



## Anionic Surfactants & Shampoo Bases Master Data Sheet

Surfactant Base	Amount of Essential Oil Added	Sweet Orange	Peppermint	Geranium	Tea Tree	Rosemary Spanish	Lavender	Eucalyptus	Bergamot	Lemon Australian
Salt and Citric Thickened Base	0.20%	Cloudy for a start then mixes in. No change in viscosity	slightly thinner, a little cloudy	Slight loss of viscosity, clear	Turns instantly cloudy but goes in with mixing. Viscosity same	Clear, stable viscosity	no change	no change	Slightly thinner, slightly cloudy	no change
	0.40%	As above	thinner, cloudy	much thinner, still clear	Large viscosity drop, Slight clouding	Clear, stable viscosity	no change	no change	Slightly lower viscosity and slightly cloudy	slightly thicker, crystal clear
	0.80%	As above but takes a while to mix in.	runny	runny, cloudy	Maintained low viscosity, slight clouding	Clear, stable viscosity	slightly thinner, still clear	slightly thinner, still clear	Slightly lower viscosity and slightly cloudy	no change
	1.60%	Cloudy on initial mixing then settling to Crystal Clear, slightly thinner	Cloudy. Thin. After a week the product is still thin and the mottling of the essential oil is still visible with flecks throughout. Not commercially acceptable.	Cloudy looking and thin. Over a week of standing the geranium oil is forming white flecks in the product.	Very thin. Clouding and white streaking of oil on immediate mixing. After a week of standing the oil has all mixed in and the product is crystal clear but still very thin. Would probably need viscosity adjustment to make this commercially viable.	Clear, slight loss of viscosity. Remains crystal clear over a week of standing and viscosity has settled to a stable and usable level.	Drop in viscosity, crystal clear. Remains crystal clear over a week of standing.	crystal clear, slightly lower viscosity. Remains crystal clear after a week and while the viscosity is now low it is stable and still showing a gelled form and would be Ok coming out of a pump or small opening pack.	Slightly lower viscosity and slightly cloudy. Over a week the cloudiness disappears completely to leave a crystal clear low/medium viscosity gel. Passable to use at this viscosity although it might flow out of a pack a little bit quick.	Cloudy, Increased Viscosity. However over standing for a week the product has turned crystal clear and has retained its viscosity.
Starting Viscosity no EO		3000	3000	3000	3000	3000	3000	3000	3000	3000
End Viscosity 1.6% EO		2800	500	600	800	2800	1200	1100	1250	3200
PEG-120 Methyl Glucose Diolate Thickened Base	0.20%	Mixes in well, a little clouding at first then fine. No drop in viscosity	Medium loss of viscosity (still within acceptable range. Cloudy	Slight loss of viscosity, clear	no change	No change	no change	no change	No change in viscosity, slightly cloudy	no change
	0.40%	As above	Medium loss of viscosity (still within acceptable range. Cloudy	Slight loss of viscosity, slightly cloudy	no change	No change	no change	no change	No change in viscosity, slightly cloudy	no change
	0.80%	As above	Medium loss of viscosity (still within acceptable range. Cloudy	Medium loss of viscosity, cloudy	Slight loss of viscosity and slight cloudiness	No change	viscosity dropped slightly, still clear	slightly thinner, still clear	No change in viscosity, slightly cloudy	same but slightly thicker
	1.60%	very slight clouding. No change to slightly thicker viscosity	Medium loss of viscosity initially but cloudy. After a week the viscosity loss has taken the product to an unacceptable level and there are small streaks of white indicating unsolubilised essential oil visible. No good!	Medium loss of viscosity but clouding and clear mottling present. After a week the product is still looking unstable and unsuitable for commercial use.	Viscosity has been lost quite dramatically although the gel remaining is in the viscosity needed for a regular surfactant based product and would be acceptable. The cloudiness settled over a week and the product is now crystal clear.	Clear, stable viscosity. Looks good after a week of standing.	Very slight loss in viscosity, crystal clear. Remains crystal clear over a week of standing.	Medium loss of viscosity. Crystal clear. Over a week the viscosity loss settles to give a product that is in an acceptable range. The product remains crystal clear.	Slight drop in viscosity, slightly cloudy. Very slight haze in the week old product but not enough to cause a problem in anything other than a clear pack. Viscosity is good and product looks stable.	Thicker and plastic-looking. Crystal clear. Over a week this version retains its high viscosity and is now crystal clear.
Starting Viscosity no EO		25200	25200	25200	25200	25200	25200	25200	25200	25200
End Viscosity 1.6% EO		21200	990	2000	3150	21600	6000	4500	17500	25600