

MATERIAL SAFETY DATA SHEET

I. PRODUCT IDENTIFICATION

Product Name: AMCO 1041 CAS number: N/A - mixture
Chemical Name & Synonyms: N/A - mixture
Appearance: Water clear liquid with alcohol 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

<u>Material</u>	<u>SARA III</u>	<u>CAS Number</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>
Zinc Chloride	---	7646-85-7	1 mg/m ³	1 mg/m ³
Ammonium Chloride	---	12125-02-9	10 mg/m ³	10 mg/m ³
Hydrochloric Acid	---	7647-01-0	7 mg/m ³	7.5 mg/m ³
Isopropyl alcohol	---	67-63-0	980 mg/m ³	---

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

Hazard Rating: HMIS: (H =3 F=1 R=0 PE=C) NFPA: (H=3 F=1 R=0)

III. POTENTIAL HEALTH EFFECTS AND HEALTH HAZARD DATA

Target organ statement: DANGER: Causes severe burns to skin and eyes. Harmful if inhaled, swallowed, or absorbed through the skin.

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

Effects of Acute Overexposure

Swallowing: Slightly toxic. May cause abdominal discomfort, nausea, vomiting and diarrhea. Drowsiness or loss of consciousness may occur.

Skin Absorption: Effects may include those described for swallowing. Prolonged or widespread contact may result in the absorption of potentially harmful amounts of material. Contact may cause defatting and drying of skin.

Inhalation: Low concentration of vapor may cause irritation of the respiratory tract, experience nasal discomfort and discharge with chest and coughing. High concentration of vapor may cause headache and drowsiness. Irritant to respiratory system. 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 at once or your poison control center. May be fatal. Corrosive to mucous membranes.

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.

Eyes: Flush with water for at least 15 minutes to remove all residue. Get medical help NOW. Blindness can result.

V. FIRE AND EXPLOSION DATA

Flashpoint (°F): 72 TCC

Flammable limits in air (% by volume): LOWER: 2.0 as isopropanol UPPER:12.7 as isopropanol

Extinguishing media: Use appropriate media for surrounding fire.

Special firefighting procedures: Foam, dry chemical or CO₂

Unusual fire and explosion hazards: None

VI. REACTIVITY INFORMATION

Stability considerations / Conditions to avoid: Stable / Heat, sparks, open flames

Hazardous polymerization / Conditions to avoid: Will not occur / None

Incompatibility / Materials to avoid: Concentrated acids and oxidizers

Hazardous combustion or Decomposition products: Hydrogen chloride, NH₃ and ZnO₂, oxides of carbon

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VII. SPILL AND LEAK RESPONSE

Steps to be taken if material is released or spilled: Contain spill, absorb, sweep-up. Remove to chemical sewer. Flush area to chemical sewer.
Waste disposal method: Dispose of in accordance with all local, state, and federal regulations.

VIII. SPECIAL PROTECTION INFORMATION

Respiratory protection: If the work station 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 soldering operation so as to prevent any contact.

IX. STORAGE, HANDLING AND SPECIAL PRECAUTIONS

Precautions to be taken in handling and storage: Keep away from heat, sparks and flame Wash thoroughly after handling to remove all residue.
Other precautions: Do not breathe fumes. Professionally wash contaminated clothing before re-use. Existing lung disorders will have increased toxic susceptibility.

X. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point (°F @ 760 mmHg): >215 Specific gravity (H₂O = 1 @ 72°F): 1.3
Percent volatiles by volume: <1 Solubility in water: Complete
Evaporation rate (butyl acetate = 1): < 1

XI. OPTIONAL INFORMATION

Department of Transportation: DOMESTIC GROUND
Proper shipping name: Flammable liquids, corrosive N.O.S.(Isopropyl alcohol, zinc chloride)
Hazard Class: Class 3
ID & Packing Group Number: UN 1760, PG II
ERG Guide Number: 154

Toxic Substance Control Act: All components of this compound are listed within the TSCA inventory.

Hazard Communication Program: Hazardous warnings and training requirements as mandated for corrosive material. (29 CFR 1910.1200)

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.

Chemical Name	CAS No.	Concentration
Zinc Compounds	N/A	<70%
Ammonium Compound	N/A	<5%
Hydrochloric Acid	7647-01-0	< 2%

State Right-to-Know Programs:
Pennsylvania: This product contains the following chemicals listed in PA Code Title 34, Hazardous Substance List: Hydrochloric Acid, Zinc Chloride, Ammonium chloride.

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

Miscellaneous: This product contains the following marine pollutants listed under 49 CFR 172.101 Appendix B: None

NOTES: NA=Not Applicable
F=Fire

NE=Not Established
R=Reactivity

H=Health
PE=Personal Equipment

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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.