

CHEMTRONICS[®]

Technical Data Sheet

TDS # 7100

Electro-Wash[®] CZ Cleaner Degreaser

PRODUCT DESCRIPTION

Electro-Wash[®] CZ Cleaner Degreaser is an all purpose cleaner for electronics that is nonflammable, non-ozone depleting, and safe on plastics. This fast drying precision cleaner contains Chemtronics' Cirozane[™], which is based on new **HFE technology**. It is excellent for removing grease, oil, and flux residues from energized equipment.

- MIL-PRF-29608A (AS) Class C approved
- Removes dirt, oil, grease, flux and many other contaminants
- Nonflammable
- Excellent material compatibility
- Non-ozone depleting
- Leaves no residues
- Evaporates quickly
- Low Odor
- Contains no CFCs, HCFCs, or 1,1,1 Trichloroethane

TYPICAL APPLICATIONS

Electro-Wash[®] CZ Cleaner Degreaser is excellent for cleaning:

- Printed Circuit Boards
- Contacts
- Cable Assemblies
- Sensitive Plastic Surfaces
- Magnetic Heads
- Electronic Controls
- Edge Connectors
- Light Flux Residues

TYPICAL PRODUCT DATA AND PHYSICAL PROPERTIES

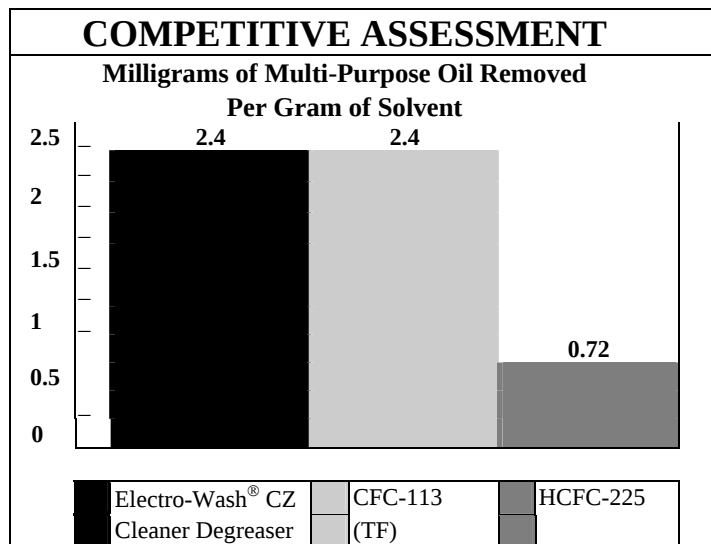
Boiling Point	90°F (Initial)	
Flash Point (TCC)	None to Boiling	
Solubility in Water	Negligible	
Specific Gravity @77°F	1.53	
Evaporation Rate (Butyl acetate=1)	>1	
Appearance	Clear, colorless liquid	
Odor	Slight Ethereal	
Surface Tension	11.6	
Kauri-Butanol (KB)	38	
Dielectric Breakdown (ASTM D-877)	17 kV	
VOC* Content:	<u>Aerosol</u>	<u>Liquid</u>
	CARB	38% 100%
	SCAQMD	187 g/L 373 g/L
	Federal	13% 28%
RoHS Compliant		
Shelflife	Aerosols	5 years
	Liquids	2 years after opening

*Volatile Organic Compound (VOC) information is calculated on a weight basis using the VOC definition of California Air Resources Board (CARB) Consumer Product Regulations, South Coast Air Quality Management District (SCAQMD) Rule 102 and the Federal definition published in 40 CFR 51.100(s).

COMPATIBILITY

Electro-Wash[®] CZ Cleaner Degreaser is generally compatible with most materials used in the electronics industry. With any cleaning agent compatibility must be determined on a non-critical area prior to use.

<u>Material</u>	<u>Compatibility</u>
ABS	Excellent
Buna-N	Excellent
EPDM	Excellent
Graphite	Excellent
HDPE	Excellent
Kynar™	Excellent
LDPE	Excellent
Lexan™	Good
Neoprene	Excellent
Noryl®	Excellent
Nylon™ 66	Excellent
Cross-Linked PE	Excellent
Polypropylene	Excellent
Polystyrene	Good
PVC	Excellent
Silicone Rubber	Excellent
Teflon™	Excellent
Viton™	Excellent



USAGE INSTRUCTIONS

For industrial use only.

Read MSDS carefully prior to use.

Spray 4-6 inches from surface to clean. Wash parts from top to bottom, allowing the liquid to flush away flux residues, dirt and dissolved oil. For precise application use attached extension tube.

AVAILABILITY

ES7100	12 oz. Aerosol
ES7101	1 Gallon Liquid

ENVIRONMENTAL IMPACT DATA

HCFC-141b	None	HFC	Yes
HCFC-225	None	nPB	None

Hydrochlorofluorocarbons (HCFCs) are regulated under the Montreal Protocol as Class II ozone depleting substances. HCFC-141b is no longer produced in the US under this legislation. HCFC-225 is planned for production phase-out in 2015. Hydrofluorocarbons (HFCs) are not currently regulated.

EPA has listed n-propyl bromide (nPB) as an acceptable alternative to ozone depleting substances in metal, precision, and electronics cleaning under Section 612 of the Clean Air Act.

NOTE:

This information is believed to be accurate. It is intended for professional end users having the skills to evaluate and use the data properly.

ITW CHEMTRONICS® does not guarantee the accuracy of the data and assumes no liability in connection with damages incurred while using it.

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SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Information: 800-TECH-401

Product Identification

ELECTRO-WASH ® CZ

Product Code: ES7100, ES7108B, ES7100C, ES7108BC

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Wt. % Range
Cirozane™	Mixture	40.0-80.0
trans-1,2-dichloroethylene	156-60-5	5.0-50.0
1,1,1,2-Tetrafluoroethane	811-97-2	10.0-30.0
Methylcyclohexane	108-87-2	1.0-10.0
Methanol	67-56-1	0.1-1.0

SECTION 3: HAZARD IDENTIFICATION

Emergency Overview: Clear, colorless liquid with faint ethereal odor. This product is nonflammable. Liquid may irritate eyes and skin under repeated or prolonged exposure. Breathing high concentrations of product vapor may produce dizziness and nausea.

Potential Health Effects:

Eyes: Liquid, aerosols and vapors of this product may be irritating and can cause pain, tearing, reddening and swelling accompanied by a stinging sensation.

Skin: Prolonged contact can cause skin irritation.

Ingestion: May be harmful if swallowed. Swallowing this material may result in nausea, vomiting and weakness followed by central nervous system depression.

Inhalation: Can be harmful if inhaled. High concentrations of vapors in immediate area can cause dizziness, nausea and vomiting.

SECTION 4: FIRST AID MEASURES

Eyes: Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Have eyes examined and tested by medical personnel if irritation develops or persists.

Skin: Wash skin with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persist. Wash clothing before reuse.

Ingestion: If swallowed, do not induce vomiting. If conscious, give 2 glasses of water. Never give anything by mouth to an unconscious person. Keep head below knees to minimize chance of aspirating material into the lungs. Get medical attention immediately.

Inhalation: Remove to fresh air. If breathing is difficult, give oxygen. Get medical attention.

SECTION 5: FIRE FIGHTING MEASURES

Flash Point: None to boiling(TCC)

Extinguishing Media: Use water spray or fog, CO2, dry chemical or water stream when fighting fires involving this material.

Fire Fighting Instructions: As in any fire, wear self-contained breathing apparatus (pressure-demand, MSHA/NIOSH approved or equivalent) and full protective gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Spills: Shut off leak if possible and safe to do so. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container for proper disposal. Do not flush to sewer. Avoid runoff into storm sewers and ditches which lead to waterways.

SECTION 7: HANDLING AND STORAGE

Avoid prolonged or repeated contact with eyes, skin, and clothing. Wash hands before eating. Use with adequate ventilation. Avoid breathing product vapor or mist. Do not reuse this container. Store in a cool dry place away from heat, sparks and flame. Keep container closed when not in use. Do not store in direct sunlight.

KEEP OUT OF REACH OF CHILDREN.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines:

CHEMICAL NAME	ACGIH TLV	OSHA PEL	OTHER
Cirozane™	NE	NE	750 ppm*
trans-1,2-dichloroethylene	200 ppm	200 ppm	
1,1,1,2-Tetrafluoroethane	NE	NE	1000 ppm (Dupont)
Methylcyclohexane	400 ppm	500 ppm	
Methanol	200 ppm	200 ppm	

NE = None Established

* = Chemtronics' Recommended Threshold Limit

Work/Hygienic Practices: Good general ventilation should be sufficient to control airborne levels. If vapor concentration exceeds TLV, use NIOSH approved organic vapor cartridge respirator. Wear safety glasses with side shields (or goggles) and rubber or other chemically resistant gloves when handling this material.

NFPA and HMIS Codes:

	NFPA	HMIS
Health	1	1
Flammability	0	0
Reactivity	1	1
Personal Protection	-	B

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIESPhysical State: Clear, colorless liquidOdor: Ethereal OdorpH: NAVapor Pressure: 220 mmHg@ 70 F (Liquid)Boiling Point: 90°F (32C) initialViscosity: NASolubility in Water: NegligibleSpecific Gravity: 1.53
(Water =1)Evaporation Rate: >1

(Butyl acetate=1)

Percent Volatile: 100%**SECTION 10: STABILITY AND REACTIVITY**Stability: This product is stable.Conditions to Avoid: Steam, oxidizers, elevated temperatures. Keep away from elevated temperatures. Do not spray near open flames, red hot surfaces or other sources of ignition.Incompatibility: Do not mix with chemically active metals such as potassium, magnesium, zinc and powdered aluminum, strong base, caustic soda, caustic potash or oxidizing.Products of Decomposition: Thermal decomposition may release carbon monoxide, carbon dioxide, hydrogen chloride and hydrogen fluoride.Hazardous Polymerization: Will not occurConditions to Avoid: Finely divided active metals, alkali and alkaline earth metals**SECTION 11: TOXICOLOGICAL INFORMATION**Inhalation:

Tetrafluoroethane	Rats ALC	567,000 ppm/4hrs
Methanol	LC50 rats	64,000 ppm/4hrs
Methylcyclohexane	LC50/mouse	41,500 mg/m ³ /2 hrs
trans-1,2-dichloroethylene	Rats LC50	24,100 ppm/4hrs

Ingestion:

Methanol	LD50 rats	5,628 mg/kg
Methylcyclohexane	LD50 Mouse	2,250 mg/kg
trans-1,2-dichloroethylene	LD50 rats	>5,000 mg/kg

Skin

Methanol	20mg/24H	MLD
Methylcyclohexane	LD50 rabbit	> 86,700 mg/kg
trans-1,2-dichloroethylene	LD50 rabbit	>5,000 mg/kg

Eye:

Methanol	40 mg	MOD
trans-1,2-dichloroethylene		MOD-SEV

Cancer Information: No ingredients listed as human carcinogens by NTP or IARC

Reproductive effects: none

Teratogenic effects: none

Mutagenic effects: none

SECTION 12: ECOLOGICAL INFORMATION

Avoid runoff into storm sewers and ditches which lead to waterways. Water runoff can cause environmental damage.

REPORTINGUS regulations require reporting spills of this material that could reach any surface waters. The toll free number for the US Coast Guard National Response Center is: **1-800-424-8802****SECTION 13: DISPOSAL CONSIDERATIONS**

Dispose of in accordance with all federal, state and local regulations. Water runoff can cause environmental damage.

SECTION 14: TRANSPORTATION INFORMATION

Proper Shipping Name	UN Number	Class	Sub. Risk	Pkg. Group	Hazard Label	Pkg. Instr.	Max. Quantity
<u>Air:</u> Aerosols non-flammable	UN 1950	2.2	NA	NA.	Non-flammable Gas	203 Y203	75 k.g; 150k.g. 30 kg
<u>Ground:</u> Consumer Commodity ORM-D	NA	ORM-D	NA	NA	ORM-D	Pkg. Auth.	173.306

SECTION 15: REGULATORY INFORMATION**SECTION 313 SUPPLIER NOTIFICATION**

This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372).

Methanol

CAS# 67-56-1

0.1-1.0%

This information should be included on all MSDSs copied and distributed for this material.

TOXIC SUBSTANCES CONTROL ACT (TSCA).

All ingredients of this product are listed on the TSCA Inventory.

WHMIS: Class A; Class D2B

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

SECTION 16: OTHER INFORMATION

This product is a Level 1 aerosol. Do not puncture or incinerate containers. Normal ventilation for standard manufacturing practices is usually adequate. Local exhaust should be used when large amounts are released.

To the best of our knowledge, the information contained herein is accurate. However, all materials may present unknown hazards and should be used with caution. In particular, improper use of our products and their inappropriate combination with other products and substances may produce harmful results which cannot be anticipated. Final determination of the suitability of any material is the sole responsibility of the user. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that may exist.