

JOHNSON MANUFACTURING COMPANY**Material Safety Data Sheet**

to comply with 29 CFR 1910.1200,
OSHA's Hazard Communication Standard

F-610 Soldering Paste - Tin/Silver Alloy**Section I:**

Johnson Manufacturing Company
114 Lost Grove Road
Princeton IA 52768

Emergency Telephone 1-(563)-289-5123
CHEMTREC after hours 1-(800)-424-9300
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Section II: Hazardous Ingredients/Identity information

Hazardous Component	CAS #	OSHA TWA	ACGIH TWA	Other limits	
Tin	7440-31-5	2mg/M3	2mg/M3	NE	
+ Silver	7440-22-4	0.01mg/M3	0.02mg/M3	NE	3 %
+ Zinc chloride	7646-85-7	1mg/M3	1mg/M3	NE	7 %

Only those ingredients listed in this section have been determined to be hazardous as defined in 29CFR 1910.1200.

An ingredient marked with an asterisk(*) is also listed in 29CFR 1910.1200(D) #4 as a known or suspected cancer hazard.

+ denotes a chemical regulated as toxic by the Environmental Protection Agency (EPA) as outlined in 40CFR Part 372 (section 313)

Section III: Physical/Chemical Characteristics

Boiling Point: 230 F
Vapor Pressure (mm Hg): NE
Vapor Density: NE
Solubility in water: 20 %
Appearance and odor: silver grey paste, odorless

Specific Gravity: 5.0
Melting Point: NE
Evaporation Rate
(butyl acetate=1): < 1

Section IV: Fire and Explosion Hazard Data

Flash Point: NE
Extinguishing media: all
Special fire fighting procedures: use self-contained breathing apparatus
Unusual Fire and Explosion Hazards: High concentration of dust may present explosion hazard.
May release tin, silver, tin oxide, copper oxide, zinc chloride, zinc oxide, ammonia.

Flammable limits lel: NA uel: NA

Section V: Reactivity Data

Stability : STABLE Conditions to avoid : none
Incompatibility (materials to avoid): oxidizers, acids, ammonia, chlorides, turpentine.
Hazardous Decomposition or Byproducts (incomplete combustion): Metal, metal oxide fumes, zinc chloride, zinc oxide, ammonia.
Hazardous Polymerization: WILL NOT OCCUR Conditions to avoid: none

Section VI: Health Hazard Data

Routes of entry: Inhalation? yes Skin? no Ingestion? yes

Health Hazards (acute and chronic): Contact with material, fumes, dust may cause skin, eye and respiratory tract irritation or burns. Ingestion may cause digestive tract irritation, or burns. Gross inhalation or ingestion can result in death. Gross or repeated inhalation may result in "metal fume fever", and pulmonary edema, symptoms of which may not manifest for several hours after exposure. Excessive and repeated skin contact may lead to systemic skin effects including pigmentation changes. Chronic exposures via inhalation may result in benign pneumoconiosis. Health effects may be cumulative over many exposures. Chronic exposures may result in kidney, blood, reproductive and respiratory system effects. May be mutagenic in lab animals. May cause sensitization. Studies show that potential health risks vary by individual. Always minimize exposure.

Carcinogenicity: not determined NTP? no IARC Monographs? no

Signs and symptoms of exposure: Inhalation-Nose & throat irritation, metallic taste in mouth, greyish skin palor, headache, dizziness, difficulty breathing. Ingestion-nausea, vomiting, cramps. Skin-redness, burning, rash, dryness. Eye-redness, burning, tearing, blurred vision.

Medical Conditions Aggravated by exposure: Respiratory & reproductive system, kidney, skin.

Emergency first aid procedures:

Skin: Flush with water immediately - Seek medical attention if necessary

Eyes: Flush with water for 15 minutes - Seek medical attention

Ingestion: Drink large amounts of water, DO NOT induce vomiting. Seek medical attention. Never give anything by mouth to an unconscious person.

Inhalation: Remove to fresh air. Support respiration if required. Seek medical attention if necessary.

Section VII: Precautions for Safe Handling and Use

Steps to be taken if material is released or spilled: Vacuum, absorb or flush in to a chemical sewer. Do not use any method which will generate dust.

Waste Disposal Method: dispose of in accordance with all local state and federal regulations

Other Precautions: Avoid skin & eye contact, inhalation & ingestion of fumes and material.

Wash contaminated clothing before reuse. Keep away from children. Do not reuse container.

Section VIII: Control Measures

Respiratory Protection (type): Acid/Metal fume (HEPA) type respirator for fumes.

Ventilation: Local Exhaust preferred Special: NE

Mechanical: OK Other: NE

Protective Gloves: impervious

Eye Protection: Goggles or face shield

Other Protective Clothing or Equipment: as required to avoid contact.

Work/Hygienic Practices: Wash after use. Follow good industrial hygienic practices.

Section IX: Additional Information

DOT Hazard Classification: Non-hazardous

NFPA Classification (NFPA 325M, 8th edition) (Health, Flammability, Reactivity): 1-1-0

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NE = not established NA = not applicable