



Product Bulletin

technicalservice@hubbardhall.com

P.O. Box 790 • Waterbury, CT 06720-0790 • Tel: (203) 756-5521 • Fax: (203) 756-9017
P.O. Box 969 • Inman, SC 29349-0969 • Tel: (864) 472-9031 • Fax: (864) 472-2117

HUB-PER

4351009
8/9/06

APPLICATION

HUB-PER finds use as a cold cleaner and as a vapor degreasing solvent. It has a high acid acceptance and can be used in all vapor degreasers now on the market. **HUB-PER** with its special stabilization gives users increased protection against stainless steel pitting and corrosion. As a heavily stabilized solvent, **HUB-PER** is intended for use in the most rigorous vapor degreasing applications.

HUB-PER may be used as a raw material for fluorocarbon refrigerants, solvents and aerosols, for fluxless aluminum brazing, and as a solvent or drying agent.

The stabilizer system for **HUB-PER** is designed to withstand the stresses of vapor degreasing metal parts, to guard against contaminants such as metal chips and fines, acids, alkalies, and oxidants.

HUB-PER is especially suitable for degreasing metals that corrode and stain easily such as aluminum, magnesium, zinc, copper, and their alloys.

ADVANTAGES

INHERENT STABILITY

This refers to the stability of the perchlorethylene molecule. If the stabilizers used in **HUB-PER** are depleted, a runaway reaction with aluminum will not occur. To various degrees, this aluminum-catalyzed breakdown may occur with 1-1-1 Trichloroethane, Trichlorethylene, and Methylene Chloride if the stabilizers are depleted.

INCREASED VAPOR FLUSHING

A metal workload condenses solvent vapor until it reaches the temperature of the vapor. At this point, condensation or flushing ceases and cleaning is complete. Once the workload has reached the temperature of the vapor, there can be no additional cleaning regardless of how long the work is kept in the degreaser. Thus with **HUB-PER** (BP 250 F) 75% more vapor flushing is obtained than with trichlorethylene.

BETTER CLEANING

Cleaning tests and field studies have shown **HUB-PER** typically cleans better than other chlorinated solvents. This is due to increased vapor flushing and the higher boiling point. Oil and greasy soils are more fluid and more soluble at higher temperatures.

HUB-PER

DRYING SOLVENT

All four chlorinated solvents physically combine with water at a temperature lower than their boiling point. This physical combination of solvent and water (called an azeotrope) has a specific composition and boiling point. **HUB-PER** is the best drying solvent due to its high boiling point (250F), which drives water off the workload rapidly.

USEABLE WITH ALL MATERIALS OF CONSTRUCTION.

Corrosion strip tests and field experience have shown **HUB-PER** suitable for use in mild steel and galvanized as well as stainless equipment.

PROPERTIES

Typical properties of **HUB-PER** are shown in the following table:

Boiling Point @ 760 mm Hg, C.	120.1 – 121.6
Appearance:	clear and free of suspended matter
Color, APHA:	15 max.
Alkalinity, as NaOH, wt. %:	0.0030 max.
Acidity, as HC1, wt %:	none
Water content, wt %	0.0030 max.
Specific gravity at 25/25 C	1.610 – 1.614
Free halogenes:	none
Residue on evaporation, wt. %	0.0050 max.
Acid acceptance, as NaOH, wt. %	0.13 min.

Meets: Federal Specification O-T-236c, Grade B

SPECIAL PRECAUTIONS

HANDLING AND STORING:

Under normal conditions, **HUB-PER** may be stored satisfactorily in galvanized iron, black iron, or steel. Although not required, **HUB-PER** should be stored under pressure. Aluminum and titanium are not generally recommended for storage or handling. Store drums in a cool place, bung up and closed tightly. Ventilation should be provided at the floor level.

OTHER PRECAUTIONS:

Do not store in pits, depressions and basements, or in unventilated areas.

SPILL OR LEAK PROCEDURES

Leaks should be stopped. Spills should be cleaned up immediately. Large spills should be contained and removed by vacuum truck. Smaller spills may be soaked up with absorbent materials. Which should be placed in closed containers, labeled, and stored in a safe place out of doors to await proper disposal. Persons performing this work should wear adequate personal protective equipment and clothing.

NEUTRALIZING CHEMICALS

None.

HUB-PER

WASTE DISPOSAL

Dispose of in accordance with all federal, state and local health and pollution regulations. **HUB-PER** is normally recovered from residues by distillation. Small quantities may be disposed of via an incineration-scrubber system or a licensed waste hauler. If regulations permit, wet absorbent materials may be air dried in a safe, open, unoccupied area.

WARRANTY

THE QUALITY OF THIS PRODUCT IS GUARANTEED ON SHIPMENT FROM OUR PLANT. IF THE USE RECOMMENDATIONS ARE FOLLOWED, DESIRED RESULTS WILL BE OBTAINED. SINCE THE USE OF OUR PRODUCTS IS BEYOND OUR CONTROL, NO GUARANTEE EXPRESSED OR IMPLIED IS MADE AS TO THE EFFECTS OF SUCH USE, OR THE RESULTS TO BE OBTAINED.