or bronze as an architectural element. Related Construction Specifications Institute MasterFormat ® designations include the following. These are provided as a general guideline; others sections may apply.

- 07 31 16 Metal Shingles
- 07 41 13 Metal Roof Panels
- 07 42 13 Metal Wall Panels
- 07 46 00 Siding
- 07 61 00 Sheet Metal Roofing
- 07 61 13 Standing Seam Sheet Metal Roofing
- 07 61 16 Batten Seam Sheet Metal Roofing
- 07 61 19 Flat Seam Sheet Metal Roofing
- 07 62 00 Sheet Metal Flashing and Trim
- 07 62 20 Sheet Metal Gutters and Downspouts
- 07 63 00 Sheet Metal Roofing Specialties
- 07 64 00 Sheet Metal Wall Cladding
- 07 64 13 Standing Seam Sheet Metal Wall Cladding
- 07 64 16 Batten Seam Sheet Metal Wall Cladding
- 07 64 19 Flat Seam Sheet Metal Wall Cladding
- 07 70 00 Roof and Wall Specialties
- 07 71 23 Manufactured Gutters and Downspouts
- 07 95 13 Expansion Joint Cover Assemblies

Copper Sheet and Strip for Building Construction per ASTM B370

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## MANUFACTURER INFORMATION

<table>
<thead>
<tr>
<th>MANUFACTURER: Copper Development Association</th>
<th>CONTACT NAME: Carrie Claytor</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADDRESS: 7918 Jones Branch Dr. #300 McLean VA 22102, USA</td>
<td>TITLE: Director of Health, Environment, and Sustainable Development</td>
</tr>
<tr>
<td>WEBSITE: copper.org</td>
<td>PHONE: 2122517220</td>
</tr>
<tr>
<td></td>
<td>EMAIL: <a href="mailto:carrie.claytor@copperalliance.us">carrie.claytor@copperalliance.us</a></td>
</tr>
</tbody>
</table>

## KEY

<table>
<thead>
<tr>
<th>OSHA MSDS Occupational Safety and Health Administration Material Safety Data Sheet</th>
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<tbody>
<tr>
<td>GHS SDS Globally Harmonized System of Classification and Labeling of Chemicals Safety Data Sheet</td>
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</table>

### Hazard Types

<table>
<thead>
<tr>
<th>Hazard Type</th>
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</thead>
<tbody>
<tr>
<td>AQU Aquatic toxicity</td>
<td>GLO Global warming</td>
</tr>
<tr>
<td>CAN Cancer</td>
<td>MAM Mammalian/systemic/organ toxicity</td>
</tr>
<tr>
<td>DEV Developmental toxicity</td>
<td>MUL Multiple hazards</td>
</tr>
<tr>
<td>END Endocrine activity</td>
<td>NEU Neurotoxicity</td>
</tr>
<tr>
<td>EYE Eye irritation/corrosivity</td>
<td>OZO Ozone depletion</td>
</tr>
<tr>
<td>GEN Gene mutation</td>
<td>PBT Persistent Bioaccumulative Toxic</td>
</tr>
<tr>
<td>PHY Physical Hazard (reactive)</td>
<td>RES Respiratory sensitization</td>
</tr>
<tr>
<td>REP Reproductive toxicity</td>
<td>SKI Skin sensitization/irritation/corrosivity</td>
</tr>
<tr>
<td>LAN Land Toxicity</td>
<td>NF Not found on Priority Hazard Lists</td>
</tr>
</tbody>
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### GreenScreen (GS)

| BM-4 Benchmark 4 (prefer-safer chemical) | LT-P1 List Translator Possible Benchmark 1 |
| BM-3 Benchmark 3 (use but still opportunity for improvement) | LT-1 List Translator Likely Benchmark 1 |
| BM-2 Benchmark 2 (use but search for safer substitutes) | LT-UNK List Translator Benchmark Unknown (insufficient information from List Translator lists to benchmark) |
| BM-1 Benchmark 1 (avoid - chemical of high concern) | NoGS Unknown (no data on List Translator Lists) |
| BM-U Benchmark Unspecified (insufficient data to benchmark) |

### Recycled Types

<table>
<thead>
<tr>
<th>PreC Preconsumer (Post-Industrial)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PostC Postconsumer</td>
</tr>
<tr>
<td>Both Both Preconsumer and Postconsumer</td>
</tr>
<tr>
<td>Unk Inclusion of recycled content is unknown</td>
</tr>
<tr>
<td>None Does not include recycled content</td>
</tr>
</tbody>
</table>

### Other Terms

<table>
<thead>
<tr>
<th>Inventory Methods:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nested Method / Material Threshold Substances listed within each material per threshold indicated per material</td>
</tr>
<tr>
<td>Nested Method / Product Threshold Substances listed within each material per threshold indicated per product</td>
</tr>
<tr>
<td>Basic Method / Product Threshold Substances listed individually per threshold indicated per product</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nano Composed of nano scale particles or nanotechnology</th>
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<tbody>
<tr>
<td>Third Party Verified Verification by independent certifier approved by HPDC</td>
</tr>
<tr>
<td>Preparer Third party preparer, if not self-prepared by manufacturer</td>
</tr>
<tr>
<td>Applicable facilities Manufacturing sites to which testing applies</td>
</tr>
</tbody>
</table>

The Health Product Declaration (HPD) Open Standard provides for the disclosure of product contents and potential associated human and environmental health hazards. Hazard associations are based on the HPD Priority Hazard Lists, the GreenScreen List Translator™, and when available, full GreenScreen® assessments. The HPD Open Standard v2.1 is not:

- a method for the assessment of exposure or risk associated with product handling or use,
- a method for assessing potential health impacts of: (i) substances used or created during the manufacturing process or (ii) substances created after the product is delivered for end use.

Information about life cycle, exposure and/or risk assessments performed on the product may be reported by the manufacturer in appropriate Notes sections, and/or, where applicable, in the Certifications section.

The HPD Open Standard was created and is supported by the Health Product Declaration Collaborative (the HPD Collaborative), a customer-led organization composed of stakeholders throughout the building industry that is committed to the continuous improvement of building products through transparency, openness, and innovation throughout the product supply chain.

The product manufacturer and any applicable independent verifier are solely responsible for the accuracy of statements and claims made in this HPD and for compliance with the HPD standard noted.