

MATERIAL SAFETY DATA SHEET

S.A. Day urges each customer or recipient of the MSDS to study it carefully to become aware of and understand the hazards associated with this product. The reader should consider consulting reference works or individuals who are experts in ventilation, toxicology and fire prevention, as necessary, to use and understand the data contained in this MSDS.

To promote safe handling, each customer and recipient should notify its employees, agents, contractors and others whom it believes will use this material or the information in this MSDS and any other information regarding hazards or safety related to the safe handling and use of this product.

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Date Prepared: 3/1/2000

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Product: 3360/5X Soldering Flux

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: S. A. Day Soldering Flux 3360/5X
Product Description: Soldering Flux
Product Code: 3360/5X

MANUFACTURER:
The S.A. Day Mfg. Co., Inc.
1489 Niagara Street
Buffalo, NY 14213
716-881-3030

24 HR. EMERGENCY TELEPHONE NUMBERS:
CHEMTREC: 800-424-9300
Emergency Contact: Chemtrec
Emergency Phone: 800-424-9300

2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Ingredient</u>	<u>CAS No.</u>	<u>Exposure Limits</u>
Zinc oxide	1314-13-2	TLV 10 mg/m ³ (STEL) (fume) 5 mg/m ³ (TWA) (fume) PEL 10 mg/m ³ (STEL) (fume) 5 mg/m ³ (TWA) (fume)
Hydrobromic Acid	10035-10-6	TLV 3 mg/m ³ (C) PEL 3 mg/m ³ (TWA)

3. HAZARDS IDENTIFICATION

Emergency Overview:

Immediate Concerns: Harmful or fatal if swallowed. May cause severe and permanent eye and skin damage. May cause severe respiratory tract, nose and throat irritation if breathed.

Potential Health Effects

Eyes Contact: May cause severe eye irritation. Permanent loss of sight may result.

Skin Contact: May cause severe skin irritation and skin burns if not washed off immediately.

Inhalation: May cause severe irritation of the nose and throat, headache, dizziness, incoordination, nausea, vomiting, and drowsiness. Breathing of high concentrations may cause damage to the respiratory tract and lung. Death may result from gross overexposure. Pulmonary edema and pneumonia may be delayed results of heavy vapor exposures.

Ingestion: Swallowing may be fatal.

Signs and Symptoms of Overexposure: Tearing or burning sensation of the eyes. Tingling and burning sensation on the skin. Severe nose and throat irritation, coughing and difficulty breathing.

4. FIRST AID MEASURES

Eyes: Flush eyes with water for at least 15 minutes. Forcibly hold eyelids apart to ensure complete irrigation of eye/lid tissue. Get immediate medical attention.

Skin: Flush immediately with water for at least 15 minutes while removing contaminated clothing. Get immediate medical attention. Wash contaminated clothing before reuse. Destroy contaminated shoes.

Ingestion: If patient is fully conscious, give large amounts of water or milk. Do **not** induce vomiting. Call a Poison Control Center, Hospital Emergency Room or doctor immediately.

Breathing: Remove victim to fresh air. If breathing has stopped, perform artificial respiration. Get immediate medical attention

5. FIRE FIGHTING MEASURES

Flashpoint and Method: N/A
Flammable Limits: N/A
Autoignition Temperature: N/A

Flammable Class: Non-flammable

Extinguishing Media: Use water spray, fog, foam, CO₂ or other agents as appropriate for surrounding fire.

Hazardous Combustion Products: Burning, including when heated by welding, will produce hydrogen bromide and carbon monoxide.

Fire Fighting Procedures: Wear self-contained breathing apparatus and full protective clothing. Move exposed containers from the fire area if it can be done without risk. Use water to keep fire-exposed containers cool; do not get water inside containers.

Unusual Fire and Explosion Hazards: During emergency conditions, overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent. Obtain medical attention.

6. ACCIDENTAL RELEASE MEASURES

General Procedures: Wear suitable protective equipment. Contain spill in order to prevent contamination of sewage system or water way. Cover with sodium carbonate (soda ash) to neutralize. Dissolve 1 1/2 pounds of sodium carbonate in one gallon of water. Apply sodium carbonate solution to total area of spill. One gallon of sodium carbonate solution will neutralize one gallon of this product. Carefully sweep up material and place in suitable labeled containers for disposal. Wash spilled area with water after pickup is complete, collecting all pick-up water for appropriate disposal. All spill response should be carried out in accordance with Federal, State and local requirements.

Special Protective Equipment: Wear self-contained breathing apparatus and full protective clothing at all times where there is a possibility of contact with the liquid, vapor or gases from this product.

7. HANDLING AND STORAGE

General Procedures: Do not breathe vapors. Avoid contact with eyes, skin and clothing. Store away from heat and oxidizing agents. Keep containers in a dry and well ventilated area. Keep containers tightly closed. Protect containers from damage. Emptied containers may contain vapor and product residue. Do not weld, braze or cut on emptied containers. Emptied containers must not be washed and reused for any purpose. Never use pressure to empty a container. Drum is not a pressure vessel. **Wash thoroughly after handling and before eating.**

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Personal Protection:

Eyes and Face: Wear safety spectacles and chemical goggles. Do not wear contact lenses.

Skin: Wear impervious rubber gloves and clothing designed to minimize skin contact.

Respiratory: Wear a properly fitted NIOSH/MSHA approved organic/acid gas cartridge respirator if misting or vapor occurs if there is a potential for airborne exposures to exceed established exposure limits. Consult respirator manufacturer to determine appropriate equipment. If concentrations are high or unknown, wear self-contained breathing apparatus. Refer to OSHA 29CFR1910.134 "Respiratory Protection".

Work Hygiene Practices: Provide good general room ventilation to minimize exposure. If necessary, use local exhaust ventilation to control particulate/mist levels. **Wash thoroughly after handling and before eating.**

Other Use Precautions: Wear tinted goggles or full face shield to protect against infrared radiation from the torch flame and hot metal. All filter lenses and plates shall meet the test for transmission of radiant energy prescribed in ANSI Z87.1-1968-American National Standard Practice for Occupational and Educational Eye and Face Protection. The high temperatures

normally found in soldering processes will generate fumes. These fumes will contain vaporized metals and metallic oxides of the metals contained in the soldering material and substrate, and halogenated compounds from the soldering flux. Repeated overexposure to metal fumes may cause metal fume fever, characterized by cough, dyspnea, fever, chills, substernal chest pain, muscular pain, nausea and vomiting. Metal fume fever is temporary with recovery in 24 - 48 hours, and is without medical sequelae.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
pH:	<1
Percent Volatile:	Unknown
Vapor Pressure:	10
Vapor Density:	1.0
Boiling Point:	215 deg F
Melting Point:	16 deg F
Solubility in Water:	Completely miscible
Evaporation Rate:	0.65 (n-butyl acetate =1)
Specific Gravity:	1.16 (water =1)
Viscosity:	Not determined

10. STABILITY AND REACTIVITY

Stable: Stable under normal conditions of handling and use.

Incompatibility with other materials: Strong oxidizers, alkalis, alkali metals, metal powders, carbides, sulfides

Hazardous Polymerization: None known.

Conditions to Avoid: Keep away from heat, flame and moisture.

Hazardous decomposition products: May release bromine in the presence of strong oxidizers.

11. TOXICOLOGICAL INFORMATION

The toxicological properties of this mixture have not been determined. The information provided is based on the toxicological properties of the ingredients.

12. ECOLOGICAL INFORMATION

None available.

13. DISPOSAL CONSIDERATIONS

Disposal Method: Dispose in accordance with federal, state and local regulations.

14. TRANSPORT INFORMATION

DOT (Department of Transportation)

Technical Name: Hydrobromic Acid with not more than 49% Hydrobromic Acid
Combustion Class: No
Hazard Class: 8
NA/UN Number: UN1788
Packing Group: II

15. REGULATORY INFORMATION

TSCA The components of this product are either on the TSCA inventory or are exempt from the inventory.

California Proposition 65

Carcinogen 1,4-dioxane (<0.00002%)
Cadmium (<0.006)
Lead (< 0.007%)
Reproductive Toxin Lead (< 0.008%)

Carcinogens:

OSHA Cadmium (<0.006)
NTP 1,4-dioxane (<0.00002%)
Cadmium (<0.006)
IARC 1,4-dioxane (<0.00002%)
Cadmium (<0.006)
Lead (< 0.007%)

16. OTHER INFORMATION

HMIS Ratings:

Health: 3
Flammability: 0
Reactivity: 1

Protective Equipment: To be determined by the user based on the conditions of use and the effectiveness of engineering controls in place during the handling and use of the product.