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VARI-ETCH FROSTING POWDER

INFORMATION SHEET

Vari-Etch is a weak Fluoridic acid meant for frosting and etching glass material. Vari-Etch will not frost borosilicate glass and will leave a mottled frosting on float glass. It can also frost etch different colors at different rates. Vari-Etch will give a good, even frost etch on most glass surfaces in around 4 to 5 minutes of immersion in the liquid. Deeper etches can be accomplished by longer exposure to the acid. When attempting deeper etches on your glass it is advisable to remove the glass from the liquid and clean off the surface in a baking soda solution every 5 minutes and then re-submerge the glass in the acid again. This will prevent particles of glass from flowing down the piece as it etches creating a "streaked" pattern on your etched surface. Over time the Vari-Etch solution will darken from a deep amber to dark brown color. There is nothing wrong with the solution and this is a normal progression for the chemical reaction of the material.

THE VARI-ETCH PROCESS

The Vari-Etch dipping liquid is sold in crystalline form so you will need to add your own water to the crystals in order to create the dipping liquid.

Vari-Etch is sold in the container size that you order. For example, if you order a Quart of Vari-Etch, you will receive a quart container with crystals about 2/3 full. You will need to mix the crystals with boiling water, but you do not want to add a quart of boiling water to the crystals but only enough water to fill the container that your crystals arrive in. The chemical reaction that occurs with the Vari-Etch crystals is an endothermic reaction so when the crystals dissolve in the water it will lower the temperature of the water. If you attempt to dissolve the crystals in cold or lukewarm water, the process will take much, much longer than necessary. Please be sure to use boiling water with your initial product mixture.

Once you have filled the container that holds the crystals with water about 1/2 inch from the top of the container, you can either stir the mixture or cap the container and shake well to dissolve all the crystals. In some circumstances, all the crystals will not dissolve and you can put your container in a warm water bath to dissolve the remaining crystals.



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Vari-Etch Frosting Powder is available in Quart, Gallon, and 5 Gallon containers.



3M BUTTERCUT

Buttercut is an excellent masking agent for protecting parts of your glass from etching or for creating designs in your piece from the acid etch. Available by the square foot or in 12 inch and 24 inch rolls.



SAFETY EQUIPMENT

It is highly recommended to use safety equipment when working with Vari-Etch including safety glasses, nitrile gloves, aprons, and respirators.

Once the crystals are fully dissolved, your liquid is ready to etch your glass.

Most glass types will give a full surface, even etch with 4 to 5 minutes of submersion in the dipping liquid. Longer etches will produce a deeper removal of the glass. The glass can also be masked off with materials like 3M's Buttercut Sandblast Resist in order to protect areas of your glass or create designs on the surface of the glass.

For cleaning the glass after removal from the acid solution we recommend having a bucket of clean water with dissolved baking soda in the water (roughly 3/4 pound per gallon of water). Place your piece in the baking soda solution and clean well with a sponge or toothbrush. The baking soda solution may foam up as you work and this is a good indication that the solution is working to neutralize the acid on your glass.

After cleaning well in the baking soda solution, you will need a second bucket of fresh clean water to clean the piece in order to fully remove any acid or baking soda solution from the glass surface. Be sure not to skip this step as the baking soda solution alone can leave unexpected results on the glass surface if left to dry. Once thoroughly cleaned in the water bath, your piece is ready to be handled safely.

Vari-Etch can be diluted in order to etch the glass without frosting it. When diluted the Vari-Etch will still remove glass but it will no longer frost it. The glass will remain clear but may have a mottled surface. This can be used to create interesting effects on your glass. Experiment!

Vari-Etch will eventually reach a saturation point where it will not etch your glass any longer. When that time comes, you can dispose of the Vari-Etch solution by mixing baking soda into the material slowly until the pH reaches a neutral 7.0. The amount of baking soda will vary depending on the quantity of Vari-Etch you are neutralizing. When mixing the baking soda with the Vari-Etch, be sure to use a larger container and mix very slowly as bubbling of the material will occur.

Once the Vari-Etch has reached a neutral 7.0 pH it can be flushed down the drain with a large flow of water. Please check and comply with your local regulations regarding the addition of fluoride ions to the wastewater system in case of larger disposal amounts.

Vari-Etch can also be re-invigorated by the addition of new crystals to a volume of saturated Vari-Etch.

STORAGE

Vari-Etch should be stored in the original container when possible. If other containers must be used, inspect those containers for structural integrity and periodically inspect all storage containers for signs of potential loss of integrity. Move contents to fresh containers if any cracks or areas of possible leakage are found. Store in a cool, dry, well ventilated area.

SAFETY

- Keep out of reach of children and pets
- This mixture is not safe to drink.
- Do not store this mixture in any container that may be mistaken for a food or drink container.
- Avoid contact with skin, eyes, and mouth. Wash your hands thoroughly with a pumice type soap and warm water after use. Remove any clothing that has come in contact with Vari-Etch solution and wash thoroughly.
- Do not breath dust from the powder mixture before adding water. Use in an area with adequate ventilation.

- Application of hand cream after exposure is recommended.
- Protective eyewear and elbow length nitrile gloves are recommend. A plastic or rubber style apron is also recommended if splashing may occur.
- Do Not re-use this container for anything other than Vari-Etch.
- The active ingredients in Vari-Etch Frosting Powder is Ammonium Biflouride (ABF), 48% by weight (see MSDS sheet for full information), 52% inert ingredients.
- The liquid solution of Vari-Etch is pH 5.1
- No component of Vari-Etch Frosting powder is listed as being carcinogenic
- Vari-Etch Frosting powder is non-flammable.

For more information, please visit support.hisglassworks.com.

This information is provided without warranty regarding the results to be obtained from the use of Vari-Etch by the end user. User must determine suitability of this product for the intended application and assume all risk and liability in connection therewith

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