

**CERAMIC MATERIALS FOR GLAZE CALC**

Material Raw formula	Mol.Wt .	Fired Formula	Eq. Wt.
<b>alumina</b> oxide $Al_2O_3$	102	$Al_2O_3$	102
<b>alumina</b> hydrate $Al_2(OH)_6$	156	$Al_2O_3$	156
<b>barium</b> $BaCO_3$ carbonate	197	BaO	197
<b>bentonite</b> $Al_2O_3 \cdot 4SiO_2 \cdot H_2O$	360.4	$Al_2O_3 \cdot 4SiO_2$	360.4
<b>bone ash</b> $Ca_3(PO_4)_2$	310	CaO	103
<b>borax (soluble)</b> $Na_2O \cdot 2B_2O_3 \cdot 10H_2O$	382	$Na_2O \cdot 2B_2O_3$	382
<b>boric acid (soluble)</b> $B_2O_3 \cdot 3H_2O$	124	$B_2O_3$	124
<b>cadmium</b> carbonate $CdCO_3$	172.4	CdO	
<b>calcium</b> carbonate $CaCO_3$	100	CaO	100
<b>china clay (kaolin)</b> $Al_2O_3 \cdot 2SiO_2 \cdot 2H_2O$	258	$Al_2O_3 \cdot 2SiO_2$	258
<b>clay (kaolin)</b> $Al_2O_3 \cdot 2SiO_2 \cdot 2H_2O$ ideal formula	258	$Al_2O_3 \cdot 2SiO_2$	258
<b>cornwall stone</b> .304 CaO • .340 $Na_2O$ • .356 $K_2O$ • 1.075 $Al_2O_3$ • 8.10 $SiO_2$	667	same	667
<b>cryolite</b> $Na_3 \cdot AlF_6$	210	$3Na_2O \cdot Al_2O_3$	420
<b>dolomite</b> $CaCO_3 \cdot MgCO_3$	184	$CaO \cdot MgO$	184
<b>Epsom salts</b> magnesium sulfate $MgSO_4 \cdot 7H_2O$			
<b>feldspar</b> $KNaO \cdot Al_2O_3 \cdot 6SiO_2$ Idealized formula	556 K 524 Na	same	556 K 524 Na
<b>flint (silica)</b> $SiO_2$	60	$SiO_2$	60
<b>fluorspar</b> $CaF_2$	78	CaO	78
<b>frit</b> various formulas. See mfg info			
<b>gerstley borate</b> .177 $Na_2O$ • .823 CaO • .886 $B_2O_3$ • .658 $SiO_2$	213.3	same	213.3
<b>kaolin</b> $Al_2O_3 \cdot 2SiO_2 \cdot 2H_2O$	258	$Al_2O_3 \cdot 2SiO_2$	258
<b>lead</b> carbonate $2PbCO_3 \cdot Pb(OH)_2$	775	PbO	258
monosilicate $3PbO \cdot 2SiO_2$	789	same	263
oxide litharge	223	PbO	223
oxide red $Pb_3O_4$	684	PbO	228
<b>lepidolite</b> .55 $Li_2O$ • .39 $K_2O$ • .06 $Na_2O$ • $Al_2O_3 \cdot 3.74SiO_2$	383	same	383
<b>lithium carbonate</b> $Li_2CO_3$	74	$Li_2O$	74
<b>Macaloid</b> $Li_2O \cdot MgO \cdot SiO_2$			
<b>magnesium</b> carbonate $MgCO_3$	84	MgO	84
<b>magnesium</b> sulfate $MgSO_4 \cdot 7H_2O$	246.5		
<b>nepheline syenite</b> .75 $Na_2O$ • .25 $K_2O$ • 1.11 $Al_2O_3$ • 4.65 $SiO_2$	477	same	477
<b>pearl ash</b> $K_2CO_3$	138	$K_2O$	138
<b>petalite</b> $Li_2O \cdot Al_2O_3 \cdot 8SiO_2$	612	same	612
<b>plastic vitrox</b> .045CaO • .058MgO • .054 $Na_2O$ • .842 $K_2O$ • 1.693 $Al_2O_3 \cdot 14.634SiO_2$	1139	same	1139
<b>potassium carbonate</b> $K_2CO_3$	138	$K_2O$	138

<b>Material Raw formula</b>	<b>Mol.Wt .</b>	<b>Fired Formula</b>	<b>Eq. Wt.</b>
<b>pyrophyllite</b> $\text{Al}_2\text{O}_3 \cdot 4\text{SiO}_2 \cdot \text{H}_2\text{O}$	360	$\text{Al}_2\text{O}_3 \cdot 4\text{SiO}_2$	360
<b>quartz</b> see silica			
<b>salt</b> NaCl	58.4	$\text{Na}_2\text{O}$	
<b>silica</b> $\text{SiO}_2$	60	$\text{SiO}_2$	60
<b>soda ash</b> sodium carbonate $\text{Na}_2\text{CO}_3$	106	$\text{Na}_2\text{O}$	106
<b>sodium chloride</b> salt NaCl	58.5	$\text{Na}_2\text{O}$	117
<b>spodumene</b> $\text{Li}_2\text{O} \cdot \text{Al}_2\text{O}_3 \cdot 4\text{SiO}_2$	372	same	372
<b>strontium</b> carbonate $\text{SrCO}_3$	148	$\text{SrO}$	148
<b>talc</b> $3\text{MgO} \cdot 4\text{SiO}_2 \cdot \text{H}_2\text{O}$	378	$\text{MgO} \cdot 1.3\text{SiO}_2$	126
<b>tin oxide</b> $\text{SnO}_2$	151	$\text{SnO}_2$	151
<b>titanium</b> dioxide $\text{TiO}_2$	80	$\text{TiO}_2$	80
<b>whiting</b> $\text{CaCO}_3$	100	$\text{CaO}$	100
<b>wollastonite</b> $\text{CaO} \cdot \text{SiO}_2$	116	same	116
<b>zinc oxide</b> ZnO	81	ZnO	81
<b>zirconium</b> oxide $\text{ZrO}_2$	123	ZrO	123

