



SECTION 1: IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

Product identifier

Product name: AMCO 4040

Other means of identification

Product code: 377

Recommended use of the chemical and restrictions on use

Recommended use: Aluminum torch furnace brazing flux

Details of the supplier of the safety data sheet

Manufacturer: Force Industries Division.
28 Industrial Blvd. Paoli, PA 19301.

Emergency Telephone number

For hazardous materials incidents only, call CHEMTREC Emergency Response Number:

1-800-424-9300.

For all other questions about this product, call Force Industries Division at 610-647-3575

Revision Date: July 20, 2016

Supersedes: April 20, 2016

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Oral (Category 3), H301

Skin corrosion (Category 1B), H314

Serious eye damage (Category 1), H318

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

Acute aquatic toxicity (Category 1), H400

Chronic aquatic toxicity (Category 1), H410

For the full text of the H-Statements mentioned in this Section, see Section 16. Classification

**2.2 GHS Label elements, including precautionary statements****Emergency overview**

Appearance:	Yellow
Physical state:	Powder
Odor:	No characteristic odor
Signal Word:	

DANGER**Hazard statement(s)**

H301 Toxic if swallowed.
H314 Causes severe skin burns and eye damage.
H335 May cause respiratory irritation.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P260 Do not breathe dust or mist.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment
P280 Wear protective gloves/ eye protection/ face protection.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 Call a POISON CENTER or doctor/ physician if you feel unwell.
P321 Specific treatment (see supplemental first aid instructions on this label).
P330 Rinse mouth.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

Lachrymator.

**SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS**

Component	CAS No.	EINECS No.	Weight %
Lithium Fluoride	7789-24-4	232-152-0	0-10
Lithium Chloride	7447-41-8	231-212-3	0-15
Zinc Chloride	7646-85-7	231-592-0	0-15

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

SECTION 4 FIRST AID MEASURES**4.1 Description of first aid measures****General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance.
Move out of dangerous area.

If inhaled

If breathed in, remove person to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

4.3 Indication of any immediate medical attention and special treatment needed

No data available



SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Dry powder

5.2 Special hazards arising from the substance or mixture

No Data available

5.3 Advice for firefighters

In the event of fire, wear self-contained breathing apparatus. Fire fighters must wear fire resistant personnel protective equipment. Wear chemical resistant over suit.

5.4 Further information

Hydrofluoric acid solution may be formed within water run-off.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

In case of accidental release or spill, immediately notify the appropriate authorities if required by Federal, State/Provincial and local laws and regulations. Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal. Keep in properly labeled containers. Prevent product from entering drains. Clean spill area thoroughly. Local authorities should be advised if significant spillages cannot be contained.

6.4 Reference to other sections

For disposal see section 13. Personal precautions, protective equipment and emergency procedures



SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Hygroscopic.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Lithium Fluoride	7789-24-4	TWA	2.5 mg/m ³	Occupational Exposure limits Table Z-1 limits for air contaminates
Lithium Chloride	7447-41-8	NA	NA	NA
Zinc Chloride	7646-85-7	TWA	1 mg/m ³	Occupational Exposure limits Table Z-1 limits for air contaminates

8.2 Exposure controls

Appropriate engineering controls

General industrial hygiene practice.

Personal protective equipment

Eye/face protection

Tightly fitting safety goggles. Face shield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact



with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Do not let product enter drains.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state:	Powder
Odor:	None
Color:	Yellow
Flash point:	NA
Vapor pressure:	N/A
Vapor density:	N/A
Specific gravity:	2.15
Water solubility:	Slight

9.2 Other safety information

None



SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Avoid moisture.
Reacts with glass.

10.5 Incompatible materials

Strong oxidizing agents, Strong acids and glass.

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Hydrogen fluoride, lithium oxides, other decomposition products - No data available In the event of fire: see section 5

SECTION 11: TOXICOLOGICAL INFORMATION

Component toxicity

Components	LC50/Inhalation/1h/Rat	LD50/Rabbit	LD50/Oral/Rat
Lithium Fluoride	143 mg/kg	No Data	No Data
Lithium Chloride	526 mg/kg	No Data	No Data
Zinc Chloride	350 mg/kg	No Data	No Data

Reproductive toxicity

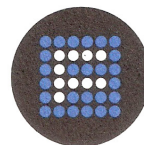
Lithium and its compounds are possible teratogens by analogy to lithium carbonate which has equivocal human teratogenic data and positive animal teratogenic data.

No data available

Chronic Toxicity and Carcinogenicity

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

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IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Lithium fluoride)

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Genetic Toxicology

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

Fluoride ion can reduce serum calcium levels possibly causing fatal hypocalcemia., Cyanosis and t-wave inversion have occurred in the breast-fed infants of women receiving lithium carbonate therapy., Lithium and its compounds are possible teratogens by analogy to lithium carbonate which has equivocal human teratogenic data and positive animal teratogenic data., burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Large doses of lithium ion have caused dizziness and prostration, and can cause kidney damage if sodium intake is limited. Dehydration, weight loss, dermatological effects, and thyroid disturbances have been reported. Central nervous system effects that include slurred speech, blurred vision, sensory loss, ataxia, and convulsions may occur. Diarrhea, vomiting, and neuromuscular effects such as tremor, clonus, and hyperactive reflexes may occur as a result of repeated exposure to lithium ion.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Stomach - Irregularities - Based on Human Evidence

SECTION 12: ECOLOGICAL INFORMATION

12. ECOLOGICAL INFORMATION

12.1 Toxicity



Components	LC50/96hr/48hr /24hr	EC50/96/48hr/24hr	Bioaccumulation Concentration Factor
Lithium Chloride	Ptychocheilus lucius - 17 mg/l	Daphnia magna (Water flea) - 1.2 mg/l - 6	No data available
Zinc Chloride	Cyprinus carpio 0.4-2.2 mg/l	Daphnia magna (Water flea) – 0.2 mg/l	Fathead minnow 63d

12.2 Persistence and degradability

No data available

12.3 Bio-accumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

No data available

SECTION 13: DISPOSAL CONSIDERATIONS
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13.1 Waste treatment methods**Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

**SECTION 14: TRANSPORT INFORMATION****U.S. Department of Transportation Ground (49CFR)**

Proper shipping name: Zinc Chloride, Anhydrous
UN No.: 2331
Packing Groups: III
Hazard Class: 8
Reportable Quantity (RQ): None
Marine Pollutant: Yes

SECTION 15: REGULATORY INFORMATION**International Inventories**

USA (TSCA): Complies

Federal Regulations**SARA Title III 313 Reportable Substances**

This product contains the following chemicals which are subject to the reporting requirements of the Act and of Title 40 of the Code of Federal Regulations, Part 372

Chemical	CAS #
Zinc Compounds	N982

SARA Title III Section 311/312 Hazard Categories:

Acute Health Hazard
Chronic Health Hazard

CERCLA Section 103

This product contains the following substances which are subject to CERCLA Section 103 reporting requirements and which are listed on 40 CFR 302.4
Zinc Chloride

Toxic Substance Control Act (TSCA)

If listed below, non-proprietary substances are subject to export notification Section 12 (b) of TSCA:
None listed

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State Regulations (RTK)

Pennsylvania Right to Know Components

Component	CAS No.
Lithium Fluoride	7789-24-4
Lithium Chloride	7447-41-8
Zinc Chloride	7646-85-7

New Jersey Right to Know Components

Component	CAS No.
Lithium Fluoride	7789-24-4
Lithium Chloride	7447-41-8
Zinc Chloride	7646-85-7

California Proposition 65

This product does not contain a chemical known in the State of California to cause cancer.

SECTION 16: OTHER INFORMATION

HMIS:

Health: 3

Flammability: 0

Reactivity: 0

PREPARATION INFORMATION: Technical Service Department,
Force Industries Division

DISCLAIMER: The data set forth in these sheets are based on information provided by the suppliers of the raw materials and chemicals used in the manufacture of the aforementioned product. Force Industries makes no warranty with respect to the accuracy of the information provided by their suppliers, and disclaims all liability of reliance thereon. Force Industries warrants only that its products conform to their published specifications and no other express warranty is made with regards thereof. We do not guarantee favorable results, and we assume no liability in connection with the use of the products. They are intended for use by persons having technical skill and knowledge, at their own discretion and risk.