JOHNSON MANUFACTURING COMPANY
Material Safety Data Sheet

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

Allen E-100 All-Sol Stainless Steel Flux, 03-100-00

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

Revised 1/1/2006

Section II: Hazardous Ingredients/Identity information

Hazardous Component	OSHA TWA	ACIGH TWA	Other limits
+ Zinc Chloride 7646-85-7	1mg/M3	1mg/M3	NE 29 %
+ Hydrogen Chloride 7647-01-0	C 5ppm	C 5ppm	NE 36 %

C = Ceiling concentration

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: 232 F
Vapor Pressure (mm Hg): NE
Vapor Density: not determined
Solubility in water: miscible
Appearance and odor:Clear to green liquid, acid odor

Specific Gravity: 0.9
Melting Point: NE
Evap.Rate (butyl acetate=1): NE

Section IV: Fire and Explosion Hazard Data

Flash Point: none
Extinguishing media: all
Unusual Fire and Explosion Hazards: may release hydrochloric acid, zinc chloride, zinc oxide.

Flammable limits lel: NA uel: NA
Special fire fighting procedures: NE

Section V: Reactivity Data

Stability : STABLE Conditions to avoid : none
Incompatibility (materials to avoid): oxidizers, strong bases, cyanides, sulfides
Hazardous Decomposition or Byproducts (incomplete combustion): Hydrochloric acid,
ammonia, zinc oxide, zinc chloride, hydrogen gas (in contact with metals), chlorine
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) May cause skin, eye and respiratory tract irritation
or burns. Severe over inhalation can cause pulmonary edema, which may not manifest for
several hours after exposure. Ingestion can result in irritation or burning of digestive
tract. Gross inhalation or ingestion over exposure can result in death.
LD50 (ZnCl2)(rat)= 350 mg/kg. Chronic exposure via inhalation and ingestion may result
in liver, spleen and respiratory tract effects. May be mutagenic in lab animals.
May cause sensitization. Health studies have shown that potential health risks may vary
by individual. Always minimize exposure as a precaution.

Carcinogenicity: not determined NTP? no IARC Monographs? no

Signs and symptoms of exposure: Inhalation-nose and 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: liver, spleen, skin or respiratory conditions

Emergency first aid procedures:
Skin: Flush affected area with water immediately - seek medical attention
if necessary
Eyes: Flush with water for 15 minutes - Seek medical attention
Ingestion: Do Not induce vomiting. Give 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 if required.

Section VII: Precautions for Safe Handling and Use

Steps to be taken if material is released or spilled:
wash up with water into a chemical sewer or soak up with a suitable absorbant
Waste Disposal Method: dispose of in accordance with all local state and federal
regulations
Other Precautions: avoid skin & eye contact, store and use from non-metallic containers.
Wash contaminated clothing before reuse, keep away from children, do not reuse container

Section VIII: Control Measures

Respiratory Protection (type): Acid type respirator required if fumes over TLV.
Ventilation: Local Exhaust preferred Special: NE
Mechanical: NE Other: NE
Protective Gloves: plastic or rubber Eye Protection: Goggles or face shield
Other Protective Clothing or Equipment: as required to prevent contact
Work/Hygenic Practices: wash after use, following good industrial hygienic practices

Section IX: Additional Information

DOT Hazard Classification: Corrosive liquid NOS, (Contains Hydrochloric Acid &
Zinc Chloride), 8, UN 1760, PG II
NFPA Classification (NFPA 325M,8th edition)(Health, Flammability, Reactivity): 2-0-0

This product contains components known to the state of California to cause cancer or reproductive harm

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NE = not established NA = not applicable