

Solvent Comparison – KradaSol™

Property	Unit	KradaSol	Toluene	Xylene	Hexane	Aromatic 100	Cyclo hexane	Methyl amyl ketone	PERC	n-Butyl acetate
Initial BP	°C	88.0	111	135	68	156	80.7	150	121	125
Vapour Pressure	torr @ 20°C	36.8	22	6.6	10	6	95	2.14	14.1	10
Evaporation rate	n-BuAc = 1	1.4	1.6	0.7	8.3	0.29	5.5	0.4	2.1	1
Viscosity	cP	0.69	0.55	0.81	0.31	0.9	1	0.81	0.89	0.74
Specific Gravity	@ 20°C	1.07	0.87	0.87	0.66	0.88	0.78	0.82	1.62	0.88
Flash Point	°C	20.7	6.7	28.3	-26	42.2	-20	39	-	27.2
Kb value		49.2	105	98	30	93	54.3	-	90	-
MIR	(g O ₃ /g organics)	0.062	3.97	7.49	1.45	7.51	1.46	2.80	0.04	0.89
VOC	g/L @ 20°C	2.2*	870	870	660	880	780	820	1620	880
Global Warming Pot'l	100 yr GWP	8								
Surface Tension	dynes/cm	21.1	28.4	28.7	18.4	29	25	26.1	32.3	25.1
Heat of Combustion	btu/lb	9905.3	17430.0	18435.4	19246.0	NA	18684.0	12898.2	1763.3	13130.0
	kcal/kg	5506.3	9689.3	10248.2	10699.0	NA	10386.4	7170.1	980.2	7298.9
δ (Hansen Solubility Parameters)	(MPa) ^{1/2}	14.9	18.2	17.9	14.9	17.8	16.8	17.6	19.3	17.4
δH (Hydrogen-Bond)	(MPa) ^{1/2}	3.1	2.0	3.1	0	0	0.2	4.1	0	6.4
δP (Polar)	(MPa) ^{1/2}	5.7	1.4	1.0	0	1.0	0	5.74	5.7	3.69
δD (Dispersion)	(MPa) ^{1/2}	13.5	18.0	17.6	14.9	17.8	16.8	16.2	18.4	15.8
Hildebrand	(MPa) ^{1/2}	17.2	18.3	18.2	14.9	17.8	16.8	17.4	19.2	17.4
δ (Hansen Solubility Parameters)	(cal/cm ³) ^{1/2}	7.3	8.9	8.7	7.3	8.7	8.2	8.6	9.4	8.5
δH (Hydrogen-Bond)	(cal/cm ³) ^{1/2}	1.5	1.0	1.5	0	0	0.1	2.0	0	3.1
δP (Polar)	(cal/cm ³) ^{1/2}	2.8	0.7	0.5	0	0.5	0	2.8	2.8	1.8
δD (Dispersion)	(cal/cm ³) ^{1/2}	6.6	8.8	8.6	7.3	8.7	8.2	7.9	9.0	7.7
Hildebrand	(cal/cm ³) ^{1/2}	8.4	8.9	8.9	7.2	8.7	8.2	8.5	9.4	8.5

*Per ASTM 313-91. SCAQMD considers <5 g/L VOC content to be "zero VOC". KradaSol is a blend of VOC-exempt solvents and as such is considered zero VOC by the EPA. KradaSol is considered comprised of 100% exempt material as per CEPA and NPRI.