CLAY AND GLAZE ADDITIVES WITH THANKS TO PETE PINNELL

Plasticisers	
Bentonite	A volcanic clay with very small particle size. Can be flocculated to keep materials in suspension. Helps harden raw surfaces and counter settling in glazes. Bloats in water. 2% addition usually does not affect glaze chemistry. Bloats in water. Add to dry ingredients and mix first.
Veegum T	
Veegum Pro	
Veegum CER	
Macaloid	synthetic bentonite. Doesn't bloat in water, so it can be added to liquid mixes.
Hectorites, Montmorrilllonites Smectites organic gums or starches	

Suspending Agents (also act as binders)	
Bentonite	A volcanic clay with very small particle size. Can be flocculated to keep materials in suspension. Helps harden raw surfaces and counter settling in glazes. Bloats in water. 2% addition usually does not affect glaze chemistry. Bloats in water. Add to dry ingredients and mix first.
Veegum	
Macaloid	synthetic bentonite. Doesn't bloat in water, so it can be added to liquid mixes.
CMC	Sodium carboxymethylcellulose. Organic gum used as a binder, surface hardener, and plasticizer. Aids brushability, counters settling in glazes. Decomposes in solution unless a preservative is added, e.g. formaldehyde, Canguard, Vancide (available from some ceramic suppliers). Excess CMC can cause crawling. Available in powder or liquid form (syrup). Mix 50 gms dry powder w/ 1 liter hot water in blender, soak overnight.
Methylcellulose	
Microcrystalline cellulose	
Gum Arabic	
Gum Tragacanth	
Dextrine	A type of starch. May decompose and smell.
Sugar Syrup	Will ferment and make smelly clay or glaze.
Gelatin	Will decompose and make smelly clay or glaze.

Deflocculants	
Dispersal	A sodium polyelectrolyte
Darvan 7	A long-chain sodium polyelectrolyte
Darvan 11	A short-chain polyelectrolyte
Sodium tri-polyphosphate	
Sodium silicate	"n" brand, 1.0 $Na_2O \bullet 3.22\ SiO_2$, a.k.a. "waterglass"
Sodium carbonate	a.k.a. soda ash
Tri-sodium phosphate	
Tetrasodium	

pyrophosphate	
Additive-A	Types 1-4. Calcium lignosulfonate.
Additive-A 373	A sodium lignosulfonate co-polymer
Darvan 404	A calcium lignosulfonate. All lignosulfonates are also binders and extrusion lubricants.

Flocculants	
Flocs	Sold by Axner Pottery supply.
Snow White	Anhydrous calcium sulphate.
Plaster	Hydrous calcium sulphate
Calcium chloride	Found in cold climates as a snow melter
Aluminum chlorat=B4	
Epsom salts	Hydrous magnesium sulphate.
Muriatic Acid	Dilute hydrochloric acid. Be wary using this in fritted glazes. It may dissolve a bit of the KNaO in the frit, and thus de-flocculate your mixture. Epsom salts is safer for use in fritted glazes.
Vinegar	Dilute acetic acid.
Calcium nitrate	

Preservatives: to keep organics from decomposing or fermenting in use	
Canguard	
Vancide	
Formaldehyde	
Bleach	Sodium hypochlorite.

Other Vehicles (than water) : used mainly to aid in “brushability”	
Glycerin	colorless, odorless, viscous liquid is widely used in pharmaceutical formulations. It is a sugar alcohol and fittingly is sweet-tasting and of low toxicity.
Polyethylene glycol	Auto antifreeze. Poisonous if swallowed. Tastes sweet. Dangerous for animals.
Polypropylene glycol	“Safe” antifreeze. Non-toxic.
Liquid laundry starch	E.g. “Stay-Flo”.