# CHEMTRONICS® Technical Data Sheet

# **TDS # 1678**

# Electro-Wash® PN New & Improved! Cleaner Degreaser

## PRODUCT DESCRIPTION

Electro-Wash® PN New & Improved! Cleaner Degreaser is a plastic safe and nonflammable cleaner formulated for all aspects of cleaning electronic components and assemblies. This precision cleaner is fast drying and has excellent solvency for oil, handling soils, dirt, and even light flux residues.

- Same great features as original, without HCFC-141b
- Removes dirt, grease, carbon, oil, and flux residues
- Excellent plastic compatibility
- Nonflammable
- Dries very quickly
- Leaves no residue
- Noncorrosive
- Enhances electrical signals
- Available with All-Way Spray valve
- Patent Pending

#### TYPICAL APPLICATIONS

Electro-Wash® PN New & Improved! Cleaner Degreaser is engineered for cleaning:

- Printed Circuit Boards
- Chip Carriers
- Edge Connector Sockets
- Relays and Contacts
- Sensitive Plastic Components
- Electronic Controls
- Light Flux Residues

- ·· - ·	2007 (7.1.1)
<b>Boiling Point</b>	99°F (Initial)
<b>Evaporation Rate</b>	>1
(butyl acetate=1)	
Flash Point (TCC)	None
Specific Gravity	1.29
Vapor Pressure @68°F	165 mmHg
<b>Appearance</b> Clear	c, colorless liquid
Odor	Ethereal Odor
Solubility in Water	Negligible
Dielectric Breakdown	26 kV
(ASTM D-877)	
Shelflife	5 years
RoHS/WEEE	ROHS
Status	Compliant

# **COMPATIBILITY**

Electro-Wash® PN New & Improved! Cleaner Degreaser has excellent compatibility with most materials used in the electronics industry. With any cleaning agent compatibility with substrate should be determined on a non-critical area prior to use.

# TYPICAL PRODUCT DATA AND PHYSICAL PROPERTIES

<u>Material</u>	<b>Compatibility</b>
ABS	Excellent
Buna-N	Excellent
EPDM	Excellent
Graphite	Excellent
HDPE	Excellent
$\mathbf{K}\mathbf{y}\mathbf{n}\mathbf{a}\mathbf{r}^{\mathrm{TM}}$	Excellent
LDPE	Excellent
Lexan <sup>TM</sup>	Good
Neoprene	Excellent
Noryl <sup>®</sup>	Excellent
Nylon <sup>TM</sup> 66	Excellent
Cross-Linked PE	Excellent
Polypropylene	Excellent
Polystyrene	Good
PVC	Excellent
Silicone Rubber	Excellent
$\mathbf{Teflon}^{TM}$	Excellent
Viton <sup>TM</sup>	Excellent

Performance		
Grease Removal per gram solvent (mg)		
Electro-Wash PN	2.2	
New & Improved!		
HFC-based Cleaner	0.5	
Grease & Lubricating solvent (mg)	Oil Removal per gram	
Electro-Wash PN New & Improved!	7.4	
HFC-based Cleaner	0.5	

### **USAGE INSTRUCTIONS**

For commercial 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 dirt and dissolved grease. For precise application use attached extension tube.

#### **AVAILABILITY**

ES1678 12 oz. Aerosol

### **ENVIRONMENTAL IMPACT DATA**

ENVIRONMENTAL IMPACT DATA			
CFC	0.0%	VOC	15.2%
HCFC-225	35.0%	HFC	47.9%
HCFC-141b	0.0%	nPB	0.0%

CFC, HCFC-225, HCFC-141b, VOC, HFC, and nPB percentages shown are the content by weight.

#### 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.

#### SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Information: 800-TECH-401

#### **Product Identification**

#### Electro-Wash® PN

Product Code: ES1678			
SECTION 2: COMPOSITION/INFORMATION ON INC	GREDIENTS		
Chemical Name	CAS#	Wt. % Range	
Pentafluorobutane	406-58-6	20.0-50.0	
HCFC-225ca	422-56-0	10.0-20.0	
HCFC-225cb	507-55-1	10.0-20.0	
Perfluorocarbons	86508-42-1	10.0-20.0	
Trans-1,2-dichloroethylene	156-60-5	10.0-20.0	
Isohexanes	8030-30-6	1.0-5.0	
1,1,1,2-Tetrafluoroethane	811-97-2	5.0-30.0	
Carbon Dioxide	124-38-9	1.0-5.0	

#### 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, including redness, burning, drying and/or cracking of skin..

<u>Ingestion</u>: 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, vomiting, unconsciousness and death.

#### **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.

<u>Ingestion:</u> 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

<u>Spills:</u> 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. 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
HCFC-225ca	not established	not established	100 ppm*
HCFC-225cb	not established	not established	100 ppm*
Pentafluorobutane	not established	not established	
Perfluorocarbons	not established	not established	
trans-1,2-Dichloroethylene	200 ppm	200 ppm	
1,1,1,2-Tetrafluoroethane	not established	not established	1000 ppm*
Isohexanes	500 ppm	not established	1000 ppm

<sup>\*</sup> Supplier's Occupational Exposure 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.

NFPA and HMIS Codes:	NFPA	HMIS
Health	1	1
Flammability	0	0
Reactivity	1	1
Personal Protection	-	В

ITW CHEMTRONICS MSDS #1678

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Clear, colorless liquid Solubility in Water: Negligible

Odor: Ethereal Odor Specific Gravity: 1.35

pH: NA (Water = 1)

Vapor Pressure: 294 mm Hg @ 68 F Evaporation Rate: >1 (Butyl acetate=1) Boiling Point: 99°F (37C) Percent Volatile: 100%

SECTION 10: STABILITY AND REACTIVITY

R

Stability - This product is stable.

Conditions to Avoid: Steam, oxidizers, elevated temperatures. Do not spray near open flames, red hot surfaces or other sources of ignition.

Incompatibility: Do not mix with alkali metals, pure oxygen, strong base, open flames, and welding arcs. This product should not be used in long term contact with aluminum or zinc or their alloys.

Products of Decomposition: Thermal decomposition may release carbon monoxide, carbon dioxide and incompletely burned hydrocarbons as well as hydrochloric and hydrofluoric acid vapor.

Hazardous Polymerization: Will not occur

Conditions to Avoid: Finely divided active metals, alkali and alkaline earth metals

SECTION 11: TOXICOLOGICAL INFORMATION

Inhalation: Ingestion:

AK225ca / AK225cb LC50 rat 37,300 ppm/36,800 ppm (4hr)\* LD50/rat >5000 mg/kg\* AK225ca / AK225cb trans-1,2-Dichloroethylene LC50 rat 24,100 ppm (4hr)\* trans-1,2-Dichloroethylene LD50/rat >5,000 mg/kg\* Rat ALC 567,000ppm/4hrs\* Tetrafluoroethane Pentafluorobutane LD50 rat >2,000 mg/kg\*

Pentafluorobutane LC50 rat >10% / 4hr\*

Skin Eye:

AK225ca / AK225cb AK225ca / AK225cb LD50rabbit >2,000 mg/kg\* Not an irritant\* trans-1,2-Dichloroethylene LD50rabbit trans-1,2-Dichloroethylene MOD-SEV\* >5,000 mg/kg\* Pentafluorobutane rabbit not an irritant\* Pentafluorobutane rabbit SL\*

\*Information provided by manufacturer.

Cancer Information: No ingredients in this product are listed as human carcinogens by IARC or NTP.

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.

REPORTING

US 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 Sub. Pkg. Hazard Pkg. Max. Shipping Name UN Number Class Risk Group Label Quantity Instr. Air: Aerosols non-flammable UN 1950 2.2 NA NA. Non-flammable 203 75 k.g; 150k.g. Consumer Commodity ORM-D NA ORM-D 173.306 Ground: NA NA Pkg. ORM-D Auth

SECTION 15: REGULATORY INFORMATION

SECTION 313 SUPPLIER NOTIFICATION

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

**Chemical Name** CAS No. Wt. % Range HCFC-225ca 422-56-0 10.0-20.0 10.0-20.0 HCFC-225cb

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.