

# ***HyperGlaze*** X

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## **Quick Start Guide**

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1. Installing HyperGlaze
2. Navigating HyperGlaze
3. Using HyperGlaze

Print this file in landscape mode

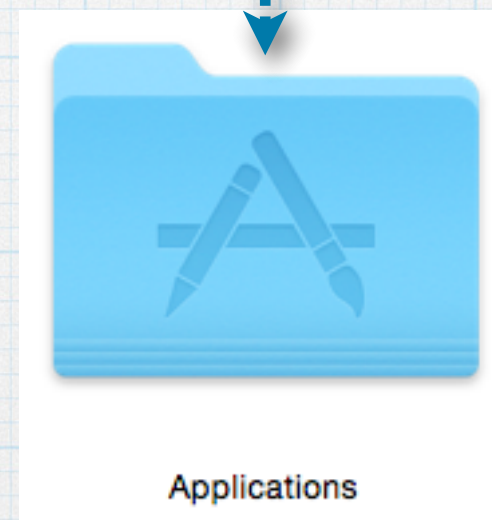


# Installing the HyperGlaze App

Copy the version of the HyperGlaze app for your computer to the Applications folder on a Macintosh, or the Programs Files folder on a Windows computer. HyperGlaze will also run if placed on the Desktop in most cases.

You can make a shortcut or alias for HyperGlaze and put it somewhere convenient like the Doc or Programs bar, or even the Desktop.

To use HyperGlaze, you'll also need to put the HyperGlaze Data folder in the proper location. See the next page for details.





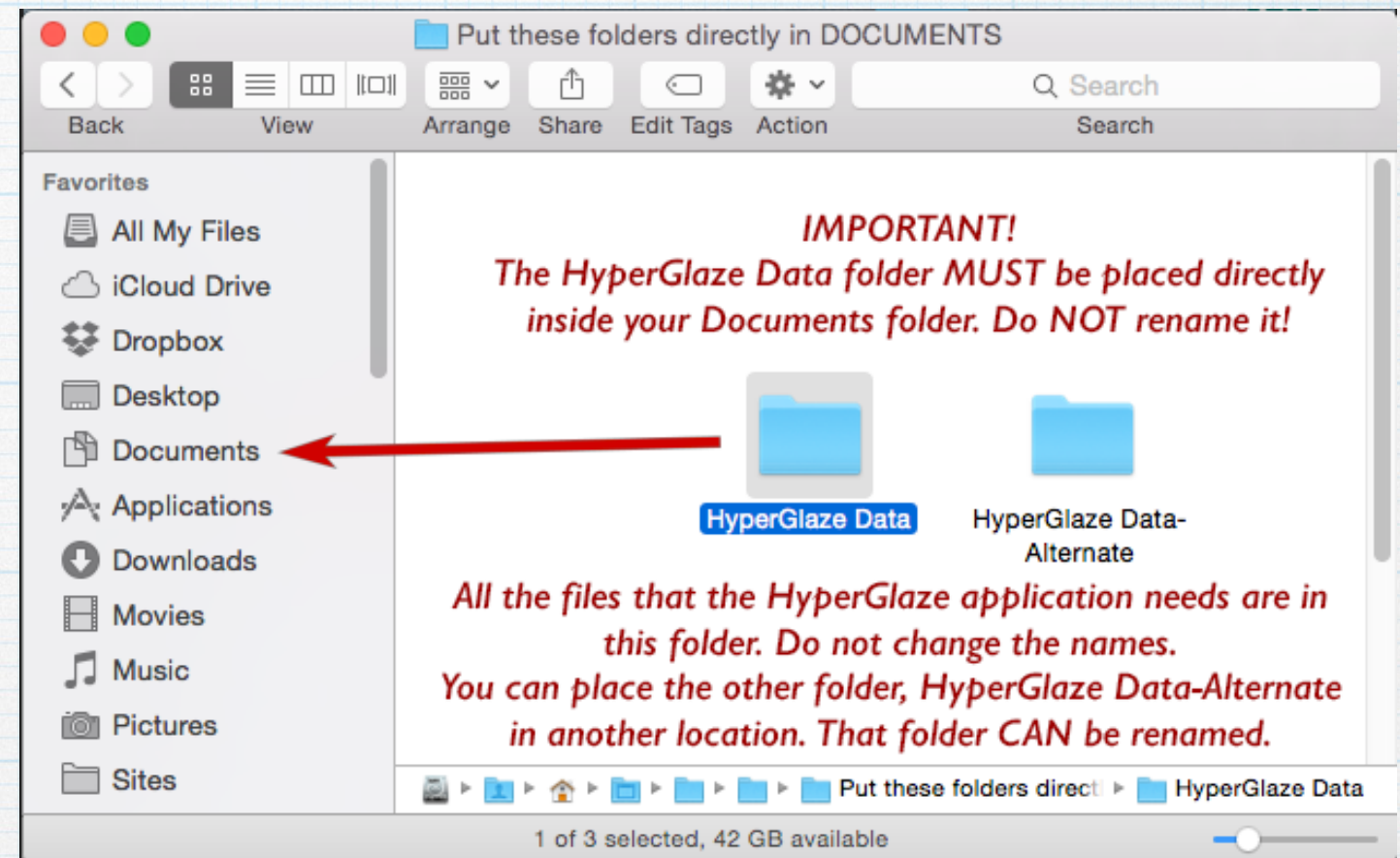
# Installing HyperGlaze

Copy the folder named “HyperGlaze Data” directly to your Documents folder.

It **MUST** be there for HyperGlaze to run!

Don’t put it inside any other folder.

Please don’t rename this folder or any of the files in it.



There is also a folder named “HyperGlaze Data-Alternate” on your HyperGlaze CD or USB. This folder can be placed anywhere (including on a cloud drive) and can be used to hold other collections of recipes. You can rename the folder anything you like, for example “HyperGlaze Lowfire”, or “Studio Glazes”, or whatever makes sense. You can have up to four of these alternate folders linked to HyperGlaze

**Don’t rename the files inside!**



# Installing HyperGlaze - HyperGlaze Data folder

Copy the folder named HyperGlaze Data directly to your Documents folder. It **MUST** be there for HyperGlaze to run. Don't rename these files!

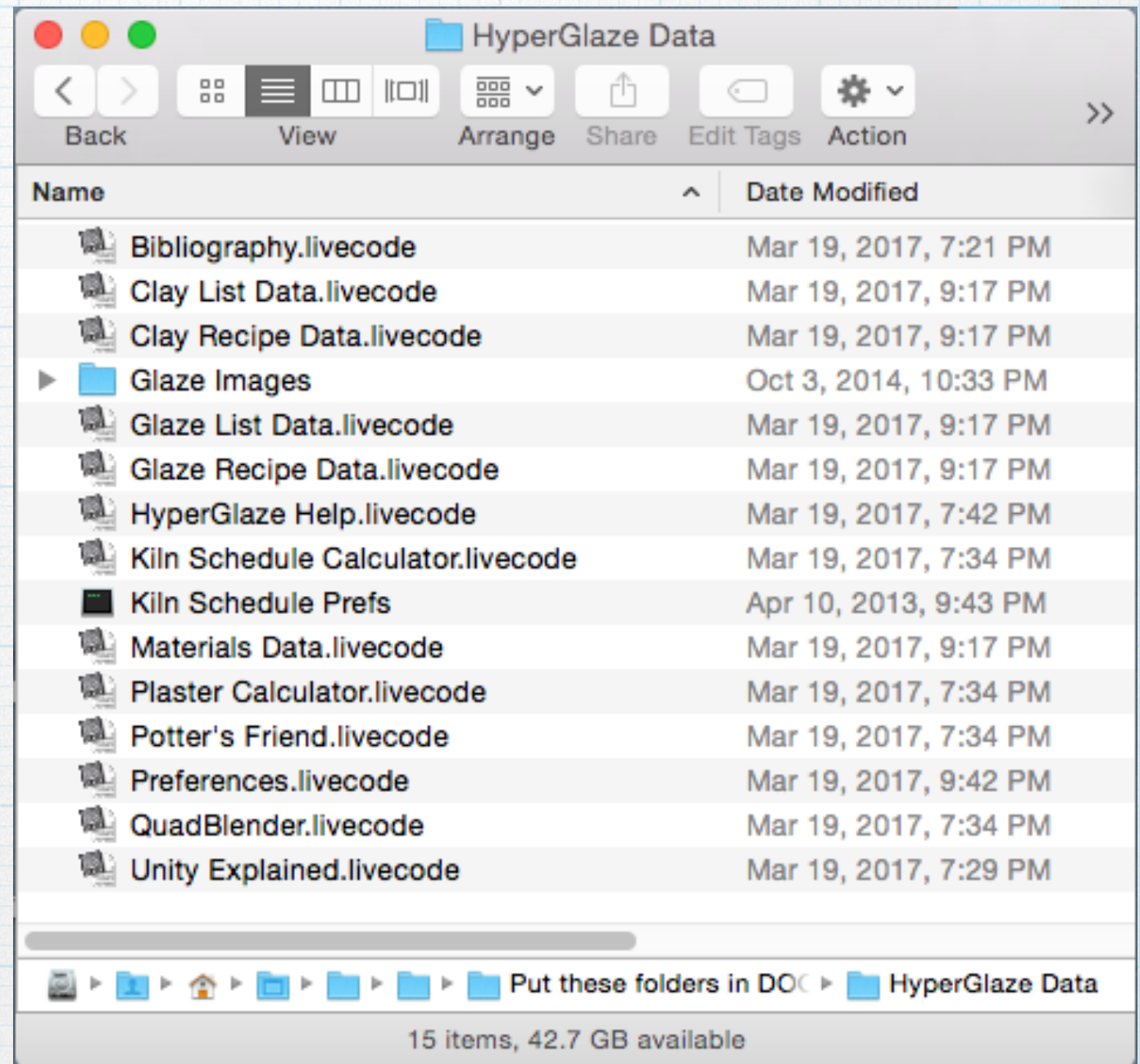
**These five files store your default recipe data:**

Glaze Recipe Data.livecode  
Glaze List Data.livecode  
Clay Recipe Data.livecode  
Clay List Data.livecode  
Materials Data.livecode

**Back them up regularly!**

These same five files need to be in any alternate HyperGlaze Data folders that you set up. See the next page.

The Glaze Images folder is where you can put JPEG images of your glazes. It's used by ALL HyperGlaze data folders. **Back it up regularly, too!**





# Installing HyperGlaze - Alternate HyperGlaze folders

The Alternate HyperGlaze folders only need these five files. That makes backup easy.

If you add your own material analyses, you can copy the same Materials Data.livecode file to all of your HyperGlaze alternate folders.

**DON'T** rename the files in these alternate recipe database folders!

Set the location of your alternate folders in HyperGlaze Preferences.

You can change databases without quitting HyperGlaze by going to the HyperGlaze Index window and selecting the alternative database you want from the Go menu.

Name	Date Modified
Clay List Data.livecode	Mar 19, 2017, 9:41 PM
Clay Recipe Data.livecode	Mar 19, 2017, 9:41 PM
Glaze List Data.livecode	Mar 19, 2017, 9:41 PM
Glaze Recipe Data.livecode	Mar 19, 2017, 9:41 PM
Materials Data.livecode	Mar 19, 2017, 9:41 PM

Put these files in the HyperGlaze Data-Alternate folder

HyperGlaze Preferences

General Glazes Clays Materials Glaze Calculator Thermal Expansion

General Preferences

☐ Turn tool tips off ☒ Save window locations Screen Scaling 1.0

☒ Use default HyperGlaze Data folder location

☐ 1: /Users/rburkett/Documents/HyperGlaze Data Alternate Set

☐ 2: Set

☐ 3: Set

☐ 4: Set

(NOTE: Leaving this unchecked will look for a folder named "HyperGlaze Data" in your Documents folder. You MUST ALWAYS have a folder named "HyperGlaze Data" in your Documents folder as that's where your HyperGlaze Preferences are stored. This option allows you to change to a different glaze database. To create a new HyperGlaze database, duplicate the HyperGlaze Data folder in Documents, then rename the duplicate folder to your choice of names. This folder name will appear in the menu. This duplicate folder can be placed anywhere you find convenient.

More preferences coming soon!

Save

version 10.3.0b4



# Guide to the HyperGlaze X glaze windows on screen

Menus: change with windows

**Index:**  
Use this palette of choices to easily open or close any HyperGlaze window with a click

**Glazes:**  
keep your recipes here along with notes about the glaze

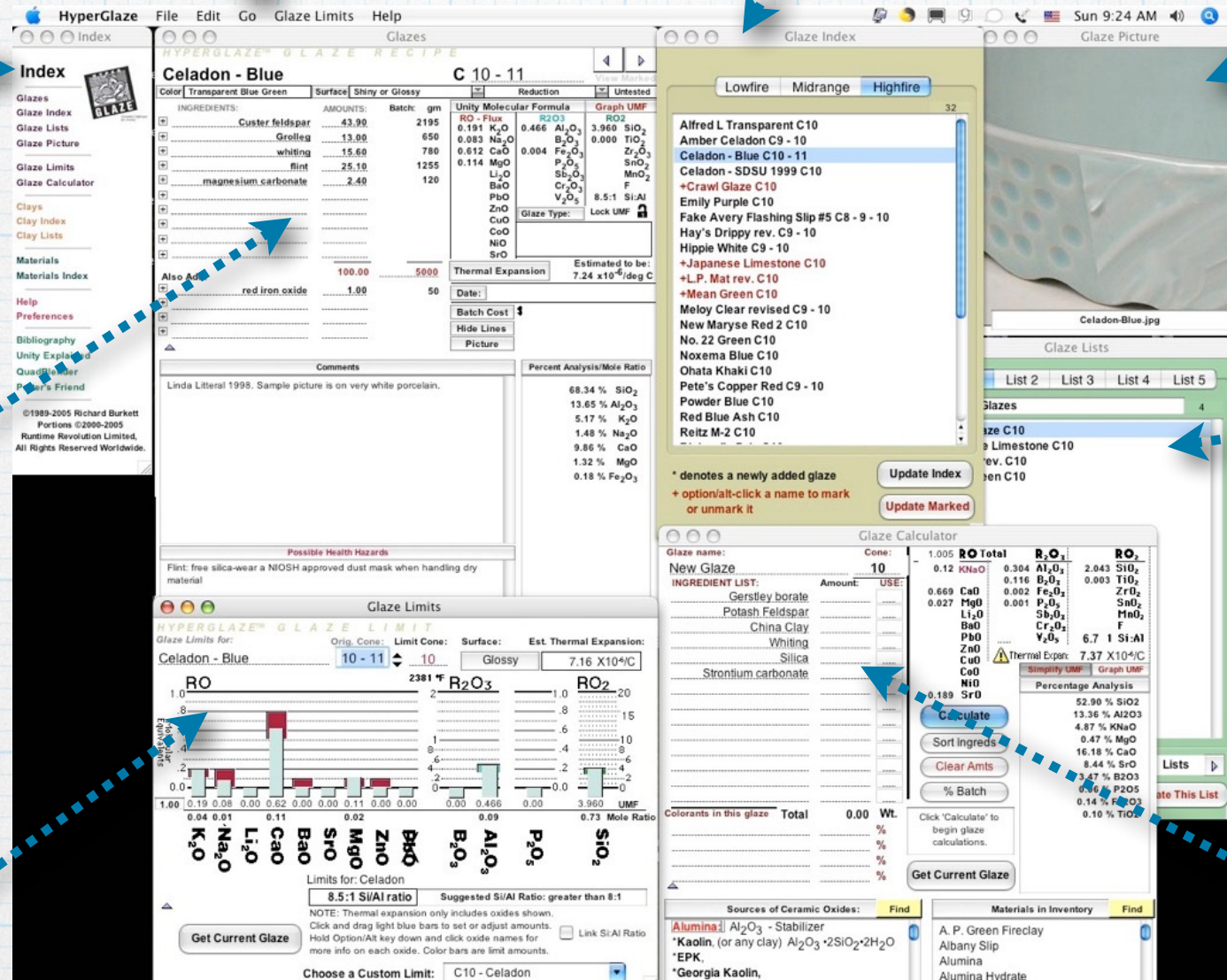
**Glaze Limits:**  
use this window to modify your glaze or compare the unity molecular formula (UMF) of your glaze to typical UMFs of a specific type of glaze

**Glaze Index:**  
automatically updated index of your glaze recipes  
- click to go to the one you want

**Glaze Picture:**  
keep a picture of your glazes here

**Glaze Lists:**  
keep lists of your favorite glazes here to easily view or print them

**Glaze Calculator:**  
use this to convert unity formulas back to a glaze recipe





# The Index window

**Glazes:** store glaze recipes & notes here

**Glaze Index:** click a glaze name to see recipe

**Glazes Lists:** keep lists of your favorite glazes

**Glaze Picture:** save and view a picture of each glaze

**Glaze Limits:** adjust & change unity formulas

**Glaze Calculator:** convert unity formulas to recipes

**Clays:** store clay recipes here

**Clay Index:** click a clay name to see recipe

**Clay Lists:** works just like glaze lists

**Materials:** store ingredient analyses here

**Materials Index:** click an ingredient name

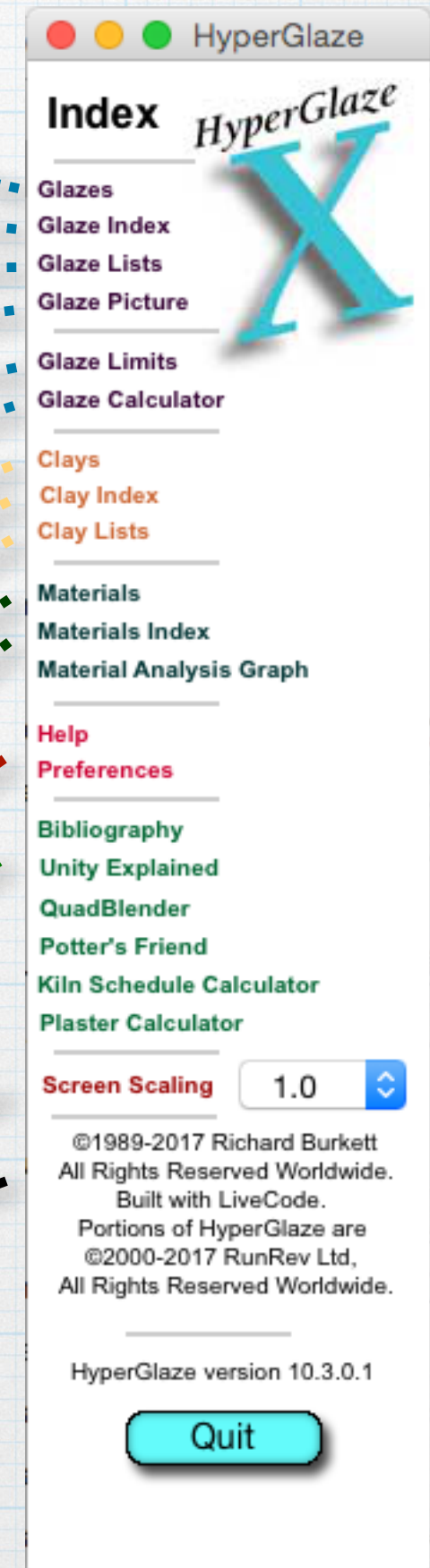
**Help & Preferences:** click for help & settings

**Utilities:** six handy utilities for ceramists

**Screen Scaling:** make HyperGlaze bigger or smaller

**Copyright info:** click to see licensing restrictions

**Note:** many of these choices are also available in the Go menu





# The Glaze Index window

Currently selected  
cone range

Number of glazes  
in this cone range

Click glaze firing range  
to see glazes for those cones

Click a glaze name to see  
the recipe for it in the  
Glazes window

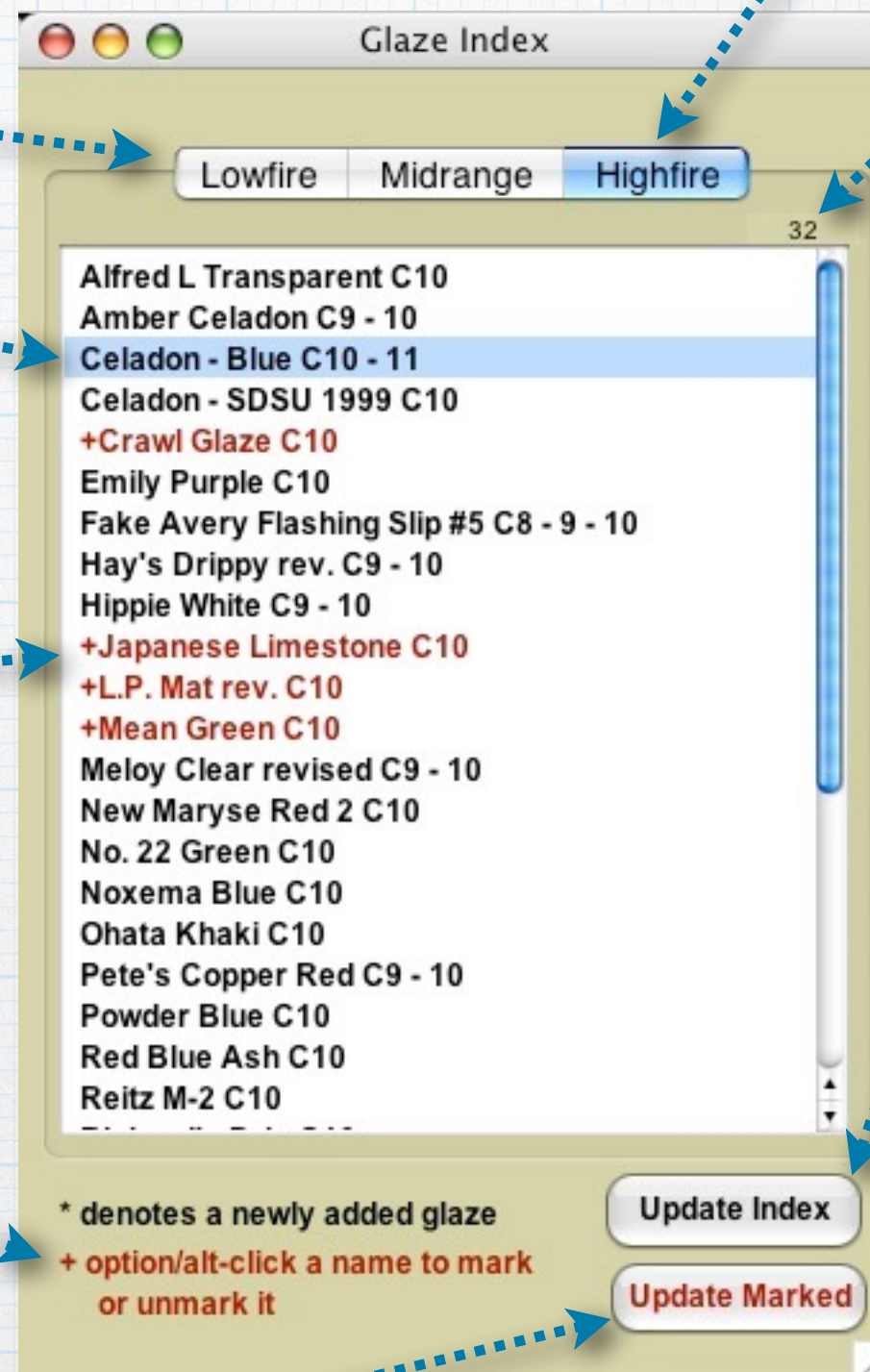
Red glaze names with a +  
before the name show marked  
glazes-option click to unmark.  
**Marked recipes** can be viewed  
(using View Marked button on  
Glaze cards), printed or exported  
as a group, or added to the Glaze  
Lists for easy use later.

Click Update Index  
to sort glazes  
alphabetically by  
cone range

Note: Newly added  
glazes appear  
initially at the top  
of the list with an  
asterisk before the  
glaze name.

Click Update Marked to see  
marked glazes in the Glaze Index  
after Complex Searches

Note: Clay Index window is nearly identical





# The Glazes window

Glaze Name

Color popup menu

Base glaze recipe

+ pop-up buttons:  
click to add ingredients  
without typing

Also Add:  
enter colorants or  
other additives

**Save Glaze** button:  
Click it when highlighted  
to save the recipe.

Comments:  
type in your notes about  
glaze application, mixing, etc.

Health Hazards:  
shown when glaze  
is calculated

**To Make a New Glaze Recipe Card:**

Choose "New Card" from Edit menu

**To calculate** choose "Calculate" from the Glazes menu

Surface popup menu

click to change: gms or lbs

Cone number

Firing popup menu

next or previous recipe

view only marked cards

testing popup menu

show UMF as  
a bar graph

Silica/Alumina ratio &  
Flux/refractories ratio

Thermal expansion  
calculation button  
click for current date

click for batch cost

click to show/  
hide glaze  
picture

Percentage  
Analysis or  
Mole Ratio  
(click heading)

**Glazes**  
HYPERGLAZE™ GLAZE RECIPE

**Alfred L Transparent** **C 10** **View Marked**

Color: **clear** Surface: **shiny** **+** Reduction: **+** Tested: **+**

INGREDIENTS:	AMOUNTS:	BATCH:	Gm
<b>+</b> Kona F-4 Feldspar	21.74	1087	
<b>+</b> Custer feldspar	27.56	1378	
<b>+</b> whiting	24.65	1232	
<b>+</b> EPK	4.31	215	
<b>+</b> silica	21.74	1087	
<b>+</b>			
<b>+</b>			
<b>+</b>			
<b>+</b>			
<b>+</b>			
<b>+</b>			
<b>+</b>			

**Totals:** 100 5000

**Also Add:** **+** bentonite 2.00 100  
**+** Epsom salts 0.15 8  
**+**

**Save Glaze**

**Unity Molecular Formula**

RO - Flux	R2O3	RO2
0.123 K <sub>2</sub> O	0.313 Al <sub>2</sub> O <sub>3</sub>	2.888 SiO <sub>2</sub>
0.108 Na <sub>2</sub> O	B <sub>2</sub> O <sub>3</sub>	0.001 TiO <sub>2</sub>
0.768 CaO	0.001 Fe <sub>2</sub> O <sub>3</sub>	Zr <sub>2</sub> O <sub>3</sub>
0.001 MgO	0.000 P <sub>2</sub> O <sub>5</sub>	SnO <sub>2</sub>
Li <sub>2</sub> O	Sb <sub>2</sub> O <sub>3</sub>	MnO <sub>2</sub>
BaO	Cr <sub>2</sub> O <sub>3</sub>	F
PbO	V <sub>2</sub> O <sub>5</sub>	9.2:1 GF:Al
ZnO		1:3.2 RO:Ref
CuO		
CoO		
NiO		
SrO		

Glaze Type: **MidRoad** Lock UMF **🔒**

Thermal Expansion: **Estimated to be:** 7.99 x10<sup>-6</sup>/deg C

Date: 7/5/06

Batch Cost \$ 1.73+ Unknown: Kona F-4 Feldspar

Hide Lines

Picture

**Comments**

add 1/2 -2% Iron Ox. for "celadon".  
SDSU 1990.

**Possible Health Hazards**

Kona F-4 Feldspar: Feldspars may contain free silica. Wear an approved dust mask.  
Custer Feldspar: Feldspars may contain free silica. Wear an approved dust mask.

**Percent Analysis/Mole Ratio**

Percentage Analysis by weight:
64.97 % SiO <sub>2</sub>
11.95 % Al <sub>2</sub> O <sub>3</sub>
4.34 % K <sub>2</sub> O
2.51 % Na <sub>2</sub> O
16.13 % CaO
0.02 % MgO
0.06 % Fe <sub>2</sub> O <sub>3</sub>
0.03 % TiO <sub>2</sub>

Note: Clays window is nearly identical



# The Compare Glazes window

Choose Compare Glazes from the Glazes menu while viewing glaze recipes in the Glazes stack. You'll see a window like this pop up that you can use to compare recipes while browsing.

Then click Get Current Glaze to show the currently selected glaze recipe here in the Compare Glaze window

**Compare Glazes**

**Alfred L Transparent**

Ingredients:

F-4 Feldspar	21.74
Custer Feldspar	27.56
Whiting	24.65
EPK Kaolin	4.31
Silica	21.74

Cone: 10

Also add:

Thermal Expansion:  $8.04 \times 10^{-6}$  deg. C

Percent Analysis:

Percentage Analysis by weight:

64.48 %	SiO <sub>2</sub>
12.17 %	Al <sub>2</sub> O <sub>3</sub>
4.56 %	K <sub>2</sub> O
2.41 %	Na <sub>2</sub> O
16.28 %	CaO
0.02 %	MgO
0.06 %	Fe <sub>2</sub> O <sub>3</sub>
0.03 %	TiO <sub>2</sub>

Unity Molecular Formula (UMF)

0.128 K <sub>2</sub> O	0.316 Al <sub>2</sub> O <sub>3</sub>	2.841 SiO <sub>2</sub>
0.103 Na <sub>2</sub> O	B <sub>2</sub> O <sub>3</sub>	0.001 TiO <sub>2</sub>
0.768 CaO	0.001 Fe <sub>2</sub> O <sub>3</sub>	ZrO <sub>2</sub>
0.001 MgO	0.000 P <sub>2</sub> O <sub>3</sub>	SnO <sub>2</sub>
Li <sub>2</sub> O	Sb <sub>2</sub> O <sub>3</sub>	MnO <sub>2</sub>
BaO	Cr <sub>2</sub> O <sub>3</sub>	F
PbO	V <sub>2</sub> O <sub>5</sub>	9.0:1 Si:Al Ratio
ZnO		
CuO		
CoO		
NiO		
SrO		

**Get Current Glaze** **Close**



# The Complex Search window for Glazes

Choose where to search

Searches for glazes or clays must include one of the items marked with an asterisk

popup menus of standard choices

earliest date  
most recent date

Find and Mark Cards is the most common choice for a first search.

Choose Find in the Found Set (Marked Cards) to refine a previous search by looking only in the currently marked cards during the search.

these items are not required for searches, but if you enter a search term in this side, recipes will not be marked if they include that term

click to start searching

Complex searches will **mark** cards which are found to meet the criteria you have specified.

Note: Simple searches often work best!



# The Glaze Limits window

**Limit Cone:** sets the cone number for the colored bars behind the oxide amount bar graph with the approximate temperature below

**Surface:** click to change  
Changes the limit values to glaze type: matte or glossy

**Est. Thermal Expan:**  
likely thermal expansion of the base glaze

**UMF:** unity molecular formula for this glaze

**Mole Ratio OR Wt. %:**  
click to switch between these two views of the analysis for this glaze

check box to link silica and alumina amounts so that the Si:Al ratio stays constant when you adjust either the alumina or silica amount

popup menu of more specific limit formulas

**Get Current Glaze:**  
grabs the unity molecular formula for the glaze currently shown in the Glazes window and inserts it into Glaze Limits

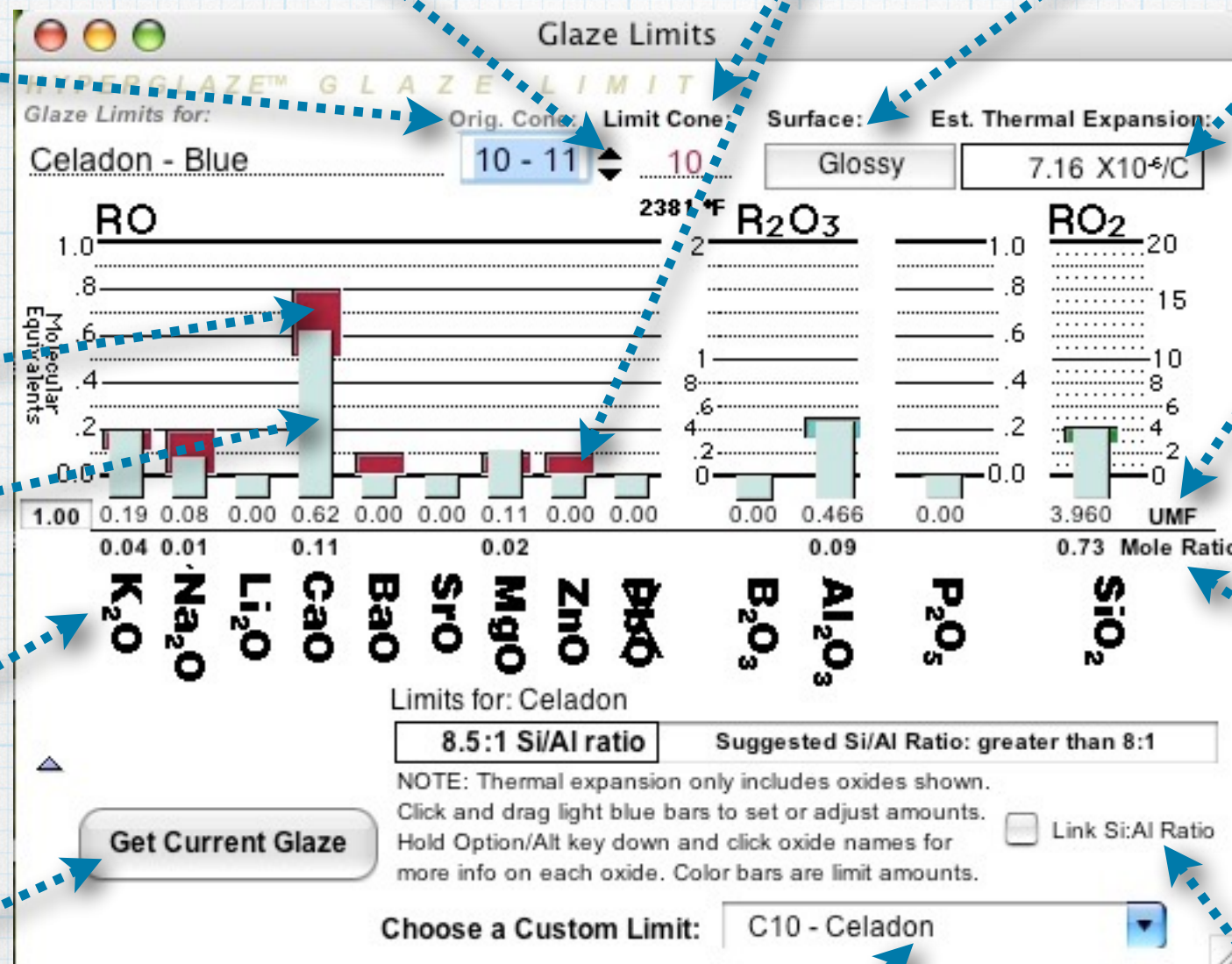
click up or down arrow to change the cone of your glaze one cone higher or lower

**Orig. Cone:**  
the cone number of the glaze entered (as shown on the recipe card)

**limit amounts**

oxide amounts in your glaze - click and drag to change

option [Alt] click any chemical symbol to see how that oxide affects glazes and colorants





# The Glaze Calculator window

enter your choice of ingredients here

click to calculate a recipe from the UMF

click to sort ingredient list for best calculation

click to clear your previous calculation and recalculate

colorants in the original recipe

click a name to add it to the ingredient list

enter a number between 0 and 1 to limit amount of an ingredient (for example, 0.5 would add only half the possible amount)

click to combine K & Na amounts

click any chemical symbol to see what ingredients supply it in the Sources of Ceramic Oxides

click to have calculation ignore trace oxide amounts

click after calculating to convert the recipe to a percentage batch

click to grab current recipe in the Glazes window and enter the ingredients and UMF here

click a name to add it to the ingredient list

The screenshot shows the 'Glaze Calculator' window. At the top, there's a 'Glaze name:' field with 'New Glaze' and a 'Cone:' field with '10'. Below these is an 'INGREDIENT LIST' with a table of ingredients and their amounts. The ingredients listed are Gerstley borate, Potash Feldspar, China Clay, Whiting, Silica, and Strontium carbonate. To the right of the ingredient list is a 'USE:' column. Below the ingredient list is a 'Colorants in this glaze' section with a table for 'Total' and 'Wt. %'. The 'Total' column shows '0.00' and the 'Wt. %' column shows four empty percentage fields. Below the colorants section is a 'Sources of Ceramic Oxides' section with a list of materials and their chemical formulas. The materials listed are Alumina, Kaolin, EPK, Georgia Kaolin, Calcined Kaolin, Ball Clay, Feldspar, and Frits. To the right of the sources section is a 'Materials in Inventory' section with a list of materials and their chemical formulas. The materials listed are A. P. Green Fireclay, Albany Slip, Alumina, Alumina Hydrate, Ball Clay Hyplas, Barium Carbonate, Barnard Clay, and Bentonite. At the bottom right of the window is an 'Update List' button. The window also features a 'Calculate' button, a 'Sort Ingreds' button, a 'Clear Amts' button, a '% Batch' button, and a 'Get Current Glaze' button. A 'Thermal Expan:' warning icon is visible near the 'Calculate' button. The 'Percentage Analysis' section shows the following results: 52.90 % SiO2, 13.36 % Al2O3, 4.87 % KNaO, 0.47 % MgO, 16.18 % CaO, 8.44 % SrO, 3.47 % B2O3, 0.06 % P2O5, 0.14 % Fe2O3, and 0.10 % TiO2. The 'Simplify UMF' and 'Graph UMF' buttons are also visible.

Ingredient	Amount
Gerstley borate	
Potash Feldspar	
China Clay	
Whiting	
Silica	
Strontium carbonate	

Colorants in this glaze	Total	Wt. %
	0.00	%
		%
		%
		%

Sources of Ceramic Oxides	Find
Alumina: Al <sub>2</sub> O <sub>3</sub> - Stabilizer	
*Kaolin, (or any clay) Al <sub>2</sub> O <sub>3</sub> • 2SiO <sub>2</sub> • 2H <sub>2</sub> O	
*EPK,	
Georgia Kaolin,	
*Calcined Kaolin,	
-Ball Clay,	
-Feldspar, (all types) R <sub>2</sub> O • Al <sub>2</sub> O <sub>3</sub> • 6SiO <sub>2</sub>	
-Frits: (most contain alumina)	

Materials in Inventory	Find
A. P. Green Fireclay	
Albany Slip	
Alumina	
Alumina Hydrate	
Ball Clay Hyplas	
Barium Carbonate	
Barnard Clay	
Bentonite	



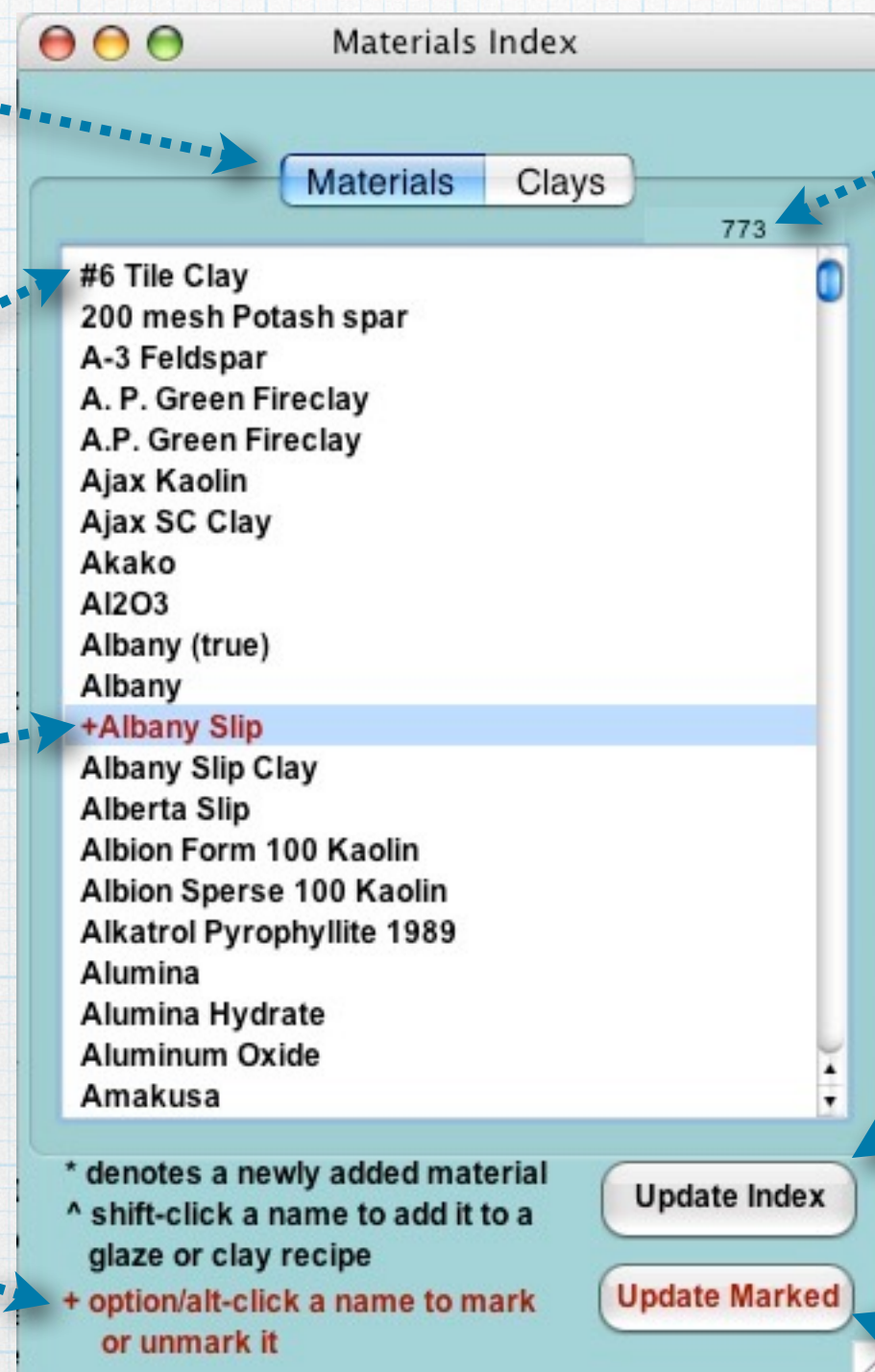
# The Materials Index window

Materials is full list  
Clays is a sublist of just  
clay analyses

click to see an ingredient  
and its analysis in the  
Materials window

Red material names with a +  
before the name show marked  
materials - option click to  
unmark.

**Marked analyses** can be viewed  
(using View Marked button on  
Material cards), printed or  
exported as a group.



number of materials  
currently in the database

click to alphabetize the  
Materials Index after  
adding new materials

click to update marked  
ingredients so you can see  
which ones are marked



# The Materials window

## To Make a New Material Card:

Choose "New Card"  
from the Edit menu

enter the  
ingredient name

enter oxide amounts as either  
percent by weight (then Convert  
to Unity) or enter directly as  
unity molecular format

enter comments,  
suppliers, and other  
information

enter health  
hazard warnings here  
and check the Possible  
Health Hazard box to  
have warnings included  
with glaze recipes

click to calculate  
percentage analysis

Materials

HYPERGLAZE™ MATERIAL ANALYSIS

G-200 Potash Feldspar

View Marked

Feldspar

RO				R <sub>2</sub> O <sub>3</sub>		RO <sub>2</sub>
K <sub>2</sub> O	Na <sub>2</sub> O	CaO	MgO	Al <sub>2</sub> O <sub>3</sub>	B <sub>2</sub> O <sub>3</sub>	SiO <sub>2</sub>
0.6000	0.2994	0.1006		1.0469		6.1575
ZnO	BaO	Li <sub>2</sub> O	PbO	Fe <sub>2</sub> O <sub>3</sub>	P <sub>2</sub> O <sub>5</sub>	TiO <sub>2</sub>
				0.0028		
CoO	CuO	SrO	MnO <sub>2</sub>	Sb <sub>2</sub> O <sub>3</sub>	Y <sub>2</sub> O <sub>5</sub>	ZrO <sub>2</sub>
F	SO <sub>3</sub>	NiO	FeO	Cr <sub>2</sub> O <sub>3</sub>	L.O.I.	SnO <sub>2</sub>
					0.0654	

Comments

Potash Feldspar similar to Custer Feldspar

☒ Possible Health Hazard

may contain free silica - wear an approved respirator when handling dry material

Percentage Analysis

66.17 % SiO<sub>2</sub>  
19.10 % Al<sub>2</sub>O<sub>3</sub>  
10.11 % K<sub>2</sub>O  
3.32 % Na<sub>2</sub>O  
1.01 % CaO  
0.08 % Fe<sub>2</sub>O<sub>3</sub>  
0.21 % L.O.I.

100.00 % TOTAL

Possible Matching Materials

Mol. Wt. 558.879

Si:Al Ratio 59:1

Cost/Lb. \$ 1.97

Date: 3/22/89

☐ Inventory

Show Inventory

☒ View All

☐ Current Glaze

☐ Current Claybody

☐ View Marked

☐ View Inventory

Insert in Recipe

arrow buttons:  
go to next or previous  
material analysis

click to set material  
category/type

click chemical symbol to  
search for materials which  
contain that oxide

click to calculate  
molecular weight

melting point or PCE

click for cost  
calculator

check box for ingreds  
in inventory

arrow buttons go to all ingredients

arrows go to ingreds in current glaze

arrows go to ingreds in current clay

arrow buttons go to marked ingredients

arrow buttons go to ingredients which  
are in inventory

click to add this  
material to the  
current glaze or clay



# The Complex Search window for Materials

Choose where to search

You can set a minimum mole amount of the oxide(s) specified

Enter a name or even a partial name, for example: spar to find and mark all feldspars

Choose an oxide or oxides you'd like to find in an ingredient

Find and Mark Cards is the most common choice for a first search.

Choose Find in the Found Set (Marked Cards) to refine a previous search by looking only in the currently marked cards during the search.

click to start searching

Complex searches will **mark** cards which are found to meet the criteria you have specified.

Complex Search

Glazes Glazes UMF Clays **Materials**

Enter search text and/or select the oxides you would like to find in a material:

Material name:

<input type="checkbox"/> K <sub>2</sub> O	<input type="checkbox"/> Al <sub>2</sub> O <sub>3</sub>	<input type="checkbox"/> SiO <sub>2</sub>
<input type="checkbox"/> Na <sub>2</sub> O	<input type="checkbox"/> B <sub>2</sub> O <sub>3</sub>	<input type="checkbox"/> TiO <sub>2</sub>
<input type="checkbox"/> Li <sub>2</sub> O	<input type="checkbox"/> Fe <sub>2</sub> O <sub>3</sub>	<input type="checkbox"/> ZrO <sub>2</sub>
<input type="checkbox"/> CaO	<input type="checkbox"/> P <sub>2</sub> O <sub>5</sub>	<input type="checkbox"/> SnO <sub>2</sub>
<input type="checkbox"/> MgO	<input type="checkbox"/> Sb <sub>2</sub> O <sub>3</sub>	<input type="checkbox"/> MnO <sub>2</sub>
<input type="checkbox"/> BaO	<input type="checkbox"/> Cr <sub>2</sub> O <sub>3</sub>	
<input type="checkbox"/> SrO	<input type="checkbox"/> V <sub>2</sub> O <sub>5</sub>	
<input type="checkbox"/> ZnO		
<input type="checkbox"/> PbO		
<input type="checkbox"/> FeO		
<input type="checkbox"/> CuO		
<input type="checkbox"/> CoO		
<input type="checkbox"/> NiO		

Material type:

Comments:

0.100 minimum mole amount of oxide  
(Oxides with less than this amount will not be found.)

**Searching Hint:**  
If your search doesn't find any Materials cards which have all of the oxides specified, then try searching for just one or two oxides.

Clear Search Fields

☒ Find and Mark Cards  
☐ Find in the Found Set (Marked Cards)

Enter search information and click 'Search' to mark glazes.

**Search**

Close

Note: Simple searches often work best!



# The QuadBlender

choose Export Blend Chart in File menu to save a text document of recipes for all blends

choose Blend Recipe Grid from the QuadBlender menu to see a printable page of blend recipes for volume blending by parts

click a number to see the blend for this tile

click to send the recipe you've chosen to the Glazes recipe database

Enter the four recipes of your choice in the recipe A, B, C & D windows, make additions or changes, then use QuadBlender choices shown

click to show recipe windows for the four corner recipes A, B, C & D

click to grab current recipe visible in Glazes and enter it as blend glaze

