F-8926

(Anti-fingerprints & scratch)

F-8926 is a proprietary modified fluoro chemicals compounds oligomer with exceptional hardness, toughness, heat and chemical resistance, transparency, refractive index, lubricity and hydrophobic/oleophobic properties. Films and coatings may be expected to provide long-lasting antifouling and easy cleaning from **fingerprints.** Excellent anti-fingerprints & good anti-scratch properties and other contaminants on commercial and domestic surfaces. Compatible with many monomers, oligomers and solvents, the properties of 8926 can be modified to provide increased process ability, hardness, abrasion resistance, elasticity and/or adhesion to metals, glass and plastics & films, including polyolefins. With or without pigments and other particulates, 8926 rapidly UV & EB and heat cures in the presence or absence of oxygen; although oxygen-free cures have slightly better hydrophobic/oleophobic performance and surface cure. Note that addition of low functionality monomers will slow curing.

The 8926 has a high molecular weight. The molecule over all comprises. Unlike mono and di functional fluorinated additives and oligomers, 8926 will not mechanically weaken or reduce chemical resistance of the final polymer matrix, rather strengthening it and decreasing solvent penetration. Process need a pre-treatment, plasma and little silane primer.

While soluble in fluorinated solvents, the component makes 8926 completely soluble in many organic solvents, such as ethyl, butyl and isobutyl acetate, and clear, glossy coatings may be applied by dipping, spraying, spinning, roll coating, etc. Solid films and porous membranes may also be cast from these fluids. Usually low viscosity monomers, such as IBA (Isobornyl Acrylate), HDDA (Hexane Diol Diacrylate), BDDA (Butane Diol Diacrylate) and TMPA (Trimetholpropane Triacrylate), need be added for solvent-free application. UV/EB-cure or 100°C over x time- cure.

The summary of data and charts below illustrate the properties for 25 micron films on glass drawn from neat 8926 and from 1:1 by weight mixtures with either HDDA or TMPA and UV-cured.

Surface Energy	13 to 15 dyne/cm2 (all films)
Refractive index	1.32 (neat); 1.35 to 1.37 (50% HDDA or TMPA)
Contact angles to DI water	> 100 degrees (all films)

Roll off angle to DI water	> 8 degrees (all films)
Contact angles to mineral oil	72 to 78 degrees (all films)
Roll off angle to mineral oil	1 to 3 degrees (all films)
Contact angles to PEG	90 to 95 degrees (all films)
Roll off angle to PEG	1-3 degrees (all films)
MEK resistance	>>200 double rub cycles (all films)
Stain resistance (5 = no stain)	5, 5, 5, 3 (tea, coffee, water, iodine – all films)
Magic Marker resistance	beads up, easily removed (all films)
Chemical resistance (5 = no effect)	5, 5, 5, 3 (8N NaOH, 30% HCl, 30% H_2O_2, 10% Ammonia all films)
Pencil hardness	6H (neat) to 8H (TMPA)
Rubs to 10% hazing loss	124 (neat); 190 (TMPA) with #0000 Steel Wool at 500 grams
Rubs to wear through	2600 (neat); 3100 (TMPA) with #0000 Steel Wool at 500 grams
Elongation to failure	11% (neat); 14% (HDDA)