Limit ranges for cone 04-03 glazes from Val Cushing

RO, R_2O (fluxes)				R_2O_3 (viscosity agents)				RO_2 (glass-formers)			
	Gloss	Satin	Matt		Gloss	Satin	Matt		Gloss	Satin	Matt
KNaO	.02 -.80	05-.35	.05-.35	Al_2O_3	.05 -.20	.10 -.30	.10 -.30	SiO_2	.05 -2.5	1.0 - 2.5	1.0 - 3.0
Li_2O	.0 - .60	.0 - .20	.0 - .15	B_2O_3	.0 - 2.0	.0 - 1.0	.0 - .50				
PbO	.0 - .90	.0 - .50	.0 - .40								
ZnO	.0 - .12	.0 - .25	.0 - .35								
CaO	.02 -.40	.02 - .40	.05 - .45								
MgO	.0 -.12	.0 - .30	.0 - .35								
BaO	.0 - .15	.0 - .30	.0 - .50								
SrO	.0 - .15	.0 -.30	.0 - .50								

Limit ranges for cone 5-6 glazes from Val Cushing

RO, R_2O (fluxes)				R_2O_3 (viscosity agents)				RO_2 (glass-formers)			
	Gloss	Satin	Matt		Gloss	Satin	Matt		Gloss	Satin	Matt
KNaO	.05 -.60	.05 - .35	..05 - .30	Al_2O_3	.10 - .30	20 - .40	.20 - .50	SiO_2	1.5 - 4.0	2.0 - 3.5	2.0-3.0
Li_2O	.0 - .50	.0 - .15	.0 - .10	B_2O_3	.0 - 1.0	0 - .50	.0 - .50				
PbO	.0 -.60	.0 - .40	.0 - .20								
ZnO	.0 - .15	.0 - .30	.0 - .40								
CaO	.05 - .60	.05 - .70	.05 - .80								
MgO	.0 - .10	.0 - .35	.0 - .45								
BaO	.0 - .15	.0 - .35	.0 - .50								
SrO	.0 - .15	.0 - .35	.0 - .50								

Limit ranges for cone 9-10 glazes from Val Cushing

RO, R_2O (fluxes)				R_2O_3 (viscosity agents)				RO_2 (glass-formers)			
	Gloss	Satin	Matt		Gloss	Satin	Matt		Gloss	Satin	Matt
KNaO	.05 -.50	.05 - .40	.05 - .30	Al_2O_3	.20 - .50	.25 - .60	.25-.80	SiO_2	2.0 - 6.0	2.0 - 5.0	2.0 - 5.0
Li_2O	.0 - .40	.0 - .20	.0 - .10	B_2O_3	.0 - .50	.0 - .40	.0-.20				
PbO	none	none	none								
ZnO	.0 - .15	.0 - .40	.0 -50								
CaO	.05 - .80	.05 - .80	.05 - .90								
MgO	.0 - .15	.0 - .50	.0 - .60								
BaO	.0 - .15	.0 - .50	.0 - .60								
SrO	.0 - .15	.0 - .50	.0 - .60								

Hesselberth & Roy Stable Glaze Limit ranges for cone 5-6 glazes

RO, R_2O (fluxes)				R_2O_3 (viscosity agents)				RO_2 (glass-formers)			
	Gloss	Satin	Matt		Gloss	Satin	Matt		Gloss	Satin	Matt
KNaO	.01-.03			Al_2O_3	.25-.4			SiO_2	2.5-4.0		
Li_2O	none			B_2O_3	.15-.35						
PbO	none										
ZnO	.0-.2										
CaO	.2-.6										
MgO	.0-.3										
BaO	none										
SrO	0-.2										

Hesselberth & Roy Stable Glaze Limit ranges for cone 9-10 glazes

RO, R_2O (fluxes)				R_2O_3 (viscosity agents)				RO_2 (glass-formers)			
	Gloss	Satin	Matt		Gloss	Satin	Matt		Gloss	Satin	Matt
KNaO	.1-.3			Al_2O_3	.3-.6			SiO_2	3.0-5.0		
Li_2O	none			B_2O_3	0-.3						
PbO	none										
ZnO	none										
CaO	.3-.7										
MgO	0-.4										
BaO	none										
SrO	0-.3										

Do read John Hesselberth and Ron Roy's full article on Stable Glazes, generously posted online:
http://www.ceramicsmonthly.com/mustreads/stableglazes.asp
They have written a very useful book on cone 6 glazes: *Mastering Cone 6 Glazes*.

Excerpt from the article:

> This set of limits is not a direct copy of any published set, but rather an amalgam of published sets and what we have learned from leaching studies. Others may have slightly different views on these recommended limits; however, we doubt anyone would argue that this is a "bad" set of limits.
>
> For the most part, this approach is very safe, but it does in fact limit glaze colors to whites and tans and browns. We can, however, make a good range of glaze surfaces from semimatts to glosses and maybe even something approaching a matt (although matt glazes are not recommended as liner glazes for reasons other than stability to acids).
>
> The bigger problem with the third approach is that the person developing the glaze must be able to calculate a glaze composition in standard molar ratio form (usually stated as "unity calculations"). Being able to do unity calculations is the "price of admission" for responsible formulation of glazes for functional ware.

See also information on John's web site, including suggested stable glazes http://frogpondpottery.com/