1801 Morgan Street
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MSDS Number: 142
Revision Date: 3/17/15
Supersedes Date: 3/20/12

SAFETY DATA SHEET

Complies with OSHA Hazard Communication Standard 29 CFR 1910.1200

Product Name: SOLDER FLUX

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Type: Mild Chloride
Product Name: **SOLDER FLUX**
Part Number(s): 10-200

Emergency Contact: Chemtrec
Phone: (800) 424-9300

SECTION 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 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.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component	CAS #	OSHA TWA	ACIGH TWA	Other limits	%
+ Zinc Chloride	7646-85-7	1mg/M3	1mg/M3	NE	39 %
Ammonium Chloride	12125-02-9	10mg/M3	10mg/M3	NE	
As Zinc Ammonium Chloride					

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)

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SECTION 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

SECTION 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.

SECTION 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.

SECTION 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.

SECTION 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.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: 230 F
Specific Gravity: 1.10
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: Clear to yellow liquid, odorless.

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SECTION 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

SECTION 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

SECTION 12: ECOLOGICAL INFORMATION

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

SECTION 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.

SECTION 14: TRANSPORT INFORMATION

DOT Classification: Non-Hazardous
Marine Pollutant: NE

SECTION 15: REGULATORY INFORMATION

NFPA Classification (NFPA 325M,8 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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SECTION 16: OTHER INFORMATION

GC Electronics believes that the information contained herein is accurate and reliable as of the date of this material safety data sheet, but no representation guarantee or warranty, express or implied, is made as to the accuracy, reliability or completeness of the information. Persons receiving information are encouraged to make their own determination as to the information's suitability and completeness for their particular application. NO INFORMATION CONTAINED HEREIN CONSTITUTES A PRODUCT WARRANTY OF ANY KIND, WHETHER EXPRESS OR IMPLIED; AND ALL IMPLIED WARRANTIES OF MERCHANT ABILITY AND OF FITNESS FOR A PARTICULAR PURPOSE ARE HEREBY DISCLAIMED BY GC ELECTRONICS.