BLACK SWAN MFG. CO.

GHS SAFETY DATA SHEET

SECTION 1 - IDENTIFICATION

Manufacturer:
Black Swan Mfg. Co.
4540 W. Thomas St.
Chicago, IL 60651-3318
Tel.: 800-252-5796
Fax: 773-227-3705
Web Site : www.blackswanmfg.com
E-mail : info@blackswanmfg.com

For any Transportation or Medical Chemical Emergencies call:

INFOTRAC

(800) 535-5053 **OR** (352) 323-3500

24 hours per day - 7 days a week

Product Name: Tin-O-Flux

Recommended Use: To prepare copper tubing and fittings for soldering.

SECTION 2 – HAZARD(S) IDENTIFICATION

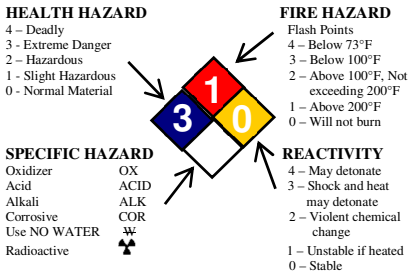
Labels

Signal Word

Danger

HMIS

NFPA



GHS Classification

Health

Acute Toxicity: Cat. 4
Skin Irritation: Not Established
Eye Irritation: Cat. 2A
Skin Sensitization: NO

Environmental

Acute Aquatic Toxicity: Not Established
Chronic Aquatic Toxicity: Not Established

Physical

Flammability: Not Established

Hazardous Statements

H302: Harmful if swallowed
H320: Causes eye irritation

Precautionary Statements

P102: Keep out of reach of children
P262: Do not get in eyes, on skin, or on clothing
P264: Wash thoroughly after handling
P270: Do not eat, drink or smoke when using this product

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Chemicals	CAS#	EINECS#	REACH Pre-registration Number	Approx %
ZINC CHLORIDE	7646-85-7	231-592-0	N/A	15-25%
AMMONIUM CHLORIDE	12125-02-9	235-186-4	N/A	1-5%

All of the constituents of this adhesive product are listed on the TSCA inventory of chemical substances maintained by the US EPA, or are exempt from that listing.

SECTION 4 – FIRST-AID MEASURES

Inhalation: Move into fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen and call physician or poison control immediately.
Skin: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. Call a physician or poison control if irritation persists.
Eyes: Flush with water for 15 minutes. If irritation persists, get medical attention immediately.
Ingestion: DO NOT INDUCE VOMITING. Rinse mouth with water. Never give anything by mouth to a person who is unconscious or drowsy. Get medical attention immediately by calling a poison control center or hospital emergency room. If medical advice cannot be obtained, then take the person and product to the nearest medical treatment center or hospital.

SECTION 5 – FIRE-FIGHTING MEASURES

Fire Hazard: N/A
Combustion Products: N/A
Extinguishing Media: Carbon Dioxide, Dry chemical
Unsuitable Extinguishing Media: Water, Foam
Protective Equipment: Self-contained breathing apparatus {(SCBA), MSHA/NIOSH}. Full protective gear.
Special Fire Fighting Procedures: Evacuate enclosed areas, stay upwind. Closed or confined quarters require self-contained breathing apparatus, positive pressure hose masks or airline masks.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal Precautions: Prevent contact with skin or eyes. Personnel cleaning up the spill should wear appropriate personal protective equipment, including respirators if vapor concentrations are high.
Protective Equipment: Wear suitable respiratory protective equipment.
Emergency Procedures: Remove all sources of ignition and ventilate area. For leaks, stop leak if it can be done safely. Evacuate area and keep unnecessary and unprotected personnel from entering the spill area.
Environmental Precautions: Avoid runoff into storm sewers, ditches and waterways.
Methods for Cleaning Up: Take up spill with sand, earth or other material and place into a clean, dry leak-proof container.

SECTION 7 – HANDLING AND STORAGE

Handling	Storage
Avoid contact with eyes, skin and clothing. Wash thoroughly after handling to remove all residues. Empty containers may contain residues; treat as if full and observe all product precautions. Do not reuse container.	Store in a cool, dry, well-ventilated area away from incompatible materials. Keep container closed when not in use. **Incompatible Materials**: Strong oxidizing agents, potassium, cyanides and sulfides.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

	Exposure Limits		
Hazardous Chemicals	**ACGIH-TLV**	**ACGIH-STEL**	**OSHA-PEL**
ZINC CHLORIDE	1 mg/m3	N/A	1 mg/m3
AMMONIUM CHLORIDE	10 mg/m3	N/A	10 mg/m3

Engineering Controls: A source of running water to flush or wash the eyes and skin in case of contact. Use local exhaust as needed.
Ventilation: Local ventilation adequate.
Personal Protective Equipment – Respiratory: If confined, poorly ventilated areas, use NIOSH/MSHA approved air purifying or supplied air respirators during soldering operations until fumes have dissipated.
Personal Protective Equipment – Skin: Rubber Gloves, Chemical resistant coveralls.
Personal Protective Equipment – Eyes: Safety glasses.

SECTION 9 – PHYSICAL & CHEMICAL PROPERTIES

Appearance:	Pale Gray	**Flash Point**:	Not Established	**Vapor Pressure**:	Negligible
Odor:	Low odor	**Specific Gravity**:	1.1 @ 20°C	**Flammability**:	Not Established
pH:	Not Established	**Solubility (H2O):**	Negligible	**Flammability Limits**:	LEL – Not Established
Melting Point:	Not Established	**Evaporation Rate**:	Not Established		UEL – Not Established
Freezing Point:	Not Established	**Vapor Density**:	>1 (air=1)		
Boiling Point:	638°F (337°C)	**VOC**:	0 g/l		

SECTION 10 – STABILITY AND REACTIVITY

Stability: Stable
Hazardous polymerization: Will not occur
Conditions to avoid: None known
Incompatible materials: Strong oxidizing agents, potassium, cyanides and sulfides.
Hazardous decomposition products: None known

SECTION 11 – TOXICOLOGICAL INFORMATION

Toxicity

Hazardous Chemicals	LD_{50}	LC_{50}
ZINC CHLORIDE	Oral – 350 mg/kg (rat)	Inhalation – 1960 mg/m3/10M (rat)
AMMONIUM CHLORIDE	Oral – 1650 mg/kg (rat)	Inhalation – N/A

Likely Routes of Exposure: Inhalation, Skin Contact, Eye Contact and Ingestion
Symptoms and Effect - Inhalation: Fumes from heated product may be corrosive to mucous membranes and the respiratory system. Fumes may cause burning sensation, coughing, wheezing, shortness of breath, cyanosis, fever, chills, muscular pain, anemia, metallic taste in mouth, headache, nausea, vomiting, sweating, diarrhea and pulmonary edema. Fumes may cause stannosis, a mild bening pneumoconiosis. Repeated inhalation of fumes may cause occupational asthma. Symptoms may be delayed. **Skin Contact:** Contact may cause irritation, ulcerations, burns or dermatitis. **Eye Contact:** Vapors or fumes may cause redness, pain, blurred vision and corneal damage. Direct contact may cause burns and eye damage with possible blindness. Symptoms may be delayed. **Ingestion:** May cause irritation or burns to the mouth and throat, nausea, vomiting or diarrhea. Death may occur from strictures of the esophagus and pylorus. Symptoms may be delayed.
Long-term Effect: None known.
Pre-Existing Conditions: Persons with pre-existing skin, lung, kidney or liver disorders may be at increased risk from exposure to this product.

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity: Zinc Chloride- 7.2 ppm/96hrs/medium bluegrill/TLm
Ammonium Chloride – 6 ppm/96hrs/sunfish TLm
Persistance & Degradability: None known
Bioaccumulative Potential: None known
Mobility in soil: In normal use, emission of Volatile Organic Compounds (VOC's) to the air takes place, typically at a rate of 0 g/l.

SECTION 13 – DISPOSAL CONSIDERATION

Dispose of product or container in accordance with federal, state or local regulations.

SECTION 14 – TRANSPORTATION INFORMATION

D.O.T. (U.S.) : Not Regulated.

SECTION 15 – REGULATORY INFORMATION

Precautionary Label Information: Toxic and Health Hazard
Risk Phrases: R22-Harmful if swallowed. **R36/37/38:** Irritating to the eyes, respiratory system and skin. **R41-**Risk of serious damage to eyes.
Safety Phrases: S2-Keep out of reach of children. **S9-**Keep container in a well-ventilated place. **S16-**Keep away from sources of ignition-No smoking. **S25-**Avoid contact with eyes. **S26-**In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

SECTION 16 – OTHER INFORMATION

Information on this form is furnished solely for the purpose of compliance with the Occupational Safety and Health Act and shall not be used for any other purpose. Black Swan Mfg. Co. urges the customers receiving this Material Safety Data Sheet to study it carefully to become aware of the hazards, if any, of the product involved. In the interest of safety, you should notify your employees, agents and contractors of the information on the sheets. **DATE: 01/01/2014**