

MATERIAL SAFETY DATA SHEET

I. PRODUCT IDENTIFICATION

Product Name: AMCO 3295 CAS number: N/A - mixture
Chemical Name & Synonyms: N/A - mixture
Appearance: Pale yellow water solution with no significant odor.
Use: General purpose soft soldering flux, corrosive residue.
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
Zinc Chloride	25 - 40%	7646-85-7	1 mg/m ³	1 mg/m ³
Hydrochloric Acid	2.0- 10%	7647-01-0	7 mg/m ³	7.5 mg/m ³
Monoethanolamine.HCl	2.0- 10%	2002-24-6	3 mg/m ³	Eye Irritant
Ammonium Chloride	2.0- 10%	12125-02-9	10 mg/m ³	5 mg/m ³

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

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 severe burns to skin, eyes, and respiratory system.
Effects of Chronic Exposure: Contact burns, irritation to skin (scarring), eyes and respiratory system. Possible liver and kidney effects.

Effects of Acute Overexposure

Swallowing: Can cause damage to digestive system. Corrosive to mucous membranes.
Skin Absorption: Burns; immediate hazard.
Inhalation: Irritation to respiratory system. Coughing and sneezing. Existing lung disorders will be aggravated.
Skin Contact: Dermatitis, possible chemical burns, corrosive to skin. Existing disorders will be aggravated.
Eye Contact: Irritation to eyes, tearing, burn of eye surfaces, corrosive to eyes, may cause blindness.

IV. EMERGENCY AND FIRST AID PROCEDURES

Swallowing: Call a physician or Poison Control Center. Do not induce vomiting. Give large quantities of water, milk, or 5% sodium bicarbonate solution.
Skin: Promptly flush with water to remove all residue. If rash or burn develops, consult a physician. Material is corrosive.
Inhalation: Remove to fresh air. If fumes are inhaled, call a physician. Provide oxygen.
Eyes: Flush with water for at least 15 minutes to remove all residue. Get medical help immediately.

V. FIRE AND EXPLOSION DATA

Flashpoint (°F): N/A
Flammable limits in air LOWER: N/A UPPER: N/A (% by volume)
Extinguishing media: Water, fog, or foam
Special firefighting procedures: Full protective equipment required. May release zinc oxide and HCl fumes. Toxic metal halide fumes produced.
Unusual fire and explosion hazards: Dense smoke may be generated.

VI. REACTIVITY INFORMATION

Stability considerations/Conditions to avoid: Stable/None
Hazardous polymerization/Conditions to avoid: Will not occur/None
Incompatibility/Materials to avoid: Acid may react with metals to produce explosive gas.
Hazardous combustion or, Decomposition products: Carbon dioxide, water, hydrochloric acid, ammonia, oxides of nitrogen, zinc oxide.

VII. SPILL AND LEAK RESPONSE

Steps to be taken if material is released or spilled: Contain spill, absorb, sweep-up and dispose. Flush area to chemical sewer. Soda ash (sodium carbonate) is neutralizer for acid.

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Waste disposal method: Dispose of in accordance with all federal, state, and local regulations.

VIII. SPECIAL PROTECTION INFORMATION

Respiratory protection: If the workstation is not properly ventilated to exhaust all fumes and vapors, use a NIOSH approved mask.

Ventilation: Maintain air flow away from user to remove all fumes and vapors, 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. Wash thoroughly after handling to remove all residue.

Other precautions: Do not take internally. Avoid eye and skin contact. Avoid inhaling mist or dust. Professionally wash contaminated clothing before re-use.

X. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point (°F @ 760 mmHg):	>212	Specific gravity (H ₂ O = 1 @ 72°F):	1.38
Vapor density (air = 1):	N/E	Vapor pressure:	N/E
Percent volatiles by volume:	N/E	Solubility in water:	Appreciable
Evaporation rate (butyl acetate = 1):	<1		

XI. OPTIONAL INFORMATION

Department of Transportation: DOMESTIC GROUND

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

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>Concentrations</u>
Zinc Compounds	N/A	<50%
Hydrochloric Acid	7647-01-0	<20%

State Right-to-Know Programs:

Pennsylvania: This product contains the following chemicals listed in PA Code Title 34, Hazardous Substance List: Ammonium chloride, zinc chloride and hydrochloric acid.

California: This product contains the following compounds subject to the reporting and labeling requirements of Proposition 65: None

RQ aggregate values apply for RCRA, CERLA, and SARA.

NOTES: NA=Not Applicable NE=Not Established H=Health
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 for which Force Industries assumes legal responsibility. They are offered solely for your consideration, investigation, and verification.