Polywater®
Solutions at work.

TECHNICAL DATA SHEET

POLYWATER® TYPE HP™ MULTIPURPOSE CLEANER

polywater.com

DESCRIPTION

Type HP™ Cleaner removes semi-conducting cable shield, corrosion-inhibiting compound, silicone greases, filling gels, transformer oils, and other contaminants. Use it for cable splice preparation, cable termination, and electrical apparatus cleaning. Type HP cleans without leaving a residue and is nonconductive.

Type HP lasts longer than fast-evaporating solvents and is compatible with most rubbers and plastics. It is available in multiple package options. Bulk Type HP is an excellent choice for soaking or rinsing parts. Presaturated towels limit solvent exposure and eliminate spill hazard. Depending on end use, Type HP has the optimal package available.

Type HP fits the needs of electrical utilities, line contractors, and medium voltage crews that must comply with regulatory and safety requirements. It is not classified as a hazardous waste, does not harm the environment, and contains no carcinogenic or chlorinated solvents.

PERFORMANCE PROPERTIES

Type HP meets IEEE 1493 performance criteria.[1] It effectively cleans semi-conducting cable shield. A towel saturated with cleaner quickly removes the compound and becomes visibly black.

PROPERTY	RESULT
Cleaning effectiveness	Excellent
Dielectric strength 100-mil gap (ASTM D877)	>40kV
Evaporation rate	Medium
Residue (ASTM D2369)	<100 ppm
Physical compatibility (XLPE, EPDM, silicone rubber)	Pass
Volume resistivity	Pass

[1] Tested using methods from IEEE 1493, "Guide for the Evaluation of Solvents Used for Cleaning Electrical Cables and Accessories. http://www.polywater.com/wp-content/uploads/pdf/HP-IEEE.pdf

Type HP cleans without leaving a residue

PRODUCT FEATURES

- **Multipurpose:** One cleaning solvent for multiple electrical applications.
- **High Solvency:** Excellent for cable splice preparation and electrical equipment cleaning.
- **No Residue:** Type HP evaporates completely. Towels are non-linting.
- **Nonconductive:** Will not short across typical electrical voltages.
- **Safe:** Replaces chlorinated electrical cleaners. Contains no carcinogens.

END USE

- Transformers, switchgear
- Motor control devices
- Fusible disconnecting devices
- Wind turbine nacelles
- Motors, generators, and rheostats

PHYSICAL PROPERTIES

Type HP is a high-purity solvent with low aromatic content.

PROPERTY	RESULT
Flash point (ASTM D93)	>140°F (60°C)
Initial boiling point	360°F (185°C)
Specific gravity	0.79
Water content	<50 ppm
Percent aromatic	<1%

CLEANING PROPERTIES

Type HP dissolves a broad range of contaminants. A contaminant is added to 20 grams of cleaner at ambient temperature. The quantity dissolved is recorded.

CONTAMINANT	AMOUNT DISSOLVED
PCB (Aroclor 1260)	10 grams
Cutting oil (Rigid Nu-Clear, sulphurized oil)	10 grams
Silicone grease (Dow Corning 4 Compound)	2 grams
Animal oil (Lanolin-Tech Grade)	2 grams

ENVIRONMENTAL IMPACT

Type HP is a safer alternative to chlorinated solvents.

PROPERTY	RESULT
VOC content	790 grams/liter
Persistence	Biodegradable
Global warming potential	Does not contain global warming compounds
Ozone depletion potential	None
RCRA	Not regulated as hazardous waste
CERCLA/SARA status	Not regulated as a hazardous substance

SAFETY

Type HP has a low level of toxicity and contains no listed carcinogens. It is combustible and should not be exposed to fire or flame. Good industrial hygiene practice and appropriate precautions should be employed during use. See SDS for specific details.

DIRECTIONS FOR USE

Type HP is suitable for many types of cleaning and degreasing. It is effective at room temperature and does not freeze; it can be used in cold weather applications.

Cleaning time and effectiveness will vary based on the contaminant and cleaning method. Wiping or agitation cleans faster than just soaking. Experiment with your particular contaminant and conditions.

Type HP leaves no residue. For precision cleaning, a final rinse of fresh cleaner should be used. Finish with a fresh wipe, spray until the solvent runs clear, or rinse in a fresh bath of Type HP cleaner.

For faster drying, air or centrifugal dryers can be used to accelerate evaporation. Wiping the part with an absorbent, lint-free towel will reduce drying time considerably.

DRYING TIME COMPARISONS			
No drying	60-90 mins	Cool air	3-5 mins
Drying wipe	1-2 mins	Hot air	2-3 mins

PEL-PAC® SYSTEM

The Type HP presaturated towelette is a convenient package with multiple safety benefits.

Control
Presaturated wipes minimize solvent exposure on sensitive electrical parts. Directly spraying or immersing the part allows the solvent to seep into small openings. Wipe cleaning also ensures faster solvent evaporation.

Safety
The presaturated towelette package eliminates spill hazard and limits solvent vapor exposure. Wipes contain a carefully measured quantity of solvent and are an excellent way to control vapor. Type HP presaturated towelettes are a great choice for underground or confined space applications.

Convenience
Each PEL-PAC package utilizes non-linting, non-tearing towels. Clean wipes are always available, eliminating recontamination of parts with dirty rags. Custom kits may include extra dry towels or abrasive cloth as needed.

COMPATIBILITY

Type HP is compatible with most common plastics and rubbers. It meets standard electrical utility test requirements based on IEEE 1493.

Plastic Materials—XLPE

XLPE jacket material immersed in Type HP retains tensile and elongation characteristics and shows minimal weight change.[1]

Plastic Materials—Polycarbonate

Does not stress-crack polycarbonate plastic. After a 15-minute soak in Type HP, polycarbonate withstands >0.9% strain without cracking.[2]

Rubber Materials—EPDM and Silicone Rubber

Platen samples of EPDM and silicone rubber immersed in Type HP retain tensile and elongation characteristics and show minimal weight change.[1]

Volume Resistivity of Cable Insulation Shield

Type 0691 XLPE immersed in Type HP shows acceptable volume resistivity values.[1] After exposure to the cleaner, volume resistivity measurements return to control levels.

Corrosivity

Type HP will not corrode or stain metal parts. It does not tarnish or corrode copper.[3]

[1] Tested using methods from IEEE 1493, "Guide for the Evaluation of Solvents Used for Cleaning Electrical Cables and Accessories."

[2] Testing described in lab report, "Analysis of Polycarbonate Stress Cracking." (https://www.polywater.com/en/resource/type-hp-test-ieee-1493/)

[3] Testing based on ASTM D130, "Standard Test Method for Detection of Copper Corrosion from Petroleum Products by the Copper Strip Tarnish Test."

SOAK TESTING

Materials are immersed in Type HP for 72 hours at 50°C (122°F). Some rubbers will swell but should return to their original state once the cleaner evaporates. Wipe cleaning minimizes solvent exposure.

PLASTICS	% WEIGHT CHANGE	APPEARANCE
ABS	+0.04	NC
Acrylic	-0.01	NC
Delrin®	+0.03	NC
Epoxy	0.00	NC
Nylon 66	-0.02	NC
Nylon 101	+0.07	NC
Polycarbonate	+0.04	NC
Phenolic	-0.05	NC
PPO	+0.02	NC
PVC	+0.01	NC
Teflon®	+0.03	NC
Tygon®	-0.25	NC
Ultem® 1000	-0.01	NC
Valox® 420	0.00	NC

ELASTOMERS	% WEIGHT CHANGE	APPEARANCE
Neoprene	+9.31	SS
Nitrile	-2.01	NC
SBR	+47.34	S
Viton®	+0.07	NC

KEY:

NC = No Change
S = Swelling
ES = Extreme Softening
C = Crazing
SS = Slight Swelling
D = Dissolved

Testing based on ASTM D543, "Standard Test Method for Resistance of Plastics to Chemical Reagents."

MODEL SPECIFICATION

The statement below may be inserted into a customer specification to help maintain engineering standards and ensure work integrity.

The cleaning solvent shall be Polywater Type HP Cleaner. Cleaner shall contain at least 80% high-purity, dearomatized, aliphatic hydrocarbon enhanced with a cyclic terpene. Aromatic content shall be less than 1%. Water content shall be less than 50 ppm.

The cleaner shall not leave a residue. The cleaner shall not significantly affect the volume resistivity of Union Carbide 0691 XLPE cable insulation shield. The cleaner shall have a good dielectric strength, at least 40 kV when tested by ASTM D877 with a 100-mil (2.5 mm) gap.

The cleaner shall not significantly affect the tensile and elongation properties of XLPE, silicone rubber, and EPDM rubber when tested to guidelines proposed in IEEE P1493. When wiped over an XLPE (Union Carbide Type 0691) insulation shield, a clean towel wetted with the cleaner shall become visibly “black” with two wipes over 2 inches (50 mm) of cable length with light hand pressure.

The cleaner shall not be a carcinogen or listed by CERCLA as a hazardous waste. It shall not be on the EPA Phase I or Phase II list of banned or phased-out chlorofluorocarbons.

ORDER INFORMATION

CAT #	PACKAGE DESCRIPTION
HP-1	Single saturated towelette 144/case
HP-P158ID	Tandem Pack™ wet/dry 144/case
HP-3PS	PEL-PAC Kit contains: 3 – HP-P158ID wet/dry wipes; 1 – strip 120-grit nonconductive sanding cloth 10/case
HP-P63	PEL-PAC Kit contains: 6 – HP-P158ID wet/dry wipes; 3 – strips 120-grit nonconductive sanding cloth; 1 – instruction card 12/case
HP-T369	PEL-PAC Kit contains: 3 – saturated 6” x 9”/15 cm x 23 cm wipes in a tin 24/case
HP-T369/S	Same PEL-PAC Kit as above with sandpaper 24/case
HP-T369/S-D	Same PEL-PAC Kit as above with sandpaper and dry towel 24/case
HP-D72	Dispenser with 72 – 10” x 12”/25 cm x 30 cm wipes 6/case
HPY-12*	16-oz. aerosol can 12/case
HP-16LF	1-pt. bottle with flip top (475 ml) 12/case
HP-35LF	1-qt. bottle with flip top (.95 liter) 12/case
HP-128	1-gal. bottle (3.8 liters) 4/case
HP-640	5-gal. can (18.9 liters)
HP-DRUM	55-gal. drum (208 liters)

**Government NSN # 6850-01-387-4567 for HPY-12*

CONTACT US

+1-651-430-2270 Main | Europe, Middle East, North Africa +31 10 233 0578 | email: support@polywater.com