

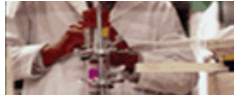


UNITED STATES DEPARTMENT OF LABOR
OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION

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Chemical Sampling Information

Copper dusts & mists (as Cu)

General Description

Synonyms: Copper metal dusts; Copper metal fumes

OSHA IMIS Code Number: 0730

Chemical Abstracts Service (CAS) Registry Number: 7440-50-8

NIOSH, Registry of Toxic Effects (RTECS) Identification Number: [GL5325000](#)

NIOSH Pocket Guide to Chemical Hazards, [Copper \(dusts and mists, as Cu\)](#): chemical description, physical properties, potentially hazardous incompatibilities, and more

Exposure Limits

OSHA Permissible Exposure Limit (PEL) for General Industry: [29 CFR 1910.1000 Z-1 Table](#) -- 1 mg/m³ TWA

OSHA Permissible Exposure Limit (PEL) for Construction Industry: [29 CFR 1926.55 Appendix A](#) -- 1 mg/m³ TWA

OSHA Permissible Exposure Limit (PEL) for Maritime: [29 CFR 1915.1000 Table Z-Shipyards](#) -- 1 mg/m³ TWA

American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV): 1 mg/m³ TWA

National Institute for Occupational Safety and Health (NIOSH) Recommended Exposure Limit (REL): 1 mg/m³ TWA

Health Factors

Environmental Protection Agency (EPA) carcinogenic classification: [Group D, not classified](#)

NIOSH Immediately Dangerous To Life or Health Concentration (IDLH): [100 mg/m³ \(as Cu\)](#)

Potential symptoms: Mucous membrane, nasal, pharyngeal irritation; nasal perforation; eye irritation; metallic taste; dermatitis. In animals: lung, liver, kidney damage; anemia; increased risk of Wilson's disease

Health Effects: Irritation-Eye, Nose, Throat, Skin---Mild (HE16)

Affected organs: Respiratory system, skin, liver, kidneys

Literature Basis:

- International Chemical Safety Cards (WHO/IPCS/ILO): [Copper](#)
- U.S. EPA Integrated Risk Information System: [Copper \(CASRN 7440-50-8\)](#)

Monitoring Methods used by OSHA

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Laboratory Sampling/Analytical Method:

- **sampling media:** Mixed Cellulose Ester Filter (MCEF) 0.8 microns
- maximum volume:** 960 Liters **minimum volume:** 480 Liters **maximum flow rate:** 2.0 L/min
- current analytical method:** Atomic Absorption Spectroscopy; AAS
- method reference:** OSHA Analytical Method ([OSHA ID-121](#))
- method classification:** Fully Validated
- alternate analytical method:** Inductively Coupled Argon Plasma; ICP-AES/MS, AAS
- method reference:** OSHA Analytical Method ([OSHA ID-125G](#), [OSHA ID-206](#), [OSHA ID-105](#), [OSHA 1006](#))
- method classification:** Fully Validated
- note:** If the filter is not overloaded, samples may be collected up to an 8-hour period. Analytical method does not distinguish between dust and fume.

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