

MATERIAL SAFETY DATA SHEET

I. PRODUCT IDENTIFICATION

Product Name: AMCO 44 CAS number: N/A - mixture
Chemical Name & Synonyms: N/A - mixture
Appearance: Fine, white powder with no characteristic odor
Use: Aluminum brazing flux.
Manufacturer: Force Industries Division Tel. 610-647-3575
EMERGENCY PHONE No. CALL CHEMTREC (800) 424-9300 * Available 24 Hours

II. CHEMICAL COMPOSITION

Material	SARA III	CAS Number	OSHA PEL	ACGIH TLV
Sodium fluoaluminate	No	7789-24-4	2.5 mg/m ³ as F	2.5 mg/m ³ as F
Lithium Chloride	No	7447-41-8	5 mg/m ³	10 mg/m ³
Potassium Fluoride	No	7789-23-3	2.5 mg/m ³ as F	2.5 mg/m ³ as F
Strontium Chloride	No	10476-85-4	-----	5.0 mg/m ³

Others, if any, are non-hazardous and are claimed as trade secret.

Hazard Rating: HMIS: (H =2 F=0 R=0 PE=C) NFPA: (H=3 F=0 R=0)

Note: Chronic fluoride absorption can result in ossious fluorosis, increased radiographic density of the bones and mottling of the teeth. Read OSHA 29 C.F.R. 1910.1000, July 1, 1980, (standard for fluoride).

Note: Exposure to Lithium is relatively non-hazardous per two NIOSH studies HHE 80-036-422 and HHE 77-59-496. Chronic exposure to Lithium may result in neuromuscular effects, hyperactive reflexes, and weight loss. Consult your industrial hygiene department.

III. POTENTIAL HEALTH EFFECTS AND HEALTH HAZARD DATA

Target organ statement: Caution: May be harmful if swallowed; irritating to skin and eyes.
Effects of Chronic Exposure: Coughing, CNS effects, erythema, nausea, and kidney effects.
Effects of Acute Overexposure
Swallowing: Nausea, vomiting. Can cause chemical burn to digestive system and toxic effects due to Lithium ion.
Skin Absorption: Not absorbed by skin.
Inhalation: Irritant to respiratory system. Lithium dust and fumes are absorbed through the lungs - lung damage. Pre-existing lung disorders will be aggravated.
Skin Contact: Skin contact may cause dermatitis; possible chemical burns. Existing skin disorders may be aggravated.
Eye Contact: Irritation. Possible burn to eye surfaces.

IV. EMERGENCY AND FIRST AID PROCEDURES

Swallowing: Lithium and fluoride present. Call a physician or your Poison Control Center.
Skin: Wash hands with soap and water to remove all residue. If rash develops, consult a physician.
Inhalation: Remove to fresh air. If fumes, vapors, or dusts are inhaled, call a physician.
Eyes: Flush with water for at least 15 minutes to remove all residue. Promptly get medical help.

V. FIRE AND EXPLOSION DATA

Flashpoint (°F): N/A
Flammable limits in air: LOWER: N/A UPPER: N/A (% by volume)
Extinguishing media: Does not support combustion. Be aware of other materials in surrounding area to determine if water, fog, foam or CO₂ may be used.
Special firefighting procedures: Metal halide and toxic fumes may be produced; use self contained breathing apparatus.
Unusual fire and explosion hazards: None.

VI. REACTIVITY INFORMATION

Stability considerations/Conditions to avoid: Stable/None
Hazardous polymerization/Conditions to avoid: Will not occur/None
Incompatibility/Materials to avoid: Strong acids, cyanides, and sulfides
Hazardous combustion or decomposition products: In presence of water and heat, HCl and HF may be given off.

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VII. SPILL AND LEAK RESPONSE

Steps to be taken if material is released or spilled: Contain spill, absorb, sweep-up. Remove to chemical sewer. Flush area to chemical sewer.

Waste disposal method: Dispose of in accordance with all local, state, and federal regulations.

VIII. SPECIAL PROTECTION INFORMATION

Respiratory protection: If the workstation is not properly ventilated to exhaust all fumes, dusts, and vapors, use a NIOSH approved mask.

Ventilation: Maintain airflow away from user to remove all fumes, vapors, and dusts, so that the PEL is never exceeded.

Protective gloves: Chemical and oil impervious.

Eye protection: Chemical tight safety goggles. Do not wear contact lenses.

Other protective equipment: Full protective equipment normally used in a braze/welding operation so as to prevent any contact. Review operations to avoid contact with hazardous gas, liquids or solids. See also:
29 CFR 1910.132 - 29 CFR 1910.140. Personal Protective Equipment
29 CFR 1910.251 - 29 CFR 1910.257. Welding, Cutting and Brazing

IX. STORAGE, HANDLING AND SPECIAL PRECAUTIONS

Precautions to be taken in handling and storage: Wash hands thoroughly after handling to remove all residue. Store material under ambient conditions

Other precautions: Remove and professionally wash contaminated clothing before re-use.

X. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point (°F @ 760 mmHg):	N/A	Bulk density, loose (lbs/cu.ft.)	46.8
Percent volatiles by volume:	N/A	Solubility in water:	Moderate
Evaporation rate (butyl acetate = 1):	N/A		

XI. OPTIONAL INFORMATION

Department of Transportation: DOMESTIC GROUND

Proper shipping name: Corrosive Solid, N.O.S. (Zinc Chloride, Potassium Fluoride)

Hazard Class: 8

ID & Packing Group No. UN 1759, PG III

ERG Guide Number: 154

Toxic Substance Control Act: All components of this compound are listed within the TSCA inventory.

SARA Title III Program: This product contains the following toxic chemicals subject to the reporting requirements of EPCRA of 1986 and 40 CFR 372. This information must be included in all MSDS that are copied and distributed for this material.

<u>Chemical Name</u>	<u>CAS No.</u>	<u>Concentration</u>
Zinc Chloride	7646-85-7	<10%

Hazard Communication Program: Hazardous warnings and training requirements as mandated for corrosive

State Right-to-Know Programs:

Pennsylvania: This product contains the following chemicals listed in PA Code Title 34, Hazardous Substance List: Zinc Chloride

California: This product contains the following compounds subject to the reporting and labeling requirements of Proposition 65:None

Miscellaneous: This product contains the following marine pollutants listed under 49 CFR 172.101 Appendix B: None

NOTES: NA=Not Applicable
F=Fire

NE=Not Established
R=Reactivity

H=Health
PE=Personal Equipment

While we believe all information presented herein is accurate and reliable, the data are not to be taken as a guarantee or representation of any kind for which Force Industries assumes legal responsibility. They are offered solely for your consideration, investigation, and verification.