

HLB Value and Miscibility of Surfactants

The miscibility of a surfactant in water is a guide to its HLB Value. Generally those with low HLB values are oil soluble and those with HLB values greater than 10 are water soluble. The following table lists properties of surfactants at various HLB values.

| HLB Value | Surfactant Function | Miscibility in water |
|-----------|---|--|
| 1-5 | Water-in-oil emulsifier | Immiscible or poorly dispersible |
| 5-8 | Water-in-oil emulsifier, Oil-in-water stabilizer. Wetting agent | Dispersible |
| 8-12 | Oil-in-water emulsifier Wetting agent | Fine particle size opaque to translucent dispersion |
| 12-15 | Oil-in-water emulsifier Detergent and solubiliser | Translucent dispersion to clearly soluble |
| 15-20 | Oil-in-water emulsifier Detergent and solubiliser | Clearly soluble |