

Putting MoldGel® SILFREE to the Test, Part One

By David E. Parvin, A.L.I.

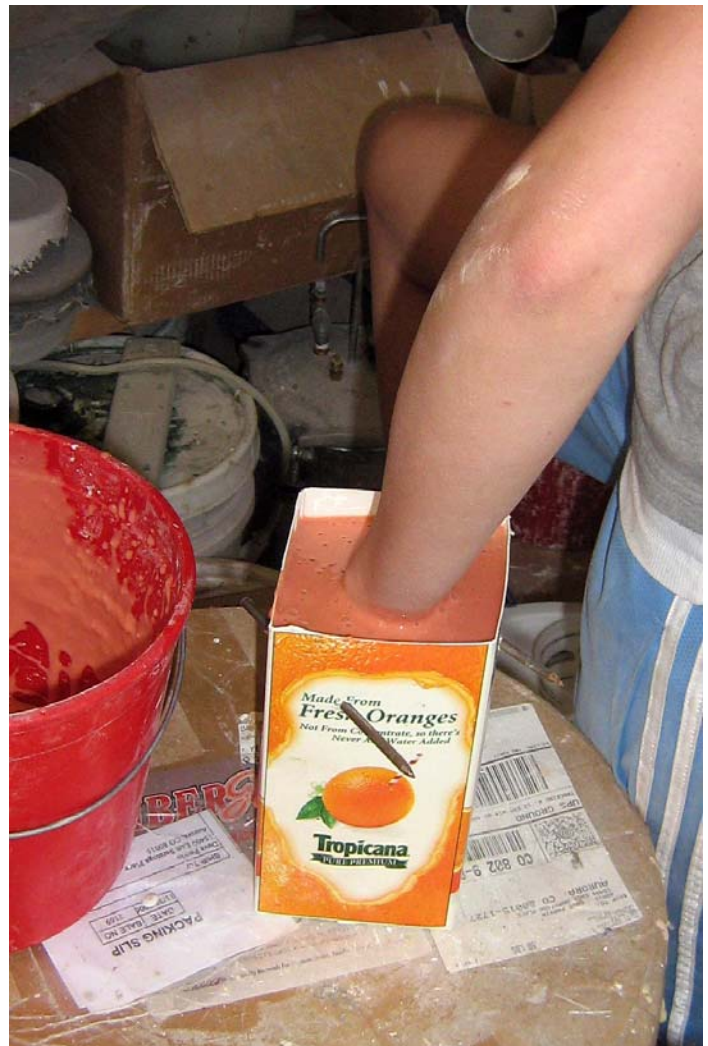
One of the really great things about having been sculpting for over half a century and life casting for a fifth of a century is that occasionally you are sent something new asking only for your evaluation. About the only thing better to play with than new stuff is free new stuff. So when Ed McCormick of ArtMolds called some months ago and said that he was sending me a sample of a prototype of MoldGel SILFREE which he promised would be the first really new alginate in sixty years, my socks started rolling up and down. Ed said that after considerable research and experimentation his company has come up with an organic replacement for the silica that until now had been an ingredient in all alginates.

While heavy and or prolonged exposure to silica can be very unhealthy, the risks associated with the occasional exposure for most life casters is probably minimal as long as basic precautions are taken; but 'minimal' is not the same as **none**. And some of us very active life casters exposures are more than occasional. I got to thinking how embarrassed I would have been last year if, say, right in the middle of casting Miss USA, Tara Conner of later notoriety, I had suddenly fallen over dead from silicosis.

Not only would my assistants, Audra and Morgan, had to step on and over my carcass as they finished with Tara, but they would have had to explain to Donald Trump that his copy of Tara's casting was only half an original 'Parvin' since I would not have lived long enough to sign the finished work no doubt greatly reduced its value on a future edition of *Antiques Road Show*

I was impressed with the first prototype sample and reported so back to Ed McCormick. During this time, Ed was refining the formula and the manufacturing process, a never ending quest, and sent me prototype number two. I played, we talked, and just recently I got some of what is very close to the final product which should be available by time this article arrives in your mail.

When you open a container of MoldGel SILFREE, you will notice that it has both a pleasing light blue color and a pleasant peppermint bouquet (sounds so much better than smell or odor) yet it looks pretty much like any other alginate. But when you feel it, it seems to be somewhat courser and less dusty. The first thing I did was mix some small samples using 100 grams of water at 80 degrees F (27 degrees C.) but varying the amounts of MoldGel

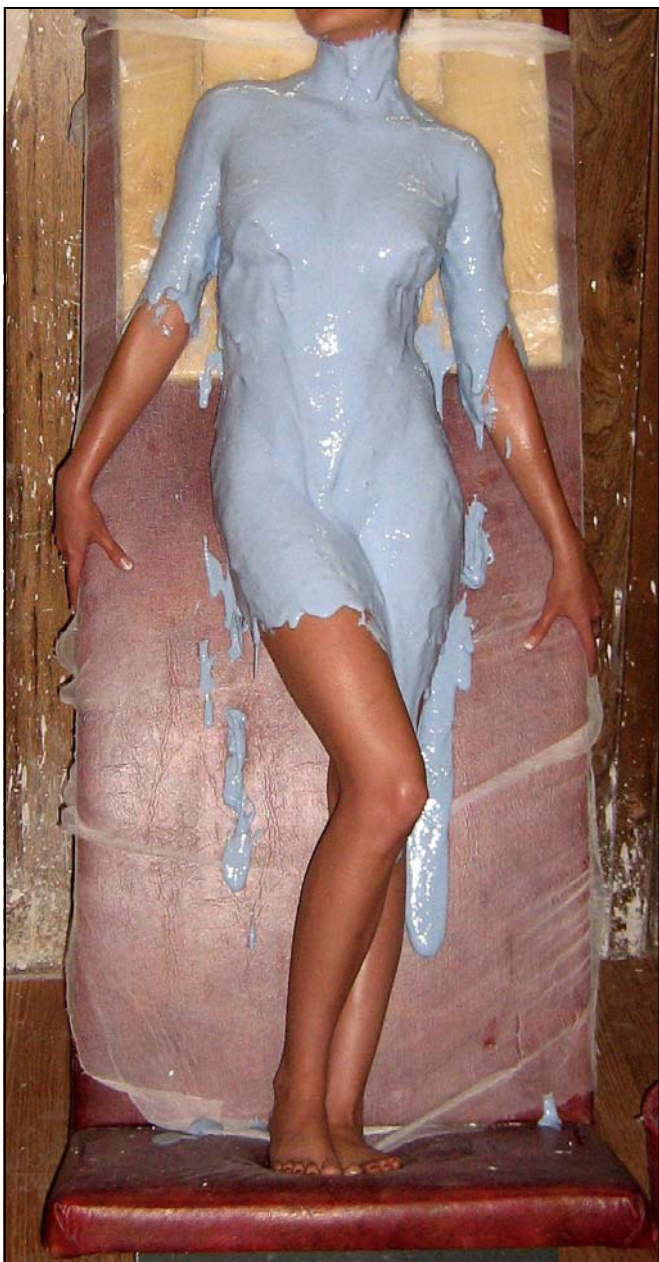


MoldGel SILFREE Regular Set is used to create a mold of a hand. It is counterintuitive to think that the mixture should be thin to allow air bubbles to rise. The proper mixture is a medium thickness to hold air bubbles in suspension.

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SILFREE to determine the proper ratio and the setting time. For casting hands and/or feet in a container, ArtMolds recommended a mixing ratio of one part MoldGel SILFREE to three parts water. By checking the weight of the one and three parts, I determined that this ratio by weight was about two and a half ounces MoldGel SILFREE per pound of water (71 grams per 454 grams). I mixed a larger batch and cast a hand of assistant Audra. See photo on right.

Before continuing with the testing, let me explain something. Manufacturers want their products to be as simple as possible to use, and rightly so. This is why ArtMolds recommends measuring by volume rather than by weight. After all, anyone can come up with a cup but may not own a scale suitable for weighing ac-



MoldGel SILFREE SloSet is applied to create a torso mold. When properly mixed it adheres to vertical surfaces without running.

curately within a few grams. If one is measuring liquids, weight and volume directly correlate. "A pint's a pound the world around," is true for water and close for beer.

While the specific gravity of other liquids may be considerably different, once one has determined the volume for a specific weight of any liquid, the right sized scoop will always provide the desired weight. But powders are different because they may at times be fluffy or compacted or something in between. Hence, the weight of a pint of a particular powder may vary. Fortunately, for casting hands by filling a container with an alginate/ water mixture, using one scoop of MoldGel SILFREE SloSet for every three scoops of water will give pretty consistent consistencies.

However, for other applications in which the alginate must stay in place on vertical surfaces, the consistency of

When MoldGel SILFREE SloSet alginate is properly mixed it will stay on vertical surfaces without running.

the alginate must be just right. In my version of *Goldilocks and the Three Bears*, the three bears had decided to become life casting experts. After purchasing and viewing my DVD titled *Casting the Female Torso*, subscribing to *Sculpture Journal*, and joining the Association of Life Casters International, they were ready to give it a try. Following my advice in "One Artist's Successful Approach to Finding Perfect Models," *SJ*, September 2004, they got Goldilocks to get barefoot all over and be their first subject. But alas, they hadn't paid attention to the DVD in which I state that water/alginate ratio must be fairly precise. In their first try, the solution was **too runny** and it all dripped off. In the second, it was **too thick** and they were unable to apply it smoothly and evenly. Fortunately, Mamma Bear suggested that they review my DVD and they weighed the third batch and it was **just right**. What a great story, my two little grandsons just love it!

When you want alginate to stay in place on a vertical surface, such as bodies or faces, it is important that you determine the proper ratio and use it every time. There was a time in my early days of life casting that I would continue to add alginate as I mixed until it seemed right. The problem was that it took too long. Even most slow setting alginates jell in five to seven minutes which isn't much time especially if you are attempting a difficult casting. A much better way is to weigh out the correct ratio of alginate to water and mix with a high speed drill. The correct ratio varies somewhat with different brands and it can take some experimentation to determine what is just right.

So exactly what is 'just right?' Referring back to the three bears, in the first case, there was too little alginate or

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too much water and the solution all ran off Goldie. In the second, there was too much alginate or too little water making it impossible to spread it on Goldie uniformly and without trapping air bubbles. But the third was the correct ratio and even Baby Bear could spread it on Goldie without trapping bubbles on her skin and it would stay put at a thickness of three sixteenths to one quarter inch (about 0.2 to 0.25 cms); i.e., **just right**.

For the other kind of mold used in life casting where a body part such as a hand is simply inserted into a container of alginate, the correct ratio is actually counter intuitive. One might very well think that in this case, the runniest mixture that will still jell would be desirable. After all, wouldn't that allow any air bubbles to rise to the surface leaving behind a flawless mold? Well, one might think so but one would be wrong. If the solution is runny enough for bubbles to rise, they get trapped by the undersides any horizontal areas on whatever body part one are casting. These bubbles result in 'outies' in the final product. In this case, thin enough to wet the skin completely but thick enough that any air bubbles do not rise is **just right**.

Getting back to MoldGel SILFREE, while the recommended ratio of one to three works for casting in a container, I would prefer a thicker solution of about using 3 1/2 ounces of MoldGel SILFREE per pound of water (100 grams per 454 grams). For faces and bodies, I found 4 ounces of MoldGel SILFREE per pound of water (114 grams per 454 grams) to work very well. At these ratios, it takes less MoldGel SILFREE than any other alginates I have used, about 20 to 25% less, making it more economical.

But MoldGel SILFREE is very different than other alginates in several ways. As soon as you start mixing it, you will notice that that it just seems more organic. This is because it is. Rather than use mineral,

silica, as filler, it uses 'food grade ingredients.' Also, any other alginates that I have used have almost no transition state; they are liquid and then in just a few seconds are solid. MoldGel SILFREE jells over about a full minute's time. I found this to be very helpful. When I noticed that it was firming up, I knew that it was time to apply the cotton or cheese cloth to bind the alginate to the plaster layer. The next difference is that once the MoldGel SILFREE has set up, it isn't initially as tough as other alginates. But by the time the mother mold is finished it will have firmed up considerably.

O.K., so MoldGel SILFREE is more economical, safer both for the user and the environment, and is just somewhat different, the real question is, can one produce the highest quality castings? In photograph on the left, my assistant Audra and I had covered a volunteer with a layer of MoldGel SILFREE SloSet. Notice that it is staying in place without any significant dripping. The alginate remained in a workable state for about 5 1/2 minutes when it began to jell over about a minute. Audra and I did not have to change our normal casting procedure at all. Photograph #3 shows the plaster positive made from the MoldGel SILFREE impression. The detail was excellent and there were only a few small 'outies' that were not the fault of the alginate.

ArtMolds plans on making SILFREE in at least three versions, fast, regular, and slow. I will be experimenting with all of

these and will provide further details in next month's *SJ*. Let's see: safer, more economical and excellent quality seems like progress to me. ■

ABOUT THE AUTHOR: Dave Parvin is artist, sculptor, author and teacher residing in Denver, Colorado. He is regular contributor to the Art Casting Journal. Dave is known for his exquisite realistic sculptures in bronze and raku. He is a charter member of the Association of Lifecasters International and a certified instructor for ALL.



Dave Parvin displays the finished torso casting which was created using the all food grade formula MoldGel SILFREE SloSet. Though the formula is brand new the results provide a virtually bubble free surface.