
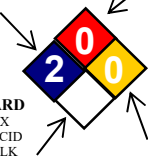
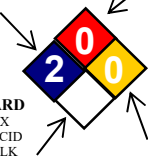
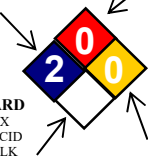




SECTION 1 - IDENTIFICATION

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: <p style="text-align: center;">INFOTRAC</p> <p style="text-align: center;">(800) 535-5053 OR (352) 323-3500</p> <p style="text-align: center;">24 hours per day - 7 days a week</p>
Product Name: Solu-Flux	Recommended Use: To prepare copper tubing and fittings for soldering.

SECTION 2 – HAZARD(S) IDENTIFICATION

<p>Labels</p>  <p>Health Hazard Irritant</p> <p>Signal Word Warning</p> <p>HMIS</p> <table border="1" style="width: 100%;"> <tr><td style="background-color: #000080; color: white;">HEALTH</td><td style="background-color: #000080; color: white; text-align: center; width: 30px;">2</td></tr> <tr><td style="background-color: #FF0000; color: white;">FLAMMABILITY</td><td style="background-color: #FF0000; color: white; text-align: center;">0</td></tr> <tr><td style="background-color: #FFD700; color: black;">REACTIVITY</td><td style="background-color: #FFD700; color: black; text-align: center;">0</td></tr> </table>	HEALTH	2	FLAMMABILITY	0	REACTIVITY	0	<p style="text-align: center;">NFPA</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;"> HEALTH HAZARD 4 – Deadly 3 – Extreme Danger 2 – Hazardous 1 – Slight Hazardous 0 – Normal Material </td> <td style="width: 50%; text-align: center;">  </td> <td style="width: 50%;"> FIRE HAZARD Flash Points 4 – Below 73°F 3 – Below 100°F 2 – Above 100°F, Not exceeding 200°F 1 – Above 200°F 0 – Will not burn </td> <td style="width: 50%;"> REACTIVITY 4 – May detonate 3 – Shock and heat may detonate 2 – Violent chemical change 1 – Unstable if heated 0 – Stable </td> </tr> </table> <p>SPECIFIC HAZARD</p> <table border="0" style="width: 100%;"> <tr><td>Oxidizer</td><td>OX</td></tr> <tr><td>Acid</td><td>ACID</td></tr> <tr><td>Alkali</td><td>ALK</td></tr> <tr><td>Corrosive</td><td>COR</td></tr> <tr><td>Use NO WATER</td><td>W</td></tr> <tr><td>Radioactive</td><td>☼</td></tr> </table>	HEALTH HAZARD 4 – Deadly 3 – Extreme Danger 2 – Hazardous 1 – Slight Hazardous 0 – Normal Material		FIRE HAZARD Flash Points 4 – Below 73°F 3 – Below 100°F 2 – Above 100°F, Not exceeding 200°F 1 – Above 200°F 0 – Will not burn	REACTIVITY 4 – May detonate 3 – Shock and heat may detonate 2 – Violent chemical change 1 – Unstable if heated 0 – Stable	Oxidizer	OX	Acid	ACID	Alkali	ALK	Corrosive	COR	Use NO WATER	W	Radioactive	☼
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 GHS Classification | | | |--|--| | <p style="text-align: center;">Health</p> Acute Toxicity: Not Established
Skin Irritation: Not Established
Eye Irritation: Cat. 2A
Skin Sensitization: Yes | <p style="text-align: center;">Environmental</p> Acute Aquatic Toxicity: Not Established
Chronic Aquatic Toxicity: Not Established | |--|--| --- **Physical** None || **Hazardous Statements** | **Precautionary Statements** |
| H302: Harmful if swallowed H315: Causes skin irritation H319: Causes serious eye irritation | P102: Keep out of reach of children P262: Do not get in eyes, on skin, or on clothing P264: Wash thoroughly after handling P281: Use personal protective equipment as required |

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

<u>Chemicals</u>	<u>CAS#</u>	<u>EINECS#</u>	<u>REACH</u> <u>Pre-registration Number</u>	<u>Approx %</u>
AMMONIUM CHLORIDE	12125-02-9	235-186-4	N/A	0-10%
GLYCERINE	56-81-5	200-289-5	N/A	5-40%
HYDROBROMIC ACID	10035-10-6	233-113-0	N/A	0-10%

*Unlisted ingredients are not classified as hazardous according to OSHA 1910.1200.

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.

Skin: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water. If rash or burn appear consult a physician.

Eyes: Flush with water for 15 minutes. If irritation persists, get medical attention.

Ingestion: Call a physician at once or your Poison Control Center. Corrosive to mucous membranes.

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SECTION 5 – FIRE-FIGHTING MEASURES

Fire Hazard: Dense smoke may be generated.
Combustion Products: None known.
Extinguishing Media: Water, Foam, Fog.
Unsuitable Extinguishing Media: None known.
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. Full protective equipment required. May release ammonia and HCl fumes. Toxic metal halide fumes may be produced. Use water spray to cool containers, to flush spills from sources of ignition and to disperse vapors.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal Precautions: Prevent contact with skin or eyes. Do not breathe fumes.
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: Contain spill, absorb, sweep-up and dispose. Flush area to chemical sewer.

SECTION 7 – HANDLING AND STORAGE

Handling

Avoid contact with eyes and skin. Avoid prolonged breathing of vapor and mist. Use with adequate ventilation. Wash thoroughly after handling. Professionally wash contaminated clothing before re-use. Do not eat, drink or smoke in the work area. Keep products away from heat, sparks, flames and all other sources of ignition. Keep containers closed when not in use. If handling in large quantities wear rubber gloves and face shield.

Storage

Store in a cool, dry, well-ventilated area away from incompatible materials. Keep container closed when not in use. Keep away from heat, sparks, open flame and other sources of ignition. **Incompatible Materials:** Strong Nitric, Sulfuric Acids, Cyanide.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

<u>Hazardous Chemicals</u>	<u>Exposure Limits</u>		
	<u>ACGIH-TLV</u>	<u>ACGIH-STEL</u>	<u>OSHA-PEL</u>
AMMONIUM CHLORIDE	10 mg/ m ³	N/A	10 mg/ m ³
GLYCERINE	10 mg/ m ³	N/A	10 mg/ m ³
HYDROBROMIC ACID	N/A	N/A	10 mg/ m ³

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: Maintain airflow away from user to remove all fumes and vapors, so that the PEL is never exceeded. Adhere to environment regulations for exhaust.
Personal Protective Equipment – Respiratory: If the work station is not properly ventilated to exhaust all fumes and vapors, use a NIOSH approved mask.
Personal Protective Equipment – Skin: Chemical & acid impervious gloves. Full protective equipment used in a soldering operation to prevent any contact.
Personal Protective Equipment – Eyes: Chemically tight safety goggles.

SECTION 9 – PHYSICAL & CHEMICAL PROPERTIES

Appearance:	Opaque White to Yellowish	Flash Point:	Not Established	Vapor Pressure:	Not Established
Odor:	None	Specific Gravity:	1.014 – 1.33	Flammability:	Not Established
pH:	Not Established	Solubility (H₂O):	Complete	Flammability Limits:	LEL – Not Established
Melting Point:	Not Established	Evaporation Rate:	<1		UEL – Not Established
Freezing Point:	Not Established	Vapor Density:	Not Established		
Boiling Point:	Not Established	VOC:	49 g/l		

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SECTION 10 – STABILITY AND REACTIVITY

Stability: Stable.

Hazardous polymerization: Will not occur.

Conditions to avoid: None known.

Incompatible materials: Strong Nitric, Sulfuric Acids, Cyanide.

Hazardous decomposition products: Hydrogen Chloride, Hydrogen Bromide and Ammonia.

SECTION 11 – TOXICOLOGICAL INFORMATION

<u>Hazardous Chemicals</u>	<u>LD₅₀</u>	<u>LC₅₀</u>
AMMONIUM CHLORIDE	N/A	N/A
GLYCERINE	N/A	N/A
HYDROBROMIC ACID	N/A	N/A

Likely Routes of Exposure: Inhalation, Skin Contact, Eye Contact and Ingestion.

Symptoms and Effect - Inhalation: Irritation to respiratory system. Coughing and sneezing. **Skin Contact:** Dermatitis, possible chemical burns, irritating to skin. **Eye Contact:** Irritation to eyes, tearing, burning of eye surfaces, corrosive to eyes. MAY CAUSE BLINDNESS.

Ingestion: Can cause damage to digestive system. Corrosive to mucous membrane.

Long-Term Effect: Irritation to skin (scarring), eyes, and respiratory system. Possible liver and kidney effects.

Pre-Existing Conditions: Existing lung and skin disorders will be aggravated.

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity: None known.

Persistence & 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 49 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: Irritant and Health Hazard.

Risk Phrases: R22-Harmful if swallowed. 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: 01/01/2019