MATERIAL SAFETY DATA SHEET

SECTION 1 – PRODUCT INFORMATION

Supplier Name
The Mill-Rose Company
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(800) 321-3598

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Product
Stainless Steel Pipe Thread Sealing Tape
With PTFE

Trade Names and Synonyms
Stainless Steel Tape

SECTION 2 – HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Ingredients	OSHA PEL	CAS Number	ACGIH TLV
Polytetrafluoroethylene	N/A	9002-84-0	N/A
Petroleum Solvent	N/A	64742-47-8	N/A
Pigment	N/A	N/A	N/A
Nickel	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 (H_2O=1): 2.7
Melting Point: N/A
Evaporation Rate (Butyl Acetate=1): N/A
Appearance and Odor: Metallic looking 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. Concentrated acids might react with metal powders dispersed through the tape.

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: 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 faction

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.
Health Hazards (Chronic): No information is available on the product but there is data on nickel.
Skin: Repeated contact with metallic nickel can cause sensitivity and allergic skin rashes.
Toxicity: There is no information on the product but there is data on the ingredients
Polytetrafluoroethylene (PTFE): No LD50 data is available on the product. 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 PFTE. However, this is not considered relevant to normal industrial usage.
Nickel: LD50 Oral - Rat >9000mg/kg. Nickel metal has low oral toxicity. The US Food and Drug Administration has affirmed that nickel is generally recognized as safe (gras) as a direct human food ingredient.
Carcinogenicity:
Polytetrafluoroethylene (PTFE): 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.
Nickel: The US National Institute for Occupational Safety and Health (NIOSH) concluded that nickel and its organic compounds are not carcinogenic when ingested. The National Toxicology Program (USA) has listed Nickel as reasonably anticipated to be a carcinogen based on the production of injection site tumors. The International Agency for Research on Cancer concluded that there was sufficient evidence that nickel and nickel compounds, as a group but not necessarily as individual chemicals, were carcinogenic to humans. IARC could not state with certainty which nickel compounds are human carcinogens and which are not. Epidemiological studies of workers exposed to nickel powder and to dust and fume generated in the production of nickel alloys and of stainless steel have not indicated the presence of a significant respiratory cancer hazard. The inhalation of nickel powder has not resulted in an increased incidence of malignant lung tumors in rodents. Repeated intratracheal instillation of nickel powder produced an increased incidence of malignant lung tumors in rats. Repeated intratracheal instillation of nickel powder did not produce an increased incidence of malignant lung tumors in hamsters when administered at the maximum tolerated dose. Single intratracheal instillations of nickel powder in hamsters at doses near LD50 produced an increased incidence of fibro sarcomas, mesotheliomas and rhabdomyosarcomas. Inhalation of nickel powder at concentration 15 times the PEL irritated the respiratory tract in rodents. Nickel metal powder has caused tumors at the site of injection in rodents. However, studies do not suggest a significant risk for humans from nickel containing protheses.

Emergency and First Aid Procedures:
Swallowed: Rinse mouth with water. Give plenty of water to drink. Seek medical advice.
Eye: Irrigate the eyes with plenty of water for 15 minutes. In all cases of eye contamination it is a sensible precaution to 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.