

**ITW CHEMTRONICS®**

**Application Sheet**

**APS-Cable Cleaning**

## **Cleaning Underground Cables**

### **The Need For Cleaning**

The need to clean high voltage cable to the conductor is well documented. Prior to *Montreal Protocol on Substances that Deplete the Ozone Layer* of 1987, use of 1,1,1 trichloroethane was common practice in cleaning high voltage cable. In recent times, the use of solvents with flash points greater than 140° F has replaced 1,1,1 trichloroethane as the common industry standard. However, one of the concerns with the terpene-based category of cleaning compounds is residual contamination from incompletely dried solvent. While terpenes are exceptional cleaners, they can be troublesome to dry. There even have been repeated reports of 'tracking to ground' due to incomplete drying of solvent embedded in the conductor. This critical cleaning process is complicated by the wide variety of contaminants that the technician will encounter. The ideal cleaner will effectively remove not only oily soils, dust and mud, but also, will leave the cable and all insulation layers dry to the conductor.

This has led to an increase in use of n-propyl bromide (nPB) based cleaners. While this solvent is also an exceptional cleaner and most formulations are low residue, concerns exist about the toxicity level and the strong odor of nPB. Concerns over toxicity have caused manufacturers to package nPB solvents in a small pouch with a large cleaning pad. This practice can mitigate the odor and, to a certain level, the exposure to the solvent. However, high usage operations are revisiting the decision to use this solvent.

The third category of cleaning solvents are aliphatic hydrocarbons with a flash point less than 140° F. These materials evaporate more fully than the terpenes. In addition, they tend to have high dielectric breakdowns, which prevents high voltage tracking. However, the aliphatic hydrocarbons are considered 'flammable'. In addition, by themselves they are also not as effective at removing complex series of soils encountered in cleaning high voltage underground cables.

### **The Better Way**

Pow-R-Wash™ Cable Cleaner is a high flashpoint (over 140°F) cable cleaner, with low odor and minimal high voltage tracking concerns. It quickly removes the grime and adhesives from splices and cables, and easily wipes clean from the surface. Pow-R-Wash™ Cable Cleaner also exhibits a much higher dielectric breakdown than other products in its category; tested at 62 kV this product has one of the highest dielectric breakdowns available. The higher the dielectric breakdown, the more unlikely current leakage (or tracking) will occur. When used with a Lint-Free 6709 Wiper, the drying process is hastened and soil removal enhanced. Lightly spray a small amount of solvent into the center of a Coventry™ 6709 lint-free wiper.

ITW Chemtronics has taken the effective properties of aliphatic hydrocarbons and formulated a new product that cleans as well as nPB, without nPB's concerns. Electro-Wash® MX Presaturated Wipe (CP421) is a Lint-Free rugged full sized wiper with ~9ml of premium quality cleaning solvent. The package is portable and convenient for storage on service vehicles and in field kits. The MX Presaturated Wipe is currently being used in underground cable splice application. It offers low odor, high performance cleaning in the underground cable splice environment, with minimized risk provided by the minimal quantity of a high performing flammable fluids. The MX Wiper can also be used for removal of buffer gel and moisture barrier gels, semicon preparation, as well as cleaning fiber optic and coaxial cables.

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The organization that uses nPB will find cost savings by using New & Improved Electro-Wash® NR in an aerosol package. Aerosols let the user control usage, which increases efficiency and can reduce costs. If more cleaning solution is required, uncontaminated clean solvent is quickly sprayed directly onto any area that is required, including a quick spray into a Coventry™ 6709 9"x 9" Lint Free Wiper. Aerosols are also completely portable, and can be taken to all job sites. Spraying a small quantity of New & Improved Electro-Wash® NR into a Coventry 6709 9" x 9" Lint Free Wiper can reduce costs of pre-packaged foils. It is estimated that one can of either New & Improved Electro-Wash® NR or Electro-Wash® MX aerosol product will provide over 300 applications.

**Availability:**

**Pow-R-Wash™ Cable Cleaner**  
ES2425 13.5 oz. aerosol

**Coventry™ Econowipes™  
Lint Free Wipes**  
6709 300 per bag ; 9"x9"

**Electro-Wash® MX Universal Cleaner**  
ES1621 10 oz. Aerosol  
CP421 25 Packets / Box  
T021 100 Wipes / Tub

**New & Improved Electro-Wash® NR**  
ES1614 10 oz. Aerosol



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**NOTE:**

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