
SECTION VI (HEALTH HAZARD DATA)

EFFECTS OF CHRONIC EXPOSURE: PHYSIOLOGICAL EFFECTS: Chronic inhalation of cadmium oxide dusts and fumes has caused tubular dysfunction as evidenced by proteinuria. Other disorders have included pulmonary emphysema, anemia, bone demineralization, and impotency. Symptoms of over-exposure to copper fumes include irritation to the eyes, upper respiratory system, metal fume fever, chills, muscle aches, nausea, fever, dry throat, cough, lassitude (weakness, exhaustion), metallic or sweat taste, and discoloration of skin. **FUMES AND GASES** can be dangerous to your health. Primary route of entry is inhalation of fumes. Preexisting respiratory or allergic conditions may be aggravated in some individuals. **FLUORIDES** - Fluoride compounds produced may cause eye and skin burns, and pulmonary edema bronchitis. Exposure to extremely high levels of fluorides can cause abdominal pain, diarrhea, muscular weakness, and convulsions. In extreme cases it can cause loss of consciousness and death.

EFFECTS OF ACUTE OVEREXPOSURE: Cadmium, copper and zinc fumes produce **METAL FUME FEVER** which may result in severe tracheobronchitis, pneumonitis, pulmonary edema (throat dryness, cough, headache, vomiting, chest pains, and chills). Suspected acute inhalation exposure to Cd must be treated for pulmonary edema by a physician. Delay until onset of pulmonary involvement may result in death. Cadmium is transported via blood and stored in liver and kidneys. Can cause kidney damage. Excessive inhalation of zinc fumes may produce symptoms known as **ZINC SHAKES**; an acute self limiting condition without recognized complications. Symptoms usually disappear within 24 hours. Symptomatic treatment such as bed rest, possibly aspirin or aspirin-free pain reliever to afford relief from fever and chills. Severe and prolonged overexposure to zinc oxide may cause pulmonary edema and pneumonia. **FLUORIDES** - Overexposure to fluorides can cause serious bone erosion, excessive calcification of the bone and calcification of the ribs, pelvis and spinal column. May cause skin rash.

AVOID DIRECT INHALATION OF FUMES DURING HEATING. AVOID INHALATION OR INGESTION OF DUST. DO NOT ALLOW DUST TO ACCUMULATE. MONITOR FUME LEVELS.

Read and understand the manufacturer's instructions and precautionary label on this product.

See American National Standard Z49.1, Safety in Welding and Cutting, published by the "American Welding Society," 550 N.W. LeJeune Road, Miami, FL 33126 and OSHA Publication 2206 (29CFR 1910), U.S. Government Printing Office, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250-7954 for more detail on safe use of product.

EMERGENCY AND FIRST AID PROCEDURES:

Swallowing: Call a physician at once or your poison control center. Advise of Section II immediately. Drink large quantities of water - induce vomiting.

Skin: Promptly flush with water to remove all residue. If rash develops, consult a physician.

Inhalation: Terminate exposure and remove to fresh air. Call a physician immediately and advise of chemical composition (Section II).

Eyes: Flush with water for at least 15 minutes to remove all residue. Get medical help immediately.

CARCINOGENICITY

CADMIUM - Cadmium is listed as being carcinogenic to humans on **IARC** and **NTP** lists, and is listed by **NIOSH** as being a potential occupational carcinogen (with no further categorization).

WELDING FUMES (not otherwise specified) are considered to be carcinogenic defined with no further categorization by **NIOSH** and **IARC**.

SECTION VII (STORAGE, HANDLING AND SPECIAL PRECAUTIONS)

Respiratory protection: Use a NIOSH approved self contained breathing apparatus where dust, fumes or smoke exist that exceed exposure limit values.

Ventilation: Maintain air flow away from the user to remove all fumes and vapors, so that the TLV is never exceeded. Adhere to environmental regulations for exhausts.

Protective gloves: Recommended.

Eye protection: Safety goggles for protection against dust/splash.

Other protective equipment: Full protective equipment normally used in soldering operation so as to prevent any contact.

Precautions to be taken in handling and storage. Store solder at ambient conditions. Avoid wet or moist conditions. Wash thoroughly after handling to remove all residue.

Other precautions: Do NOT breathe fumes. Professionally wash contaminated clothing before re-use. Food and drink should not be consumed or tobacco products used, nor cosmetics applied in area where metal exposures are possible.

Waste: Dispose of any waste residues in closed containers. Be cognizant of potential FEDERAL, STATE, LOCAL, and OSHA regulations regarding cadmium. Vacuuming is strongly recommended for accumulated dust. Metal is recyclable. Conform to applicable regulations.

SUPPLEMENTAL INFORMATION

IARC: International Agency for the Research on Cancer

ACGIH: American Conference of Governmental Industrial Hygienists

NIOSH: National Institute for Occupational Safety and Health

NTP: National Toxicology Program

PEL: Permissible Exposure Limit

OSHA: U.S. Occupational Safety and Health Administration

TLV: Threshold Limit Value

CAS: Chemical Abstracts Service Registry Number

Exposure limits are subject to change. Contact ACGIH, OSHA, NIOSH, and IARC for current values.

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