

MATERIAL SAFETY DATA SHEET

SECTION 1 – PRODUCT INFORMATION

Supplier Name

The Mill-Rose Company
7310 Corporate Blvd.
Mentor, OH 44060

Emergency Telephone No.

(800) 321-3598

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Product

Copper-filled PTFE Thread
Sealing Tape

Trade Names and Synonyms

Copper Anti-Seize Tape

SECTION 2 – HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Ingredients

Polytetrafluoroethylene
Petroleum Solvent
Copper

OSHA PEL

N/A
N/A
N/A

CAS Number

9002-84-0
64742-47-8
7440-50-8

ACGIH TLV

N/A
N/A
N/A

SECTION 3 – PHYSICAL/CHEMICAL CHARACTERISTICS

Boiling Point: N/A

Vapor Pressure (mm Hg): N/A

Vapor Density (air=1): N/A

Solubility in Water: Insoluble

Specific Gravity (H₂O=1): 2.7

Melting Point: N/A

Evaporation Rate (Butyl Acetate=1): N/A

Appearance and Odor: Copper colored film/odorless

SECTION 4 – FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used): N/A

Flammable Limits: N/A

Extinguishing Media: Any standard medium

Special Fire Fighting Procedures: Combustible Solid. Will burn if in contact with flame.

Combustion ceases when flame is removed. Decomposition on heating above 260°C results in the emission of toxic fumes. Fire fighters to wear self contained breathing apparatus if there is a risk of exposure to products of combustion and decomposition.

Unusual Fire and Explosion Hazards: Toxic fumes given off above 260°C

SECTION 5 – REACTIVITY DATA

Conditions to Avoid: Temperatures above 260°C without adequate ventilation

Incompatibility (Materials to avoid): Alkali metals, extremely potent oxidizers (e.g. fluorine, chlorine tri- fluoride), 80% NaOH or KOH, metal hydrides such as boranes (e.g. B₂H₆), aluminum chloride, ammonia, certain amines (R-NH₂) imines (RH-NH) and 70% nitric acid at temperatures near 260°C. Do not use on oxygen lines.

SECTION 6 – HEALTH HAZARD DATA

Health Hazards (Acute):**Swallowed:** No adverse effect known**Eye:** May cause physical irritation to the eyes**Skin:** No adverse effect known; Very rarely exposure to copper has resulted in allergic contact dermatitis.**Inhalation:**

Polytetrafluoroethylene (PTFE): The material is not normally an inhalation hazard at temperatures below 260°C as it remains an inert solid. However, exposure to thermal degradation products at temperatures above 260°C or fumes from tobacco contaminated with particles of the product may result in "Polymer Fume Fever" or influenza-like symptoms (chills, headaches, difficulty in breathing and fever). Symptoms may appear several hours after exposure but will disappear within 24-48 hours. There are exposure standards for decomposition products.

	TWA	STEL
HF*	ppm mg/m3	ppm mg/m3
	3 2.6	Peak Limitation

*Measured as an inspirable fraction

Carbonyl Fluoride is the main decomposition product formed when PTFE is subjected to extended exposure at normal sintering temperatures (400°C). Carbonyl Fluoride is immediately converted to highly corrosive hydrogen fluoride in the presence of moist air.

Copper: The chief effect from industrial exposures is on the upper respiratory tract, expressing itself as a metal fume fever with atrophic changes in the nasal mucus membrane and subjective effects associated with the irritative nature of the copper fume, dusts and mists. Sneezing, coughing and digestive disorders can result from inhalation of copper dust.

Health Hazards (Chronic):

Copper: Long term exposure to copper fume and dust etc., can result in hemochromatosis, hepatic cirrhosis, brain damage, demyelination and kidney defects. Repeated contact with metallic copper can cause sensitivity and allergic skin rashes.

Toxicity:

PTFE: No LD50 data is available on PTFE. No toxicity was observed in male/female rats when fed PTFE (up to 25%) for 90 days. Local sarcomas were induced in mice and rats implanted subcutaneously or intraperitoneally with PTFE. However, this is not considered relevant to normal industrial usage.

Copper: Oral (Human): TDLo: 120 mg/kg (Gastrointestinal effect)

Carcinogenicity: PTFE has been classified by the International Agency for Research into Cancer as a group III agent. As such it is not classifiable as to its carcinogenicity to humans.

Emergency and First Aid Procedures:

Swallowed: Rinse mouth with water. Give plenty of water to drink. Seek medical advice

Eye: Irrigate eyes with plenty of water for 15 minutes. In all cases of eye contamination it is a sensible precaution to seek medical advice.

Skin: If irritation occurs wash the contaminated area with plenty of soap and water. Remove any contaminated clothing and wash prior to reuse. If irritation continues, seek medical advice.

Inhalation: Remove victim from exposure - avoid becoming a casualty. Allow patient to assume most comfortable position and keep warm. Keep at rest until fully recovered. If breathing labored and patient cyanotic (blue) ensure that airways are clear and have a qualified person give oxygen through a facemask. If breathing has stopped apply artificial respiration at once. In event of cardiac arrest apply external cardiac massage. Seek medical advice.

SECTION 7 – PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be taken in case material is released or spilt: Sweep up

Waste Disposal Method: Burning is not recommended. Comply with local regulations

Precautions to be taken in Handling and Storage: Keep away from flames. Store below 260°C

SECTION 8 – CONTROL MEASURES

Respiratory Protection: No special controls are necessary if used within recommended operation temperatures (ie -260°C to +260°C).

Ventilation: See above

Protective Gloves: See above

Eye Protection: See above

Other Protective Clothing or Equipment: See above

Work/Hygienic Practices: See above

NOTICE FROM THE MILL-ROSE COMPANY

The information in this Material Safety Data Sheet (MSDS) relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process. We believe that the information contained herein is current as of the date of the MSDS. Since use of this information and these opinions and the conditions of use of the product are not within the control of The Mill-Rose Company, it is the user's obligation to determine the conditions of safe use of the product.