

# Douglas and Sturges, Inc.

Ingredients for Art

1023 Factory St., Richmond, CA 94801

730 Bryant St. San Francisco, CA 94107

Ph.: (510)235-8411 Fax: (510)235-4211

## DERMAGEL

Dermagel is a formulated alginate impression material designed for use as a mold material for taking impressions from life. Dermagel will work in either cold or warm water. When mixed properly, this powder will set into a firm gels in approximately three to ten minutes, depending on the temperature of the water used and the water to Dermagel ratio.

**General Instructions:** Dermagel can be used on most nonporous surfaces with little or no preparation. Porous surfaces may need to be sealed in some cases. As when using any materials you are unfamiliar with, it is always best to test for compatibility. To use, mix one part Dermagel with one to one and one half parts cold/warm water. Cold water should be cold out of your tap. Warm water should be 80-110 degrees F. Water that is warm but comfortable to the touch is fine. Use a clean plastic, glass or paper container for mixing your Dermagel. Make volumetric measurements using any clean, dry container. It is a good idea to "fluff up" the Dermagel before doing any measurements by shaking this material in its original container to insure consistency from batch to batch. After the water and alginate have been measured pour the water into your mixing container and sift the Dermagel into it. Mix immediately by inserting your hand into the mixture and stir and squeeze the material until you have as smooth a mixture as possible. A drill type paint mixer may be used for mixing as well and will give a smoother, creamier mixture. Use quickly as these alginate materials will set in three to ten minutes.

The following is offered as a guide for mixing ratios and working times with Dermagel alginate

Water Temperature	Water to Dermagel, parts by volume	Setting Time
Cold Water	1.2:1 (yogurt consistency)	6 minutes
Cold Water	1.5:1 (pancake batter)	7 minutes
Warm Water	1.2:1 (yogurt consistency)	2.5 minutes
Warm Water	1.5:1 (pancake batter)	4 minutes

**Molding Instructions:** Dermagel was formulated specifically for making molds from life and as such it is non-toxic, non-invasive and can even be used for molding sensitive mucous membranes such as the lips and mouth. In general no surface preparation is necessary to use this alginate material on the skin: it is however advisable that a thin coating of mineral oil or shortening (such as Crisco or Fluffo) be used on hair if it is to be included in a mold in order that the Dermagel not become embedded in the hair. By doing this, you will be able to make an impression of the surface texture of the hair. There are essentially three methods used when making molds using Dermagel; the application method, the immersion method and the poured method. When using the application method it is desirable to have a mixture of alginate and water that is somewhat thick, so that the material being applied does not run too severely. Conversely when using the immersion or poured method, it is desirable to have the mixture somewhat thinner and pourable. The viscosity of the Dermagel can be controlled by the ratio of water to alginate: more water gives lower viscosity mixtures, while less water gives higher viscosity material. Water to alginate ratio will also affect gel times. More water has a tendency to retard gelling while less water will accelerate gelling. Making a mold of the face it is usually best to use the application method while making a mold of the hand it is usually easier to use the immersion technique.

**Making a Mold of the Face:** When making a mold of the face using Dermagel first cut a piece of cardboard so that the face just fits through. This will prevent the alginate from running down into the ears and off of the face. Roll up two pieces of writing paper to make tubes to place in the nostrils so that the subject

may breathe. Have the subject lie back in a reclining or semi-reclining position. Mix the Dermagel as described above and begin applying the alginate to the outer part of the face. Work quickly as this material will set in three to ten minutes. Once the face is completely covered with alginate, allow it to set and apply some sort of rigid backing. This may be achieved by using plaster, plaster guaze or Varaform\*. Once the backing material has set, have your subject sit up and blow gently through the mouth. This should allow the Dermagel to come free from the face and the mold can now be removed as a unit with the backing material. Clean any bits of alginate or plaster that may have fallen into the mold and use immediately. Plaster, gypsum cements or wax may be cast directly into a Dermagel mold without the use of a release agent. In general we do not recommend that plastic resins be used for casting into Dermagel molds.

**Molding the Hand:** When making a mold of the hand it is usually best to employ the immersion method. To do this simply find a suitable container that is big enough to contain the hand and an adequate amount of alginate. A container that is too large will waste material, while a container that is too small may not allow the hand to be positioned properly. When a suitable container has been found or made (simply taping together heavy cardboard works very well too) mix the Dermagel to a fairly thin consistency and pour into your container. Immediately immerse your hand into the alginate and wiggle your fingers to help release air bubbles. Then hold your hand in the position you wish to mold it in and allow the alginate to set. When the material is firm gently pull the alginate away from the wrist area and pull your hand slowly out of the alginate. You should feel it slowly break free from the mold and you should be able to withdraw it. Pour your casting material into the mold as soon as possible, as the alginate has a tendency to shrink rather quickly. With a hand mold it is usually necessary to cut the mold from the casting in order to remove it.

**Pouring a Mold:** Dermagel may also be poured over a pattern or shape to create a mold. In order to use this technique, simply build a cardboard box around the shape to be molded. Be sure that it is liquid tight and mix your alginate thin enough that it can be poured. Once the material sets, remove and use as described above.

**Other Hints:** When making molds of large body sections it is sometimes not practical to mix large amounts of Dermagel. If one section of a body has been molded and one needs to continue with the molding process, it is possible to apply a bonding agent to the surface of the existing mold area and apply fresh alginate to this and continue without having a separation of these sections. If this is not done the Dermagel material will not adhere to itself. To use the bonding agent, mix 4 grams of the dry powder per ounce of cold water. Put this solution into a hand sprayer and apply to the surface to be added to. Allow the mixture to dwell for ten seconds, wipe off with a paper towel, rinse with clear water, dab dry and proceed with more alginate. Also if you find that your Dermagel is setting too fast, a little alginate retarder will slow down the gel time to a manageable level. Generally, 1/4 teaspoonful of retarder per gallon of water is adequate to give considerably more working time.

Once a mold has been created, if it is necessary to store the mold for extended periods of time, one may either wrap the mold in wet towels and place it in a plastic bag, or simply immerse the mold in a container of water. Also simply freezing the mold in a home freezer will extend storage life. This will preserve the mold for up to four weeks without causing serious degradation of the material.

These are just suggestions and as with anything necessity is the mother of invention and other techniques may be employed for various mold making applications. A little practice goes a long way in terms of product familiarity and confidence. Again, generally speaking Dermagel may be used to mold any nonporous surface.

“The information and data contained herein are based on information we believe reliable. Each user of the material should thoroughly test any application and independently conclude satisfactory performance before commercializing. Suggestion of uses should not be taken as inducement to infringe on any particular patent.”

\*Trademark Runlite Corp.