

# MATERIAL SAFETY DATA SHEET

## I. PRODUCT IDENTIFICATION

Product Name: AMCO 4015 Blue CAS number: N/A - mixture  
Chemical Name & Synonyms: N/A - mixture  
Appearance: Blue 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 Fluoride	No	7789-24-4	2.5 mg/m <sup>3</sup> as F	OSHA
Lithium Chloride	No	7447-41-8	5 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>
Zinc Chloride	%	7646-85-7	1.0 mg/m <sup>3</sup>	1.0 mg/m <sup>3</sup>

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! Causes 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: 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; possibly a chemical burn. Existing skin disorders will be aggravated.

Eye Contact: Irritation/possible burn of eye surfaces.

## IV. EMERGENCY AND FIRST AID PROCEDURES

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

Skin: Promptly flush with water to remove all residue. If rash or burn develops, consult a physician. Material is corrosive. With water, possibly HF.

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

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 Self Contained Breathing Apparatus (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, cyanides, and sulfides

Hazardous combustion or Decomposition products: In presence of water and heat, HCl and HF will 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, and sweep-up. Remove and flush area with water 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 work station is not properly ventilated to exhaust all fumes and dusts, use a NIOSH approved mask.  
Ventilation: Maintain air flow away from user to remove all fumes and dusts, 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 brazing 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: Store flux at ambient conditions, keep under extremely dry and controlled conditions. Wash hands thoroughly after handling to remove all residue.  
Other precautions: Do NOT breathe fumes. Professionally wash contaminated clothing before re-use. Material will naturally absorb moisture and cake solid. Existing lung disorders will have increased toxic susceptibility.

## X. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point (°F @ 7#60 mmHg):	N/A	Specific gravity (H <sub>2</sub> O = 1 @ 72°F):	2.15
Vapor density (air = 1):	N/A	Vapor pressure:	N/A
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, Potassium Fluoride)  
Hazard Class: Class 8  
ID & Packing Group Number: 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: Hazardous warnings and training requirements as mandated for corrosive material.

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  
H=Health

NE=Not Established

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

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for which Force Industries assumes legal responsibility. They are offered solely for your consideration, investigation, and verification.