

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

Product identifier

Product name: AMCO 121

Other means of identification

Product code: 514

Recommended use of the chemical and restrictions on use

Recommended use: Stainless Steel Soldering 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: March 9, 2016

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

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







Flammable Liquid (Category 2), H225
Corrosive to Metals (Category 1), H290
Acute Toxicity Oral (Category 3), H301
Skin Corrosion (Category 1B), H311
Acute Toxicity Inhalation (Category 3), H331
Serious Eye Damage (Category 1), H314
Acute Aquatic Toxicity (Category 2), H400
Chronic Aquatic Toxicity (Category 2), H410

**Hazard statement(s)**

H225: Highly flammable liquid and vapor
H290: May be corrosive to metals
H301+H311+H331: Toxic if swallowed, in contact with skin or inhaled
H314: Causes severe skin burns and eye damage
H400: Very toxic to aquatic life
H410: Very toxic to aquatic life with long-lasting effects

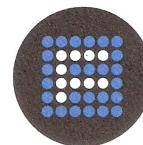
2.2 GHS Label elements, including precautionary statements**Emergency overview**

Appearance:	Water Clear-White
Physical state:	Liquid
Odor:	None
Signal Word:	Danger

					
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Precautionary statement(s)

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233: Keep container tightly closed.
P234: Keep only in original container.
P235: Keep cool.
P240: Ground/bond container and receiving equipment.
P241: Use explosion-proof electrical/ventilating/light/equipment.
P242: Use only non-sparking tools.
P243: Take precautionary measures against static discharge.
P260: Do not breathe fumes/gas/mist/vapors/spray.
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+ P310+P330 + P331: IF SWALLOWED: Immediately call a POISON CENTER or physician, rinse mouth and DO NOT induce vomiting.
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.
P337+P313: If eye irritation persists: Get medical advice/attention.



P363: Wash contaminated clothing before reuse.
 P390: Absorb spillage to prevent material damage.
 P391: Collect spillage.
 P403: Store in a well ventilated place.
 P405: Store locked up.

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>
Hydrochloric Acid	7647-01-0	231-595-7	20-32%
Zinc Chloride	7646-85-7	231-592-0	20-32%
Methanol	67-56-1	200-659-6	1-5%
Ammonium Chloride	12125-02-9	235-186-4	1-5%

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: Flush eyes with water and get medical attention immediately.

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

Ingestion: Never give anything by mouth to an unconscious person. Rinse mouth with water. Contact Poison Control or physician.

Inhalation: Remove to fresh air. Do not aspirate into lungs. Contact 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

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

May release toxic metal halide and corrosive hydrochloric acid fumes. Hydrogen gas may also be liberated.

5.3 Advice for firefighters

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

Avoid breathing vapors, mist or gas. Ensure adequate ventilation. 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

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

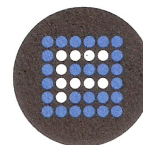
SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

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.

**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 TWA
Hydrochloric Acid	7 mg/m ³
Zinc Chloride	1 mg/m ³
Methanol	200 ppm
Ammonium Chloride	10 mg/m ³

8.2 Exposure controls**Appropriate engineering controls**

General industrial hygiene practice.

Personal protective equipment**Eye/face protection**

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards.

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

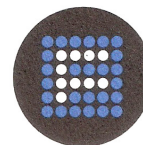
Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

If mist or vapor is release use an air-purifying respirator with dust mist filter. 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

Physical state:	Water clear liquid
Odor:	None
Flash point:	183°F
Vapor pressure:	N/E
Vapor density:	0.48
Boiling Point:	228°F at 760 mmHg
Specific gravity:	1.347 (H ₂ O = 1 at 72°F)
Evaporation Rate :	<1.0 (butyl acetate=1)
Solubility in water:	Completely

9.2 Other safety information

None

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Reacts with metals

10.2 Chemical stability

Stable under recommended storage conditions

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

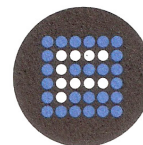
No data available

10.5 Incompatible materials

Strong oxidative components, metals, bases and amines.

10.6 Hazardous decomposition products

No data available



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
Methanol	128.2 mg/L	17100 mg/kg	1187 mg/kg
Ammonium Chloride	No data available	No data available	1650 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:

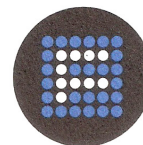
Classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

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/24 hr
Hydrochloric Acid	282 mg/L (mosquito fish)	No data available	No data available	No data available
Zinc Chloride	0.4 - 2.2 mg/L (carp)	0.2 mg/L (flea)	No data available	No data available
Methanol	15,400 mg/L (bluegill)	10,000 mg/L (flea)	5 mg/L (carp-72d)	No data available
Ammonium Chloride	209 mg/L (carp) 3.98 mg/L (rainbow trout)	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

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.

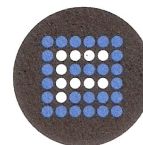
SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.



SECTION 14: TRANSPORT INFORMATION

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

Proper shipping name: Corrosive liquid N.O.S (Zinc Chloride, Hydrochloric acid)

Hazard Class: Class 8

ID & Packing Group Number: UN 1760, PG III

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):

Proper shipping name: Corrosive liquid N.O.S (Zinc Chloride, Hydrochloric acid)

Hazard Class: Class 8

ID & Packing Group Number: UN 1760, PG III

International Maritime Organization (IMO/IMDG):

Proper shipping name: Corrosive liquid N.O.S (Zinc Chloride, Hydrochloric acid)

Hazard Class: Class 8

ID & Packing Group Number: UN 1760, PG III

SECTION 15: REGULATORY INFORMATION

International Inventories

USA (TSCA):

Complies

Federal Regulations

SARA Title III 313 Reportable Substances

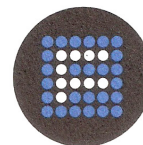
This product contains the following chemicals which are subject to the reporting requirements of the Act and of Title 40 of the Code of Federal Regulations, Part 372

Chemical	CAS #	% by Weight
Zinc Compounds	N982	29
Methanol	67-56-1	2

SARA Title III Section 311/312 Hazard Categories:

Acute Health Hazard

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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

Hydrochloric Acid
Zinc Chloride
Ammonium Chloride
Methanol

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)

Pennsylvania Right to Know Components

Component	CAS No.
Hydrochloric Acid	7647-01-0
Zinc Chloride	7646-85-7
Ammonium Chloride	12125-02-9
Methanol	67-56-1

New Jersey Right to Know Components

Component	CAS No.
Hydrochloric Acid	7647-01-0
Zinc Chloride	7646-85-7
Ammonium Chloride	12125-02-9
Methanol	67-56-1

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: 3

Flammability: 1

Reactivity: 0

SAFETY DATA SHEET



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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.