Surface Energy Data for PEO: Poly(ethylene oxide) (poly(ethylene glycol)), CAS #25322-68-3

Source[a]	Mst. Type[b]	Data[c]	Comments[d]
Lee, 1968[131]	Critical ST	γ_c = 43 mJ/m^2; no temp cited	Test liquids: water, glycerol, formamide, alcohols, and long-chain polyglycols.
van Oss, 1990[2]	Contact angle	θ_W^Y = 63°; 20°C	
van Oss, 1987[24]	Contact angle	γ_s = 43.0 mJ/m^2 (γ_s^{LW} = 43.0, γ_s^{AB} = 0.0, γ_s^+ = 0.0, γ_s^- = 64.0); 20°C	Test liquids: water, alpha-bromonaphthalene, diiodomethane, formamide, and glycerin; acid-base analysis.
van Oss, 1987[24]	Contact angle	γ_s = 45.9 mJ/m^2 (γ_s^{LW} = 45.9, γ_s^{AB} = 0.0, γ_s^+ = 0.0, γ_s^- = 58.5); 20°C	Test liquids: water, alpha-bromonaphthalene, diiodomethane, formamide, and glycerin; acid-base analysis.
Good, 1992[86]	Contact angle	γ_s = 45 mJ/m^2 (γ_s^{LW} = 45, γ_s^{AB} = 0.0, γ_s^+ = 0.0, γ_s^- = 66); no temp cited	Test liquids not known; acid-base analysis, using advancing contact angle data.
Lee, 1999[116]	Contact angle	γ_s = 46.7 mJ/m^2 (γ_s^{LW} = 43.5, γ_s^{AB} = 3.2, γ_s^+ = 0.06, γ_s^- = 43.5); 20°C	Test liquids: water, alpha-bromonaphthalene, diiodomethane, formamide, and glycerin; acid-base analysis, based on reference values for water of γ^+ = 34.2 mJ/m^2 and γ = 19 mJ/m^2.
Roe, 1968[32]	From polymer melt	γ_s = 42.8 mJ/m^2 (γ_s^d = 30.6, γ_s^p = 12.2); 20°C	Measurement by pendant drop of polymer melt extrapolated to 20°C; diol solvent, M_w = 6,000.
Wu, 1982[18]	From polymer melt	γ_s = 42.5 mJ/m^2; 24°C	Direct measurement of polymer melt extrapolated to 24°C.
Yuan, 1999[207]	From polymer melt	γ_s = 42.9 mJ/m^2; 20°C	Direct measurement of polymer melt extrapolated to 20°C; diol solvent, M_W = 17,000.
Yuan, 1999[207]	From polymer melt	γ_s = 44.1 mJ/m^2; 20°C	Direct measurement of polymer melt extrapolated to 20°C. dimethylether solvent, M_w = 5,000.
Yuan, 1999[207]	From polymer melt	γ_s = 44.2 mJ/m^2; 20°C	Direct measurement of polymer melt extrapolated to 20°C. dimethylether solvent, M_w = 100,000.
Sewell, 1971[193]	Calculated	γ_s = 37.8 mJ/m^2; no temp cited	Calculated from parachor and cohesive energy.
Sewell, 1971[193]	Calculated	γ_s = 41.8 mJ/m^2; no temp cited	Calculated by least squares from cohesive energy and molar volume.
Wu, 1974[47]	Calculated	γ_s = 42.3 mJ/m^2; 20°C	Calculated from free volume theory and molecular weight.
Wu, 1974[47]	Calculated	γ_s = 44.4 mJ/m^2; 20°C	Calculated from free volume theory and molecular weight.
Wu, 1982[18]	Calculated	γ_s = 41.5 mJ/m^2; 20°C	Calculated from liquid homologs. Infinite molecular weight.
Van Ness, 1992[186]	Calculated	γ_s = 41.5 mJ/m^2; 20°C	Calculated molten surface tension value, extrapolated to 20°C.
Surface-tension.de, 2007[110]	Unknown	γ_s = 42.9 mJ/m^2 (γ_s^d = 30.9, γ_s^p = 12.0); 20°C	No details available.