Surface Energy Data for PVDF: Poly(vinylidene fluoride), CAS #24937-79-9

Source[a]	Mst. Type[b]	Data[c]	Comments[d]
Ellison, 1954[8]	Critical ST	γ_c = 25 mJ/m^2; 20°C	Various test liquids.
Dalal, 1987[212]	Critical ST	γ_c = 36.5 mJ/m^2; no temp cited	Various test liquids.
Wu, 1971[29]	Contact angle	θ_W^Y = 82°; 20°C	
Vargha-Butler, 1985[180]	Contact angle	θ_W^A = 94.8°; 20°C	
Jonsson, 1992[112]	Contact angle	θ_W^Y = 90°; no temp cited	Cleaned by sonification in a 70/30 ethanol/water solution and rinsed with distilled water.
B.-Petermann, 2003[139]	Contact angle	θ_W^Y = 86°; 20°C	Measured by sessile drop method. Roll-coated polymer topcoat applied to carbon steel; surface degreased with ethanol, cleaned with detergent, and rinsed in distilled water.
Pescu, 2005[252]	Contact angle	θ_W^A = 92°, θ_W^R = 91°, $d\theta_W$ = 1°; 20°C	Measured by sessile drop method. Nonpiezoelectric 0.25mm thick PVDF film.
Wu, 1971[29]	Contact angle	γ_s = 30.3 mJ/m^2 (γ_s^d = 23.3, γ_s^p = 7.0); 20°C	Test liquids: water and diiodomethane, by geometric mean equation.
Wu, 1971[29]	Contact angle	γ_s = 33.2 mJ/m^2 (γ_s^d = 20.6, γ_s^p = 12.6); 20°C	Test liquids: water and diiodomethane, by harmonic mean equation.
Kitazaki, 1972[191]	Contact angle	γ_s = 40.2 mJ/m^2 (γ_s^d = 27.6, γ_s^p = 12.6); no temp cited	Various test liquids; original results split polar component into hydrogen- and non-hydrogen bonding parameters.
Wu, 1979[45]	Contact angle	γ_c = 36.5 mJ/m^2; 20°C	Test liquids not known; calculated by the equation of state method.
Dalal, 1987[212]	Contact angle	γ_s = 36.2 mJ/m^2; no temp cited	Various test liquids, by geometric mean equation.
Dalal, 1987[212]	Contact angle	γ_s = 37.4 mJ/m^2; no temp cited	Various test liquids, by harmonic mean equation.
Vargha-Butler, 1985[180]	Contact angle	γ_c = 25.5 mJ/m^2; 20°C	Test liquids not known; calculated by the equation of state method.
Morra, 1999[134]	Contact angle	γ_s = 30.5 mJ/m^2 (γ_s^{LW} = 28.6, γ_s^{AB} = 1.9, γ_s^+ = 10.5, γ_s^- = 0.08); no temp cited	Test liquids not known; acid-base analysis based on reference values for water of γ^+ = 48.5 mJ/m^2 and γ = 11.2 mJ/m^2.
Chang, 2000[162]	Contact angle	γ_s = 31.0 mJ/m^2; no temp cited	
Kwok, 2000[166]	Contact angle	γ_c = 34.3 mJ/m^2; no temp cited	Re-calculated by equation of state method from data produced by Ellison, 1952[8].
B.-Petermann, 2003[139]	Contact angle	γ_s = 33.8 mJ/m^2 (γ_s^d = 31.1; γ_s^p = 2.7); 20°C	Test liquids: water, diiodomethane, and formamide, measured by sessile drop method. Roll-coated polymer topcoat applied to carbon steel; surface degreased with ethanol, cleaned with detergent, and rinsed in distilled water.
Wu, 1971[29]	From polymer melt	γ_s = 36.5 mJ/m^2; 20°C	Direct measurement of polymer melt extrapolated to 20°C.
Lee, 1968[131]	Calculated	γ_s = 23 mJ/m^2; no temp cited	Calculated from glass temperature of 228K.
Wu, 1968[182]	Calculated	γ_s = 26 mJ/m^2; 20°C	Calculated from molecular constitution.
Sewell, 1971[193]	Calculated	γ_s = 24.5 mJ/m^2; no temp cited	Calculated from parachor and cohesive energy.
Vargha-Butler, 1985[180]	Calculated	γ_s = 27.5 mJ/m^2; no temp cited	Calculated from sedimentation volume.