Technical Bulletin

American Polywater's

HP™

Multipurpose Cleaner/Degreaser

A Non-Chlorinated Cleaner for General Industrial and Maintenance Use

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Description

HP™ Multipurpose Cleaner/Degreaser is a specially formulated solvent for industrial and maintenance cleaning. It replaces ozone-depleting CFC's, trichloroethane and other carcinogenic chlorinated solvents. HP™ Multipurpose Cleaner/Degreaser effectively cleans industrial grimes, greases, lubrication fluids, silicone, tars, adhesives, and fluxes.

HP™ Multipurpose Cleaner/Degreaser evaporates with no residue and is essentially non-conductive. It is suitable for use in electrical maintenance as a replacement for 1,1,1-trichloroethane, but is slower drying. It is a good cleaner for transformer oils, corrosion inhibitor compounds, silicone grease, semi-conducting paints, and many other kinds of electrical grime.

Advantages

- Multiple packages to fit different end uses
- Good general solvency power
- One cleaner for many needs
- Contains no CFC's or HCFC's
- Contains no chlorinated solvents
- Harmless to most plastics
- Non-conductive, non-corrosive, non-staining
- Not an RCRA-regulated hazardous waste

Physical Properties

Flashpoint (ASTM D 93)	>141°F/>61°C
Initial Boiling Point	365°F/185°C
Specific Gravity	0.79
Dielectric Strength (ASTM D877)	>40 KV
KB Value	33
Relative Evaporation Rate	Medium
Residue (ASTM D 2369)	< 100 ppm
Water Content (ASTM D1533B)	< 50 ppm
Percent Aromatics	< 1%
Propellant (aerosol only)	CO_2
Cleaning Strength	Excellent

Convenient Wet / Dry Tandem Pack (Cat. #HP-P158ID) controls solvent exposure.

Usage Directions/Performance

HP™ Multipurpose Cleaner/Degreaser is suitable for many types of cleaning and degreasing. It can be used as a spray, wipe or immersion bath. Type HP™ is effective at room temperature. For faster cleaning it can be heated to 125°F (20° less than the flashpoint). It does not freeze and 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.

HP™ Multipurpose Cleaner/Degreaser contains no surfactants and leaves no residue once dried. For precision cleaning (residue free use), to prevent recontamination with existing grime, a final rinse of clean HP™ should always be used. This can be done by finishing with a fresh wipe, spraying until the solvent runs clear, or rinsing in a fresh bath of HP™ cleaner.

HP™ Multipurpose Cleaner/Degreaser evaporates more slowly than trichloroethane. There is less exposure to vapors and less solvent waste through evaporation. When faster drying is necessary, parts can be force dried using air or centrifugal dryers to accelerate evaporation. Heat should not be applied until the residue is blown off so that contaminating residues are not baked onto the surface of the cleaned part. In maintenance situations, just wiping the part with an absorbent, lint-free towel (Cat.# DT-69) will reduce drying time considerably.

HP™ Multipurpose Cleaner/Degreaser aerosol (Cat. #HPY-12) gets the cleaner to hard to reach areas.

Drying Time Comparisons:

No Drying: 60-90 Mins. Cool Air: 3-5 Mins.
Drying Wipe: 1-2 Mins. Hot Air: 2-3 Mins.

Compatibility

HP™ Multipurpose Cleaner/Degreaser will not corrode or stain metal parts. It does not tarnish or corrode copper per ASTM D 130 and D 1729.

HP™ Multipurpose Cleaner/Degreaser is compatible with most plastics and elastomers. Tables I and II show the effect of HP™ on various plastics and rubbers. Note that the Type HP™ often has less effect on these materials than the 1,1,1-Trichloroethane it replaces.

Testing is based on a soak test described in ASTM D 543. Type HP™ will temporarily affect some rubber compounds. These rubbers may swell, but should return to their original state after the solvent cleaner has dried. Immersion will affect sensitive materials more than incidental contact of a spray and wipe. It is recommended that all plastic parts, gaskets, seals and O-rings be tested for specific use and exposure method.

Regulatory

- No Ozone Depletion Potential. HP™ is not subject to Clean Air Regulations.
- USDA and MSHA approved.
- TSCA listed in the U.S. and DSL listed in Canada.
- Not listed as a toxic chemical by SARA 313. Does not require reporting.
- Not listed as a hazardous air pollutant (HAP).
- Not regulated for ground transportation.

HP™ Multipurpose Cleaner/Degreaser Compatibility with Plastics and Elastomers

TABLE I

PLASTICS	AGING 72 HOURS AT 50°C			
	Type HP™ Cleaner		1,1,1-Trichloroethane	
	% WEIGHT CHANGE	APPEARANCE	% WEIGHT CHANGE	APPEARANCE
ABS	+0.04	NC	+211.5	ES
Acrylic	-0.01	NC	+59.7	C
CPE Thermoplastic	+12.92	NC	+75.4	S
CPE Thermoset	+8.55	NC	+117.3	S
Delrin®	+0.03	NC	+0.9	NC
Epoxy	0.00	NC	+3.2	NC
Nylon 66	-0.02	NC	+0.4	NC
Nylon 101	+0.07	NC	+0.3	NC
Polycarbonate	+0.04	NC	+56.1	C
Phenolic	-0.05	NC	+34.3	SS
Polyethylene	+12.93	NC	+37.8	SS
Polystyrene	+11.02	NC	----	D
PPO	+0.02	NC	----	D
PVC	+0.01	NC	+96.5	ES
Teflon®	+0.03	NC	+0.3	NC
Tygon®	-0.25	NC	+43.4	S
Ultem® 1000	-0.01	NC	+0.1	NC
Valox® 420	0.00	NC	+0.4	NC

TABLE II

ELASTOMERS	AGING 72 HOURS AT 50°C			
	Type HP™ Cleaner		1,1,1-Trichloroethane	
	% WEIGHT CHANGE	APPEARANCE	% WEIGHT CHANGE	APPEARANCE
EPDM	+178.19	S	+257.2	S
Neoprene®	+9.31	SS	+94.4	S
Nitrile	-2.01	NC	+91.2	S
SBR	+47.34	S	+160.0	S
Silicone	+63.52	S	+145.4	S
Viton®	+0.07	NC	+21.2	SS

KEY:

NC = NO CHANGE
SS = SLIGHT SWELLING
S = SWELLING
C = CRAZING
ES = EXTREME SOFTENING
D = DISSOLVED

Safety

HP™ Multipurpose Cleaner/Degreaser has a low level of toxicity. Unlike trichloroethane, it does not form vapors quickly. As with any solvent, ventilation should be sufficient to keep vapors at safe levels. Aerosol use releases larger quantities into the air than wiping or dipping does.

HP™ Multipurpose Cleaner/Degreaser is a combustible liquid, but with a high flash point. It should not be used for high temperature cleaning or exposed to fire or flame. Good industrial hygiene practice and appropriate precautions should be employed during use. See MSDS for specific details.

Bulk packages of HP™ Multipurpose Cleaner/Degreaser, from pints to drums, are available to serve many industrial and maintenance end uses. (Cat #HP-16LF shown with Cat #ST-R sprayer attached.)

Storage

HP™ Multipurpose Cleaner/Degreaser is classified as combustible. Keep containers cool, dry and away from sources of ignition and oxidizing materials. Do not expose aerosol cans to direct sunlight or temperatures above 120°F. Do not puncture or incinerate aerosol cans.

Package Options

Catalog No.	Description
HP-1	Single saturated, lint-free towelette (144/cs)
HP-P158ID	Tandem pack (wet/dry towelette) (144/cs)
HP-P63	Splice Kit containing 6 HP-P158ID wet/dry wipe cleaning pads, 3 strips 120 grit non-conductive aluminum oxide sanding cloth, instruction card. (12/cs)
HPY-12*	10.5-wt. oz. aerosol can (12/cs)
HP-16LF	16-fl. oz. bottle with flip top (12/cs)
HP-35LF	1-quart bottle with flip top (12/cs)
HP-D72	72-Count Type HP™ Wipe Canister (6/cs)
ST-R	Trigger sprayer fits pt. & qt. bottles (12/cs)
HP-128	1-gallon can (4/cs)
HP-640	5-gallon pail (1 ea)
HP-Drum	55-gallon drum (1 ea)

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

LIT-HPTECHB/8-08C1000(8/04) 8/6/8 lea, I updated net wt oz (sh)

Makers of Polywater® and Dyna-Blue® Cable Lubricants and Pull-Planner™ 2000 Software

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