

# MATERIAL SAFETY DATA SHEET

## I. PRODUCT IDENTIFICATION

Product Name: AMCO 33 CAS number: N/A - mixture  
Chemical Name & Synonyms: N/A - mixture  
Appearance: White powder with no characteristic odor.  
Use: Aluminum torch and furnace brazing flux  
Manufacturer: Force Industries Division 28 Industrial Blvd. Paoli, PA 19301 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	-----	7447-41-8	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>
Zinc Chloride	<15%	7646-85-7	1.0 mg/m <sup>3</sup>	1.0 mg/m <sup>3</sup>
Lithium Fluoride	-----	7789-24-4	2.5 mg/m <sup>3</sup> as F	2.5 mg/m <sup>3</sup> as F

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

Note: Chronic fluoride absorption can result in osseous fluorosis, increased radiographic density of the bones and mottling of the teeth. OSHA 29 CFR 1910.1000 (Standard for fluorides).

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=1 PE=C) NFPA (H=3 F=0 R=1)

## III. POTENTIAL HEALTH EFFECTS AND HEALTH HAZARD DATA

Target organ statement: Harmful if swallowed or inhaled. Causes eye and skin burns.  
Effects of Chronic Exposure: Coughing, erythema, nausea, and kidney effects. See Section II.  
Effects of Acute Overexposure  
Swallowing: Nausea, vomiting. Can cause chemical burn to digestive system.  
Skin Absorption: Not known as a skin absorbent. No toxicology data available.  
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: 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: Zinc and lithium halide present. Call a physician or your Poison Control Center. Dilute with large quantities of water or milk. Do not induce vomiting.  
Skin: Wash hands with soap and water to remove all residues. If rash or burn develops, consult a physician.  
Inhalation: Remove to fresh air. If fumes, vapors, or dusts are inhaled, call a physician and advise of Section II.  
Eyes: Flush with water for at least 15 minutes to remove all residues. 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 CO<sub>2</sub> may be used.  
Special firefighting procedures: Metal halide and toxic fumes produced; use a SCBA.  
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  
Hazardous combustion or Decomposition products: In presence of water and heat, HCl and HF may be produced.

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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 to prevent any contact.

**IX. STORAGE, HANDLING AND SPECIAL PRECAUTIONS**

Handling/Storage Precautions: Wash hands thoroughly after handling to remove all residue. Store material under ambient conditions; keep dry. Wash hands thoroughly after handling to remove all residues.  
Other precautions: 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

**X. PHYSICAL AND CHEMICAL PROPERTIES**

Boiling Point (°F @ 760 mmHg):	N/A	Specific gravity (H <sub>2</sub> O = 1 @ 72°F):	2.16
Percent volatiles by volume:	N/A	Solubility in water (boiling):	93%
Evaporation rate (butyl acetate = 1):	N/A		

**XI. OPTIONAL INFORMATION**

Department of Transportation: Domestic Ground  
Proper shipping name: Zinc Chloride Anhydrous Mixture  
Hazard Class: Class 8  
ID & Packing Group Number: UN 2331, 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	< 15.0%

**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 NE=Not Established PE=Personal Equipment H=Health F=Fire R=Reactivity  
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.

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