JOHNSON MANUFACTURING COMPANY
Safety Data Sheet
To comply with 29CFR 1910.1200
OSHA's Hazard Communication Standard

F610 Soldering Paste

1. PRODUCT AND COMPANY INFORMATION

Johnson Manufacturing Company
114 Lost Grove Road
Princeton IA 52768

Emergency Telephone 1-(563)-289-5123
CHEMTREC AFTER HOURS 1-(800)-424-9300
Revised: 4/1/2026 by JMC Product Safety

2. HAZARD IDENTIFICATION

GHS Classification:
Acute Tox. 4 *
Skin Corr. 1B
Aquatic Acute 1
Aquatic Chronic 1
Eye Irrit. 2

GHS Label Elements:

ZINC CHLORIDE & AMMONIUM CHLORIDE
DANGER

H Codes: H302, H314, H319, H410
Harmful if swallowed
Harmful if inhaled
Causes severe skin burns and eye damage
Very toxic to aquatic life with long lasting effects

P Codes:
P264, 270, 280, 301+312, 330, 501, 260, 301+330+331, 303+361+353+310, 363, 304+340, 321, 405, 273, 305+351+338+310, 337+313
Avoid breathing dust/mist/vapors/fumes/spray. Do not get in eyes, on skin, or on clothing. Use in a well ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. In case of inadequate ventilation use respiratory protection. Do not eat, drink or smoke when using this product. IF SWALLOWED: Rinse mouth. DO NOT induce vomiting. Immediately call a POISON CENTER/Doctor. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical advice/attention if you feel unwell. IF INHALED: Remove victim to fresh air and keep comfortable for breathing. Get medical advice/attention if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call POISON CENTER/Doctor. Wash thoroughly after use. Wash contaminated clothing before reuse. Store in a closed corrosive resistant container, with corrosive resistant liner, in cool dry place. Avoid release to the environment. Dispose of contents/container in accordance with specified local/regional/national/international regulations for disposal. Keep out of the reach of children. Read label and SDS prior to use.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component	CAS #	OSHA TWA	ACGIH TWA	Other Limits	Percent by Weight
+ Zinc Chloride	7646-85-7	1 mg/m3	1 mg/m3	NE	50%
Ammonium Chloride as Zinc Ammonium Chloride	12125-02-9	10 mg/m3	10 mg/m3	NE	

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)

4. FIRST AID MEASURES

Signs and symptoms of exposure: Inhalation-Nose & throat irritation, headache, dizziness, difficulty breathing, coughing. Ingestion-nausea, vomiting, cramps. Skin-redness, burning, rash, dryness. Eye-redness, burning, tearing, blurred vision.

Medical conditions aggravated by exposure: Skin, kidney and respiratory conditions.
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: DO NOT induce vomiting, drink large amounts of water - seek medical attention. Never give anything by mouth to an unconscious person
Inhalation: Remove to fresh air. Support respiration if required - Seek medical attention

5. FIREFIGHTING MEASURES

Extinguishing media: dry chemical.
Special fire fighting procedures: use self sustaining respiratory suit.
Unusual Fire and Explosion Hazards: May release hydrochloric acid, zinc chloride, zinc oxide, ammonia fumes.

6. ACCIDENTAL RELEASE MEASURES

Methods and materials: Flush into chemical sewer or soak up with a suitable absorbent. Wear adequate protection as described in section 8.
Environmental Precautions: Avoid release to the environment. Collect spillage.

7. HANDLING & STORAGE

Wash thoroughly after use. Wash contaminated clothing before reuse. Store in a closed corrosive resistant container, with corrosive resistant liner, in cool dry place. Keep out of the reach of children. Read label and SDS prior to use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limit Values: See section 3.
Respiratory Protection (type): Acid mask required for fumes above TWA.
Ventilation: Local Exhaust preferred Special: NE
Mechanical: OK Other: NE
Protective Gloves: plastic or rubber 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: 230 F
Specific Gravity: 1.0
Vapor Pressure (mm Hg): NE
Melting Point: NE
Vapor Density: NE
Evaporation Rate: <1 (butyl acetate=1)
Solubility in water: 100%
pH: NE
Flash Point: NE (TOC)
Flammable Limits: lel: NE uel: NE
Appearance and odor: White paste, odorless.

10. STABILITY AND REACTIVITY

Stability : STABLE Conditions to avoid : none

Incompatibility (materials to avoid): strong bases & acids, oxidizers, sulfides, halogens.
Hazardous Decomposition or Byproducts (incomplete combustion): Hydrochloric acid, zinc oxide, chlorine, ammonia, zinc chloride.
Hazardous Polymerization: WILL NOT OCCUR Conditions to avoid: none

11. TOXICOLOGICAL INFORMATION

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

Health Hazards (acute and chronic): Contact with material or fumes may cause skin, eye and respiratory tract irritation or burns. Severe inhalation can cause pulmonary edema, which may not manifest for several hours after exposure. Ingestion may result in irritation or burning of the digestive tract. Gross inhalation or ingestion can result in death. LD50 ($ZnCl_2$)(rat)=350 mg/kg. May be mutagenic in lab animals. May cause sensitization. Chronic exposures can result in permanent liver, kidney and respiratory system effects. Studies show that health risks vary by individual. Minimize exposure as a precaution.

Carcinogenicity: not determined NPT? no IARC Monographs? no

12. ECOLOGICAL INFORMATION

Toxicity: NE
Bio-accumulative Potential: NE
PBT & vPvB Assessment: NE
Persistence & Degradability: NE
Mobility in Soil: NE
Other Adverse Effects: NE

13. DISPOSAL CONSIDERATIONS

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.

14. TRANSPORT INFORMATION

DOT Classification: Not regulated as dangerous goods
IATA Classification: Not regulated as dangerous goods
IMDG Classification: Not regulated as dangerous goods
Marine Pollutant: NE

15. REGULATORY INFORMATION

This product contains the following EPCRA section 313 chemicals subject to the reporting requirements of section 313 of the Emergency Response and Community Right-To-Know-Act of 1986 (40 CFR 372):

CAS Number	Chemical Name	Percent by Weight
7646-85-7	Zinc Chloride	50%

This information must be included in all SDSs that are copied and distributed for this material.

NFPA Classification (NFPA 325M,8th edition)(Health, Flammability, Reactivity): 2-0-0

This product can expose you to chemicals including ethylene oxide, which is known to the state of California to cause cancer and/or birth defects or reproductive harm. For more information go to www.P65Warnings.ca.gov

16. OTHER INFORMATION

The information and recommendations contained within this publication have been compiled from sources believed to be reliable and to represent the best information available to JOHNSON MANUFACTURING at the time of issue. No warranty, guarantee, or representation is made by JOHNSON MANUFACTURING nor does JOHNSON MANUFACTURING assume any responsibility in connection there within; nor can it be assumed that all acceptable safety measures or other safety measures may not be required under particular or exceptional conditions or circumstances.