

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

### Product identifier

Product name: **AMCO 4674**

### Other means of identification

Product code: **249**

### Recommended use of the chemical and restrictions on use

Recommended use: Aluminum 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: 1-800-424-9300.

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

**Revision Date:** April 11, 2017

**Supersedes:** June 28, 2007

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

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

Acute toxicity, Dermal (Category 3), H311

Acute toxicity, Inhalation (Category 3), H331

Acute toxicity, Oral (Category 3), H301

Serious eye damage (Category 1), H318

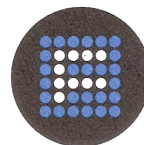
Skin irritation (Category 2), H315

Specific target organ toxicity - repeated exposure (Category 1), H372

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

Acute aquatic toxicity (Category 2), H401

Chronic aquatic toxicity (Category 2), H411



## 2.2 GHS Label elements, including precautionary statements

## Emergency overview

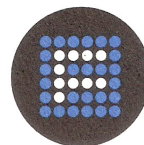
<b>Appearance:</b>	White
<b>Physical state:</b>	Powder
<b>Odor:</b>	None
<b><u>DANGER</u></b>	

## Hazard statement(s)

- H311 Toxic in contact with skin  
 H331 Toxic if inhaled  
 H301 Toxic if swallowed  
 H318 Causes serious eye damage  
 H315 Causes skin irritation  
 Causes damage to organs through prolonged or repeated exposure  
 H372  
 H335 May cause respiratory irritation  
 H401 Toxic to aquatic life  
 H411 Toxic to aquatic life with long-lasting effects

## Precautionary statement(s)

- P261 Avoid breathing dust/fumes/gas/mist/vapors/spray.  
 P264 Wash hands 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.  
 Wear protective gloves/protective clothing/eye protection/face protection.  
 P280  
 IF SWALLOWED:  
 P301+P312 Call a POISON CENTER/ doctor/if you feel unwell.  
 IF ON SKIN:  
 P302+P340 Wash off with soap and plenty of water.  
 IF INHALED:  
 P304+P340 Remove person to fresh air and keep comfortable for breathing.  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P305+P351+P338  
 P314 Get Medical advice/attention if you feel unwell.



- P332+P313 If skin irritation occurs: Get medical advice/attention.  
 P337+P313 If eye irritation persists: Get medical advice/attention.  
 P361 Take off immediately all contaminated clothing.  
 P363 Wash contaminated clothing before reuse.  
 P391 Collect spillage.  
 P403+P233 Store in a well-ventilated place. Keep container tightly closed.  
 P405 Store locked up.  
 Dispose of contents/container to in accordance with  
 P501 local/regional/national/international regulation

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS –none.

## SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

<u>Component</u>	<u>CAS No.</u>	<u>EINECS No.</u>	<u>Weight %</u>
Lithium Chloride	7447-41-8	231-212-3	5 - 20
Sodium hexafluoroaluminate	13775-53-6	239-148-8	5 - 20
Strontium chloride	10476-85-4	233-971-6	0 - 10
Potassium fluoride	7789-23-3	232-151-5	0 - 10
Zinc chloride	7646-85-7	231-592-0	0 - 10
Potassium Chloride, untreated	7447-40-7	231-211-8	35 - 50
Sodium chloride	7647-14-5	231-598-3	10 - 30

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

## SECTION 4: FIRST AID MEASURES

### 4.1 Description of first aid measures

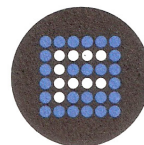
#### General advice

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.

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## **In case of skin contact**

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.

## **If swallowed**

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 labeling (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**

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.

### **5.2 Special hazards arising from the substance or mixture**

Metal halide and toxic fumes may be produced; use self-contained breathing apparatus.

### **5.3 Advice for firefighters**

In the event of fire, wear self-contained breathing apparatus.

### **5.4 Further information**

No data available.

## **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**

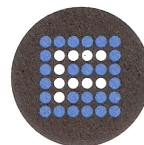
Do not let product enter drains. Discharge into the environment must be avoided.

### **6.3 Methods and materials for containment and cleaning up**

Contain spill, absorb, sweep-up. Remove to chemical sewer. Flush area to chemical sewer.

### **6.4 Reference to other sections**

For disposal see section 13.



## SECTION 7: HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Wash hands thoroughly to remove all residue. Use full protective equipment normally used in a braze/welding operation to prevent any contact. Review operations to avoid contact with hazardous gas, liquids, or solids.

### 7.2 Conditions for safe storage, including any incompatibilities

Store material under ambient conditions; keep dry.

### 7.3 Specific end use(s)

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

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Sodium hexafluoroaluminate	13775-53-6	TWA	2.500mg/m <sup>3</sup>	USA. NIOSH Recommended Exposure Limits
Potassium fluoride	7789-23-3	TWA	2.500mg/m <sup>3</sup>	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
Zinc chloride	7646-85-7	TWA	1 mg/m <sup>3</sup>	OSHA (PEL)

### 8.2 Exposure controls

#### Appropriate engineering controls

General industrial hygiene practice.

#### Personal protective equipment

##### Eye/face protection

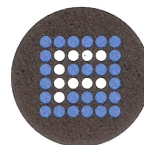
Safety glasses with side-shields. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### 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 type N100 (US) or type P3 (EN 143) 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. Discharge into the environment must be avoided.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES****9.1 Information on basic physical and chemical properties**

<b>Physical state:</b>	Powder
<b>Odor:</b>	No data available
<b>Color:</b>	White
<b>Flash point:</b>	No data available
<b>Vapor pressure:</b>	No data available
<b>Vapor density:</b>	No data available
<b>Water solubility:</b>	Moderate
<b>Specific Gravity</b>	2.18

**9.2 Other safety information**

No other data

**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**

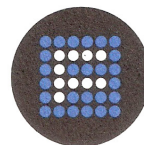
None

**10.5 Incompatible materials**

Strong acids

**10.6 Hazardous decomposition products**

In the presence of water and heat, HCl and HF may be produced.



## SECTION 11: TOXICOLOGICAL INFORMATION

**Component toxicity**

Components	LC50/Rat (Inhalation) – 1 hr	LD50/Oral/Rat
Lithium chloride	No data available	526mg/kg
Sodium hexafluoroaluminate	No data available	5000 mg/kg
Strontium chloride	No data available	2250 mg/kg
Potassium fluoride	No data available	245 mg/kg
Potassium chloride	2 mg/l (4 hr)	>2600 mg/kg
Sodium chloride	>42 g/m <sup>3</sup>	>3000 mg/kg
Zinc chloride	350 mg/kg	No data available

**Skin corrosion/irritation**

Causes skin burns

**Serious eye damage/eye irritation**

Eyes - Rabbit: Severe eye irritation

**Respiratory or skin sensitization**

May cause sensitization by skin contact

**Germ cell mutagenicity**

No data available

**Chronic Toxicity and Carcinogenicity**

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.

**Developmental Toxicity**

No data available

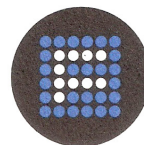
**Reproductive Toxicity**

No data available

**Genetic Toxicology**

Based on information for component(s): In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

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## Specific target organ toxicity - single exposure

No data available

## Specific target organ toxicity - repeated exposure

May cause damage to organs through prolonged or repeated exposure – cardio-vascular system

## Aspiration hazard

No data available

## Additional Information

Liver – Irregularities based on human evidence (Lithium chloride)

Stomach – Irregularities based on human evidence (Lithium chloride)

## SECTION 12: ECOLOGICAL INFORMATION

### 12. ECOLOGICAL INFORMATION

#### 12.1 Toxicity

Components	LC50 96 hr	EC50
Lithium Chloride	Ptychocheilus lucius 17 mg/l mg/L (fish)	1.2 mg/l (water flea 64 hr)
Sodium hexafluoroaluminate	LC50 - Oncorhynchus mykiss (rainbow trout) - 42.5 mg/l	EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h
Strontium chloride	Austropotamobius pallipes pall - 440 mg/l	Daphnia magna (Water flea) - 94 mg/l - 48 h
Zinc chloride	Cyprinus carpio 0.4-2.2 mg/l	Daphnia magna (water flea) – 0.2mg/l

#### 12.2 Persistence and degradability

No data available

#### 12.3 Bio-accumulative potential

No data available except for zinc chloride, a marine pollutant (Fathead minnow 63d)

#### 12.4 Mobility in soil

No data available

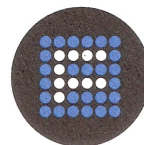
#### 12.5 Results of PBT and vPvB assessment

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

### 13.1 Waste treatment methods

#### **Product**

Contact a licensed professional waste disposal service to dispose of this material. Offer surplus and non-recyclable solutions to a licensed disposal company.

#### **Contaminated packaging**

Dispose of in accordance with all local, state, and federal regulations.

## SECTION 14: TRANSPORT INFORMATION

### **U.S. Department of Transportation Ground (49CFR)**

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

Hazard Class: Class 8

ID No: UN 1759

Packing Group Number: PG III

ERG Guide Number: 154

Marine Pollutant (Yes/No) – Yes

## SECTION 15: REGULATORY INFORMATION

### **International Inventories**

**USA (TSCA):** Complies

### **Federal Regulations**

#### **SARA Title III 313 Reportable Substances**

This material contains the following chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

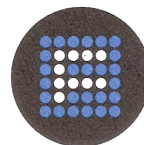
None

#### **SARA Title III Section 311/312 Hazard Categories:**

Chronic Health Hazard

Acute Health Hazard

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## **State Regulations (RTK)**

### Pennsylvania Right to Know Components

<b>Component</b>	<b>CAS No.</b>
Zinc Chloride	7646-85-7

### New Jersey Right to Know Components

<b>Component</b>	<b>CAS No.</b>
Potassium fluoride	7789-23-3
Zinc Chloride	7646-85-7

## **California Proposition 65**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

## **SECTION 16: OTHER INFORMATION**

### **HMS:**

**Health:** 2\*

**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.