

FluoroPel™ PFC800A-Series

Description

The FluoroPel PFC800A series solutions comprise a clear, hydrophobic and oleophobic, PFOS and PFOA-free, fluoroaliphatic polymer in fluorinated solvent. Polymer concentrations are available off the shelf at 1, 2, and 4% as PFC801A, PFC802A and PFC804A, respectively. Concentrations to 20% are offered. When applied to clean, dry surfaces, the solution dries in minutes to a thin, transparent film with excellent anti-wetting, antimigration properties to all non-fluorinated liquids, including heptane, toluene, acetone, silicone oils and detergents. Films provide corrosion resistance to copper, aluminum, ceramic, steel and tin. Selected adhesion promoters to oxide surfaces may be added on request.

Copolymers are offered with PEG, alkoxy furan, lauryl, phenoxy, silicone, and perfluoropolyether substitution. Functionalized copolymers with epoxy, silane, isocyanate functionality between 5 and 20 are also available.

Applications include: fluidic and biomedical devices, PC boards, MR heads, micro motors, ball bearing tracks, MEMS, inkjet print heads, hard disk drive components, atomic force microscopes, and TFT-LCD.

Solution Properties

Appearance: Visually clear and colorless

Color: 1

Solids: 1 to 20%

Boiling range: 52 to 90° C

Density: 1.7 grams/cm³

Viscosity: 0.6 centistokes

Vapor pressure: 77 torr

Flash point: none

Surface tension: 13 dynes/cm

Specific heat: 0.25 gram-cal/gram

Heat of vaporization: 19 gram-cal/gram @ 80°C

Coefficient of expansion: 0.0015 cm³/cm³/°C

Refractive index: 1.28

Dielectric strength: 42 KV @ 2.54 mm gap

Dielectric Constant: 1.81 @ 1 kHz

Dissipation factor : 0.0003 @ 1 KHz

Volume resistivity: (10)15 ohm-cm

Solubility in water: < 10 ppm

Solubility of air: 40 ml gas/100 ml liquid

Toxicity: non-toxic

Film Properties

Appearance: Clear, colorless, non-fluorescing film

Surface Tension: 8-10 dynes/cm (air-dried); 5-7 dynes/cm (heated)

Specific Gravity: 1.72

Hardness: #2 pencil

Melting point: 75°C (with a second transition at 115°C)

Flammability: non burning

Heat stability: 150°C (continuous); 250°C (one hour)

Refractive index: 1.35

Dielectric strength: 2500 volts/25 micrometers

Dielectric constant: 2.25 @ 100 KHz

Dissipation factor: 0.016 @ 100 KHz

Volume resistivity: 4.5 (10)15 ohm-cm

Toxicity: non-toxic

Cytonix Corporation

8000 Virginia Manor Road

Beltsville, MD 20705

phone: (888) CYTONIX

fax: (301) 470-6269