

MATERIAL SAFETY DATA SHEET

I. PRODUCT IDENTIFICATION

Product Name: AMCO 49 CAS number: N/A - mixture
Chemical Name & Synonyms: N/A - mixture
Appearance: White powder with no characteristic odor
Use: Aluminum torch furnace 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
Lithium Chloride	No	7447-41-8	5 mg/m ³	10 mg/m ³
Zinc Chloride	12.0%	7646-85-7	1.0 mg/m ³	1.0 mg/m ³
Lithium Fluoride	No	7789-24-4	2.5 mg/m ³ as F	2.5 mg/m ³ as F

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

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.

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

III. POTENTIAL HEALTH EFFECTS AND HEALTH HAZARD DATA

Target organ statement: Danger. Cause eye and skin burns. Harmful if swallowed or inhaled.
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: None currently known.
Inhalation: Irritation to respiratory system. Lithium dust and fumes are absorbed through the lungs. Lung damage. Pre-existing lung disorders will be aggravated.
Skin Contact: Dermatitis, possible chemical burns . Existing disorders will be aggravated.
Eye Contact: Irritation/possible burn of eyes surfaces.

IV. EMERGENCY AND FIRST AID PROCEDURES

Swallowing: Call a physician or your poison control center at once. Corrosive to mucous membranes.
Skin: Promptly flush with water to remove all residue. If rash or burn develops, consult a physician. Material is corrosive.
Inhalation: Remove to fresh air. If fumes are inhaled call a physician.
Eyes: Flush with water for at least 15 minutes to remove all residue. Get medical help NOW. Blindness can result.

V. FIRE AND EXPLOSION DATA

Flash point (°F): N/A
Flammable limits in air : LOWER: N/A UPPER: N/A (% by volume)
Extinguishing media: Does not support combustion.
Special fire fighting method: Metal halide and toxic fumes 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 acid, 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 and dispose. Flush area to chemical sewer.

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

VIII. SPECIAL PROTECTION INFORMATION

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

Ventilation: Maintain air flow away from user to remove all fumes and vapors, so that the PEL is never exceeded. Adhere to environmental regulations for exhausts.

Protective gloves: Chemical and acid impervious.

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

Other protective equipment: Full protective equipment normally used in a braze/soldering operation to prevent any contact. Review operations to avoid contact with hazardous gas, liquid or solid. See also: 29 CFR 1910. 132 - 29 CFR 1910. 140. Personal Protective Equipment 29 CFR 1910. 251 - 29 CFR. 257. Welding, Cutting and Brazing

IX. STORAGE, HANDLING AND SPECIAL PRECAUTIONS

Precautions to be taken in handling and storage: Store solution at ambient conditions. Wash thoroughly after handling to remove all residue.

Other precautions: Do not breathe fumes. Professionally wash contaminated clothing before re-use. Existing lung disorders will have increased toxic susceptibility.

X. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point (°F @ 760 mmHg):	N/A	Specific gravity (H ₂ O = 1 @ 72°F):	2.15
Vapor density (air = 1):	N/E	Vapor pressure:	N/E
Percent volatiles by volume:	N/A	Solubility in water:	Slight
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, Lithium chloride)

Hazard Class: Class 8

ID & Packing Group No. UN 1759, PG II

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	12%

Hazard Communication Program State Right-to-Know Programs: Hazardous warnings and training requirements as mandated for corrosive

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: Zinc Chloride

Miscellaneous: This product contains the following marine pollutants listed under 49 CFR 172.101 Appendix B: Zinc Chloride = 12%

NOTES: NA=Not Applicable NE=Not Established H=Health
F=Fire R=Reactivity 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.