

Copper Air Conditioning and Refrigeration Tube - Type ACR - per ASTM B280 by Copper Development Association

Health Product Declaration v2.1

created via: HPDC Online Builder

CLASSIFICATION: N/A

PRODUCT DESCRIPTION: Copper tube for air conditioning and refrigeration, as manufactured by a Copper Development Association member, per ASTM B280. ASTM B280 establishes the requirements for seamless copper tube intended for use in the connection, repairs, or alternations of air conditioning or refrigeration units in the field. 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

Basic Method / Product Threshold

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

Explanation(s) provided for Residuals/Impurities?

- Yes No

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 Yes No

Name and Identifier Provided?

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*

GREENSCREEN SCORE | HAZARD TYPE

COPPER AIR CONDITIONING AND REFRIGERATION TUBE - TYPE ACR -

PER ASTM B280 [**COPPER** **LT-UNK** **PHOSPHORUS** **BM-2** | PHY | MAM

SILVER **BM-1** | MUL **OXYGEN** **LT-UNK** | PHY]

Number of Greenscreen BM-4/BM3 contents ... 0

Contents highest concern GreenScreen Benchmark or List translator Score ... BM-1

Nanomaterial ... No

INVENTORY AND SCREENING NOTES:

Product chemistry defined in ASTM B280 (<http://www.astm.org/cgi-bin/resolver.cgi?B280>) and by UNS alloy designations referenced therein (<http://unscopperalloys.org/wrought/coppers.php>)

VOLATILE ORGANIC COMPOUND (VOC) CONTENT

VOC Content data is not applicable for this product category.

CERTIFICATIONS AND COMPLIANCE See Section 3 for additional listings.

VOC emissions: Inherently non-emitting source per LEED®

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-6606

SCREENING DATE: 2018-10-26

PUBLISHED DATE: 2018-10-26

EXPIRY DATE: 2021-10-26



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 AIR CONDITIONING AND REFRIGERATION TUBE - TYPE ACR - PER ASTM B280

PRODUCT THRESHOLD: 1000 ppm

RESIDUALS AND IMPURITIES CONSIDERED:

Yes

RESIDUALS AND IMPURITIES NOTES: Per ASTM B280, the tubes shall be produced from coppers that conform to the Unified Numbering System (UNS) chemical composition requirements for C10200, C12000 or C12200 alloys (see unscopperalloys.org). C10200, C12000 and C12200 characterize copper as "copper + silver". 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

#: 99.9000 - 99.9500 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 B280, the tubes shall be produced from coppers that conform to the Unified Numbering System (UNS) chemical composition requirements for C10200, C12000 or C12200 alloys (see unscopperalloys.org). C10200, C12000 and C12200 characterize copper as "copper + silver". 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. C10200 requires a minimum copper percentage of 99.95, whereas both C12000 and C12200 require only a minimum copper percentage of 99.9. 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 products (e.g., roofing, cladding, gutters, flashing)

PHOSPHORUS

ID: 7723-14-0

#: 0.0000 - 0.0400 GS: BM-2 RC: None NANO: No ROLE: Deoxidizer

HAZARDS:

AGENCY(IES) WITH WARNINGS:

PHYSICAL HAZARD (REACTIVE)

EU - GHS (H-Statements)

H228 - Flammable solid

MAMMALIAN

US EPA - EPCRA Extremely Hazardous Substances

Extremely Hazardous Substances

SUBSTANCE NOTES: Per ASTM B280, the tubes shall be produced from coppers that conform to the Unified Numbering System (UNS)

chemical composition requirements for C10200, C12000 or C12200 alloys (see unscopperalloys.org). The UNS phosphorus range for C12000 is 0.004–0.012. The UNS phosphorus range for C12200 is 0.015–0.040. Phosphorus is not intentionally added to C10200. The GreenScreen Assessment was performed by Rosenblum Environmental Consulting on 2/9/2014, updated on 2/29/2016, and can be found at <https://www.pharosproject.net/uploads/files/gs/327570a0dd19e380225448283529221cee78d609.pdf>.

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 B280, the tubes shall be produced from coppers that conform to the Unified Numbering System (UNS) chemical composition requirements for C10200, C12000 or C12200 alloys (see unscopperalloys.org). C10200, C12000 and C12200 characterize copper as "copper + silver". 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>.

OXYGEN

ID: 7782-44-7

#: **0.0000 - 0.0010** GS: **LT-UNK** RC: **None** NANO: **No** ROLE: **Alloy-limited element**

HAZARDS:

AGENCY(IES) WITH WARNINGS:

PHYSICAL HAZARD (REACTIVE)

EU - GHS (H-Statements)

H270 - May cause or intensify fire; oxidiser (GAS ONLY)

SUBSTANCE NOTES: Per ASTM B280, the tubes shall be produced from coppers that conform to the Unified Numbering System (UNS) chemical composition requirements for C10200, C12000 or C12200 alloys (see unscopperalloys.org). C10200 is an oxygen-free alloy with oxygen limits equal to 0.0010 percent.

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

Inherently non- emitting source per LEED®

CERTIFYING PARTY: **Self-declared**

ISSUE DATE: **2018-**

EXPIRY DATE: **2021-**

CERTIFIER OR LAB: **Self-Declared**

APPLICABLE FACILITIES: **All**

10-26

10-26

CERTIFICATE URL:

CERTIFICATION AND COMPLIANCE NOTES:

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/plumbing/cth/> for more information available in the Copper Tube Handbook, a comprehensive resource for plumbers, HVAC technicians and contractors to obtain information about copper tube, piping and fittings, as well as different joining methods and applications. Related Construction Specifications Institute MasterFormat® designations include the following. These are provided as a general guideline; others sections may apply. 23 23 13 Refrigerant Piping Valves 23 23 16 Refrigerant Piping Specialties 23 23 19 Refrigerant Safety Relief Valve Discharge Piping 23 11 13 Facility Fuel-Oil Piping 23 11 23 Facility Natural-Gas Piping 23 11 26 Facility Liquefied-Petroleum Gas Piping



MANUFACTURER INFORMATION

MANUFACTURER: **Copper Development Association**

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McLean VA 22102, USA

WEBSITE: **copper.org**

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KEY

OSHA MSDS Occupational Safety and Health Administration Material Safety Data Sheet

GHS SDS Globally Harmonized System of Classification and Labeling of Chemicals Safety Data Sheet

Hazard Types

AQU Aquatic toxicity

CAN Cancer

DEV Developmental toxicity

END Endocrine activity

EYE Eye irritation/corrosivity

GEN Gene mutation

GLO Global warming

MAM Mammalian/systemic/organ toxicity

MUL Multiple hazards

NEU Neurotoxicity

OZO Ozone depletion

PBT Persistent Bioaccumulative Toxic

PHY Physical Hazard (reactive)

REP Reproductive toxicity

RES Respiratory sensitization

SKI Skin sensitization/irritation/corrosivity

LAN Land Toxicity

NF Not found on Priority Hazard Lists

GreenScreen (GS)

BM-4 Benchmark 4 (prefer-safer chemical)

BM-3 Benchmark 3 (use but still opportunity for improvement)

BM-2 Benchmark 2 (use but search for safer substitutes)

BM-1 Benchmark 1 (avoid - chemical of high concern)

BM-U Benchmark Unspecified (insufficient data to benchmark)

LT-P1 List Translator Possible Benchmark 1

LT-1 List Translator Likely Benchmark 1

LT-UNK List Translator Benchmark Unknown (insufficient information from List Translator lists to benchmark)

NoGS Unknown (no data on List Translator Lists)

Recycled Types

PreC Preconsumer (Post-Industrial)

PostC Postconsumer

Both Both Preconsumer and Postconsumer

Unk Inclusion of recycled content is unknown

None Does not include recycled content

Other Terms

Inventory Methods:

Nested Method / Material Threshold Substances listed within each material per threshold indicated per material

Nested Method / Product Threshold Substances listed within each material per threshold indicated per product

Basic Method / Product Threshold Substances listed individually per threshold indicated per product

Nano Composed of nano scale particles or nanotechnology

Third Party Verified Verification by independent certifier approved by HPDC

Preparer Third party preparer, if not self-prepared by manufacturer

Applicable facilities Manufacturing sites to which testing applies

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.