

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

### Product identifier

**Product name:** AMCO 66A

### Other means of identification

**Product code:** 590

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

**Recommended use:** Galvanizing 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 material 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:** February 28, 2017

**Supersedes:** March 21, 2011

## 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 4), H302

Skin Corrosion (Category 1C), H314

Eye Irritation (Category 2A)

Acute Aquatic Toxicity (Category 2), H400

Chronic Aquatic Toxicity (Category 2), H410

Specific Target Organ Toxicity Single Exposure (Category 3)

### **Hazard statement(s)**

H300: Fatal if swallowed

H314: Causes severe skin burns and eye damage

H319: Causes eye irritation


H335: May cause respiratory irritation

H411: Toxic to aquatic life with long-lasting effects



## 2.2 GHS Label elements, including precautionary statements

### Emergency overview

<b>Appearance:</b>	White granular powder
<b>Physical state:</b>	Solid
<b>Odor:</b>	None
<b>Signal Word:</b>	Danger
	

### Precautionary statement(s)

P260: Do not breathe dust.

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/protective clothing/eye protection/face protection.

P301+P312+P330: IF SWALLOWED: Immediately call a POISON CENTER or physician, rinse mouth and DO NOT induce vomiting.

P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower

P304+P340+P311: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. Contact a physician.

P321: Specific treatment see section 2.3

P337+P313: If eye irritation persists: Get medical advice/attention.

P363: Wash contaminated clothing before reuse.

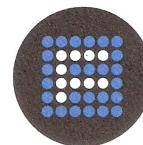
P391: Collect spillage.

P405: Store locked up.

P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

## 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>
Zinc Chloride	7646-85-7	231-592-0	75-90%
Ammonium Chloride	12125-02-9	235-186-4	1-10%
Sodium Fluoride	7681-49-4	231-667-8	1-10%

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.

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

**Skin:** Wash off with plenty of water. Consult a doctor if a rash or burn develops.

**Ingestion:** Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician or call a POISON CENTER.

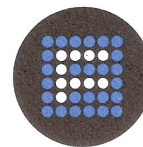
**Inhalation:** If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician if you feel unwell.

**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

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Be aware of other materials in surrounding area to determine which to use.

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

May release zinc oxide, ammonia, and HCl fumes. Toxic metal halide fumes produced. Dense smoke may be generated.

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary. Full protective equipment required.

### 5.4 Further information

No data available.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. 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

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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

Contain, absorb, sweep-up and dispose. Flush area to chemical sewer

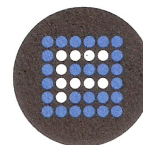
### 6.4 Reference to other sections

For disposal see section 13.

## SECTION 7: HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

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

Store flux in closed container and away from heat. Wash thoroughly after handling to remove all residues. Do not breathe fumes. Professionally wash contaminated clothing before re-use. Existing lung disorders will have increased susceptibility.

**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**

Components	OSHA PEL	ACGIH TLV
Zinc Chloride	1.0 mg/m <sup>3</sup>	1.0 mg/m <sup>3</sup>
Ammonium Chloride	10 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>
Sodium Fluoride	2.5 mg/m <sup>3</sup> as F	2.5 mg/m <sup>3</sup> as F

**8.2 Exposure controls****Appropriate engineering controls**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

**Personal protective equipment****Eye/face protection**

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin protection**

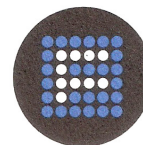
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**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 particle 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**

Prevent further leakage or spillage if safe to do so. 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**

Physical state:	White powder
Odor:	None
Flash point:	N/E
Vapor pressure:	N/E
Vapor density:	N/E
Boiling Point:	NA
pH:	Acidic
Specific gravity:	2.69 (H <sub>2</sub> O = 1 at 72°F)
Solubility in water:	Soluble

**9.2 Other safety information**

None

**SECTION 10: STABILITY AND REACTIVITY****10.1 Reactivity**

No data available

**10.2 Chemical stability**

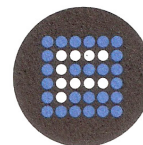
Stable under recommended storage conditions

**10.3 Possibility of hazardous reactions**

Keep away from water and heat

**10.4 Conditions to avoid**

Keep product dry and away from moisture. Product is hygroscopic.

**10.5 Incompatible materials**

Strong acids, cyanide

**10.6 Hazardous decomposition products**

In the presence of water and heat, hydrochloric acid, ammonia, hydrogen fluoride and zinc oxide

**SECTION 11: TOXICOLOGICAL INFORMATION****11.1 Component toxicity**

Components	LC50/Inhalation/4h/Rat	LC50/Dermal	LD50/Oral/Rat
Zinc Chloride	No data available	No data available	350 mg/kg
Ammonium Chloride	No data available	No data available	1,650 mg/kg
Sodium Fluoride	No data available	No data available	31 mg/kg

**11.2 Effects of Acute Overexposure:**

- a. Inhalation: No data available.
- b. Eyes: No data available.
- c. Skin Contact: No data available.
- d. Ingestion: No data available.

**11.3 Primary Route of Exposure:**

Skin, eyes, and inhalation

**11.4 Effects of Chronic Exposure:**

No data available.

**11.5 Target Organs:**

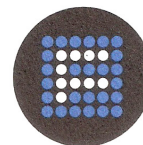
No data available

**11.6 Reproductive Effects**

No data available

**11.7 Carcinogenicity:**

No data available



## SECTION 12: ECOLOGICAL INFORMATION

### 12. ECOLOGICAL INFORMATION

#### 12.1 Toxicity

Components	LC50/96hr/48hr/24hr	EC50/96/48hr/24hr	Bioaccumulation Concentration Factor	No Observable Effect Concentration/96hr/48hr/24hr
Zinc Chloride	0.4 - 2.2 mg/L (carp)	0.2 mg/L (flea)	No data available	No data available
Ammonium Chloride	209 mg/L (carp) 3.98 mg/L (rainbow trout)	No data available	No data available	No data available
Sodium Fluoride	>100 mg/l/96hr	No data available	No data available	No data available

#### 12.2 Persistence and degradability

No data available

#### 12.3 Bio-accumulative potential

Pimephales promelas (fathead minnow) – 63 d  
Bio-concentration factor (BCF): 21,000

#### 12.4 Mobility in soil

No data available

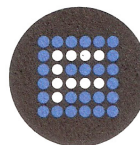
#### 12.5 Results of PBT and vPvB assessment

No data available

#### 12.6 Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.



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

Product: Offer surplus and non-recyclable solutions to a licensed disposal company. Dispose of in accordance with all federal, state, and local regulations

**Contaminated packaging**

Dispose of as unused product.

**SECTION 14: TRANSPORT INFORMATION****DOT (US)**

UN number: 1759

Class: 8

Packing Group: III

Proper shipping name: Zinc Chloride, Sodium Fluoride

ERG Guide Number: 154

Marine pollutant (Yes/No) YES

Unless your shipments qualify for an exemption, you must mark the products with the marine pollutant mark and add the words "Marine Pollutant" to the product's basic description on your bill of lading.

**International Air Transportation (ICAO/IATA):**

Not dangerous goods

**International Maritime Organization (IMO/IMDG):**

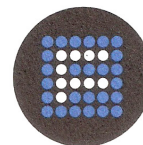
International Maritime Organization (IMO) provide a new exclusion for certain marine pollutants shipped by air or vessel (per IATA DGR 4.4 SP A197 and IMDG Code 2.10.2.7). Marine pollutants with the shipping names "UN 3077 Environmentally hazardous substance, solid, n.o.s." and "UN 3082 Environmentally hazardous substance, liquid, n.o.s." shipped in quantities of  $\leq 5$  L or 5 kg per package are not subject to regulation other than specific packaging provisions.

**SECTION 15: REGULATORY INFORMATION****International Inventories**

USA (TSCA):

Complies

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## 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 #	% by Weight
Zinc Compounds	N982	<32%

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

Acute 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  
Ammonium Chloride  
Sodium Fluoride

### **Toxic Substance Control Act (TSCA)**

If listed below, non-proprietary substances are subject to export notification Section 12 (b) of TSCA:

None

## State Regulations (RTK)

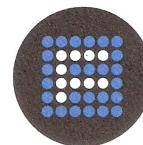
### **Massachusetts Right to Know components**

Component	CAS No.
Zinc Chloride	7646-85-7
Ammonium Chloride	12125-02-9
Sodium Fluoride	7681-49-4

### **Pennsylvania Right to Know Components**

Component	CAS No.
Zinc Chloride	7646-85-7
Ammonium Chloride	12125-02-9
Sodium Fluoride	7681-49-4

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## New Jersey Right to Know Components

Component	CAS No.
Zinc Chloride	7646-85-7
Ammonium Chloride	12125-02-9
Sodium Fluoride	7681-49-4

## California Prop. 65 Components

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

### HMIS:

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.