

# CHEMTRONICS®

## Technical Data Sheet

**TDS # 1603**

### Electro-Wash® PR

#### PRODUCT DESCRIPTION

Electro-Wash® PR is a fast drying, one step degreasing agent and cleaner that is safe for most plastics. Engineered with very low surface tension, this high pressure aerosol formulation flushes areas clean and evaporates instantly leaving no residue.

- Removes oxides, dust, dirt, and grease
- Penetrates hard to reach areas
- Evaporates quickly
- Leaves no residues
- Has low odor
- Noncorrosive
- Contains no CFCs, HCFCs or 1,1,1 Trichloroethane
- Contains no Chlorinated Solvents

#### TYPICAL APPLICATIONS

Electro-Wash® PR removes grease, oils and other soils from:

- Printed Circuit Boards
- Relays and Contacts
- Fuse Boxes
- TVs / VCRs
- Solder Paste Screens
- Timers
- Wire Harnesses
- Plastic Housings

#### TYPICAL PRODUCT DATA AND PHYSICAL PROPERTIES

<b>Boiling Point</b>	141°F Initial
<b>Dielectric Strength</b>	24 Kv
<b>Flash Point (TCC)</b>	-20.0°F
<b>Appearance</b>	Clear Colorless Liquid
<b>Odor</b>	Mild
<b>Solubility in Water</b>	Negligible
<b>Specific Gravity</b> (water = <u>1@68°F</u> )	0.67
<b>Evaporation Rate</b> (butyl acetate=1)	< 1
<b>Surface Tension</b> (dynes/cm @21.6°C)	18.3
<b>Kauri-Butanol</b> (KB) Number	50
<b>Shelflife</b>	5 years

#### COMPATIBILITY

Electro-Wash® PR is generally compatible with most materials used in printed circuit board fabrication, except acrylics, ABS resins, polycarbonates and polystyrenes. As with any cleaning agent solvent/component compatibility must be determined on a non-critical area prior to use.

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

## ENVIRONMENTAL IMPACT DATA

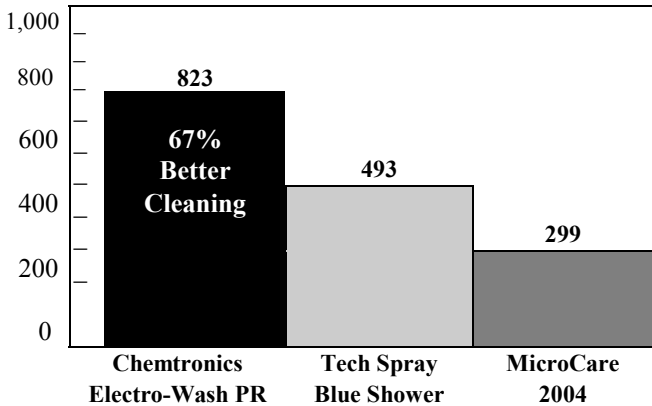
ENVIRONMENTAL IMPACT DATA			
CFC	0.0%	VOC	91.0%
HCFC	0.0%	HFC	0.0%
CL Solv.	0.0%	ODP	0.00

CFC, HCFC, CL. SOLV., VOC, and HFC numbers shown are the content by weight. Ozone depletion potential (ODP) is determined in accordance with the Montreal Protocol and U.S. Clean Air Act of 1990. The ODP of this product is 0.10. It is the sum of the ODP of the substances that may contribute to the depletion of stratospheric ozone, based upon the weight of each substance in the product's formulation.

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

## COMPETITIVE ASSESSMENT

Milligrams of Lithium Greased Removed Per 7 Second Spray



## USAGE INSTRUCTIONS

For commercial use only.

Read MSDS carefully prior to use.

Spray 4 to 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. Flammable - Do Not near sources or ignition or energized equipment.

## AVAILABILITY

ES1603 10 oz. Aerosol

## SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Information: 800-TECH-401

## Product Identification

## ELECTRO-WASH® PR

Product Code: ES1603

## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Wt. % Range
<b>Isohexane, a mixture of:</b>		
2-methylpentane	107-83-5	35.0-45.0
3-methylpentane	96-14-0	20.0-30.0
2,3-Dimethylbutane	79-29-8	10.0-20.0
2,2-Dimethylbutane	75-83-2	10.0-20.0
n-hexane	110-54-3	0.1-3.0
1,1-difluoroethane	75-37-6	5.0-25.0
Acetone	67-64-1	1.0-10.0
Carbon dioxide	124-38-9	1.0-5.0

## SECTION 3: HAZARD IDENTIFICATION

**Emergency Overview:** Clear, colorless liquid with mild hydrocarbon solvent. This product is extremely flammable. Liquid will irritate eyes and skin under repeated or prolonged exposure. Breathing high concentrations of product may produce drowsiness and a headache.

**Potential Health Effects:**

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

**Skin:** Contact causes skin irritation.

**Ingestion:** Harmful if swallowed. Irritating to the mouth, throat and stomach. May cause vomiting. **Inhalation:** Harmful if inhaled. High concentrations in immediate area can displace oxygen and cause dizziness, unconsciousness and even death with longer exposure. Keep people away from such vapors without self-contained breathing apparatus. **Pre-Existing Medical Conditions Aggravated by Exposure:** Heart, lung, skin, eye.

## 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 persists. Wash clothing separately before reuse.

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

**Inhalation:** Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

## SECTION 5: FIRE FIGHTING MEASURES

**Flash Point:** -20F (-29C) (isohexane) **LEL/UEL:** 1.2/7.0 (% by volume in air)

**Extinguishing Media:** Use alcohol foam, carbon dioxide or water spray 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

**Large Spills:** Shut off leak if possible and safe to do so. Wear self-contained breathing apparatus and appropriate personal protective equipment. Absorb spill with inert material (i.e. 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 that lead to waterways. **Small Spills:** Absorb spill with inert material (i.e. dry sand or earth), then place in a chemical waste container for proper disposal.

## SECTION 7: HANDLING AND STORAGE

Avoid prolonged or repeated contact with skin, eyes or clothing. Wash hands before eating. Use with adequate ventilation. Avoid breathing product vapor. Do not reuse this container. Store in a cool dry place, away from heat, sparks or flames. Keep container tightly 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	STEL / OTHER
2-methylpentane	500 ppm	NA	1000 ppm
3-methylpentane	500 ppm	NA	1000 ppm
2,3-Dimethylbutane	500 ppm	NA	1000 ppm
2,2-Dimethylbutane	500 ppm	NA	1000 ppm
n-hexane	50 ppm	500 ppm	NA
1,1-difluoroethane	NA	NA	1,000 ppm (DuPont)
Acetone	750ppm	1000ppm	NA

**Work/Hygienic Practices:** Good general ventilation should be sufficient to control airborne levels. Local exhaust ventilation may be necessary to control any air contaminants to within their TLVs during the use of this product. 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	2	2
Flammability	3	3
Reactivity	1	1
Personal Protection	-	B

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

Physical State: Clear, colorless liquid  
Odor: Mild hydrocarbon solvent  
pH: NA  
Vapor Pressure: 247 mmHg @ 68 F (Liquid)  
Vapor Density: 3 (isohexanes) (Air 1)

Solubility in Water: Negligible  
Specific Gravity: 0.67 @ 68F  
Evaporation Rate: <1 (Butyl acetate=1)  
Viscosity: NA  
Percent Volatile: 100 %

**SECTION 10: STABILITY AND REACTIVITY**

Stability: This product is stable. Conditions to Avoid: Do not spray near open flames, red hot surfaces or other sources of ignition.  
Incompatibility: Do not mix powdered alkali and alkaline earth metals or strong oxidizing agents.  
Products of Decomposition: Thermal decomposition may release carbon monoxide, carbon dioxide and incompletely burned hydrocarbons.  
Hazardous Polymerization: Will not occur. Conditions to avoid: NA

**SECTION 11: TOXICOLOGICAL INFORMATION**

<u>Inhalation:</u>			<u>Ingestion:</u>		
Acetone	LC50 rat	50100 mg/m <sup>3</sup> /8hrs	Acetone	LD50 rat	5800 mg/kg
1,1-difluoroethane *	Rat ALC	383,000 ppm/4hrs	1,1-difluoroethane *	Rat ALD	>1500 mg/kg
<u>Skin:</u>			<u>Eye:</u>		
Acetone	Rabbit	395 mg open MILD	Acetone	Rabbit 20 mg	SEVERE

\*Information from Dupont.  
 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.

**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.

**SECTION 14: TRANSPORTATION INFORMATION**

Proper Shipping Name	UN Number	Class	Sub. Risk	Pkg. Group	Hazard Label	Pkg. Instr.	Max. Quantity
<u>Air:</u> Aerosols flammable	UN 1950	2.1	NA	NA	Flammable Gas	203	75/150 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 (40CFR372).

n-hexane	CAS# 110-54-3	0.1-3.0%
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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 B5; 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**

Product is a Level 3 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.