



# THE COMPLEAT SCULPTOR

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## Alja-Safe Technical Information Sheet Crystalline Silica-Free Alginate

### PRODUCT OVERVIEW

Alja-Safe™ (patent pending) is a new addition to the Smooth-On family of “Life Casting” mold making materials. Alja-Safe™ alginate is suitable for making “temporary” molds of the face, hands and other body parts. For making re-usable molds of any body part, use “Body Double™” silicone rubber.

*What’s Sets Alja-Safe™ Apart?* In addition to being an exceptional body molding material, Alja-Safe™ alginate *does not contain free crystalline silica* (a known carcinogen). Alja-Safe™ also captures detail better than other alginates, giving you a more accurate reproduction of your original.

Alja-Safe™ is easy to use and cures quickly. It reproduces fine detail and makes an excellent temporary mold – good for one or two reproductions of any body part. You can then cast plaster, Matrix NEO (polymer modified gypsum) or Smooth-Cast 300Q ultra-fast urethane resin into the mold to make a reproduction.

### TECHNICAL OVERVIEW

Mix Ratio: 1 Part Warm Water (80° F / 27° C)\* to 1 Part Alja-Safe™ Powder By Volume  
(or 5 parts water to 1 part Alja-Safe™ by weight).

**Working Time\***: 8 minutes      **Demold Time\***: 10 minutes      **Spec. Volume**: 26 cu. in./lb.

\*Note: Working time and demold time can be reduced by using warmer water.  
Cooler water will give a longer working time and extend the demold time.

#### Preparation

#### Measure

#### Water

Store and use Alja-Safe in a dry environment at room temperature. Do not allow moisture to come into contact with unused Alja-Safe. Use only with adequate ventilation. **Practice:** Make A Mold Of Your Thumb – make a mold of something small before going on to larger models. **You’ll gain a lot of experience with a small test.**

**Applying A Release Agent** – Alja-Safe will not stick to hair-free skin. It will encapsulate hair, and a release preparation is recommended to prevent mechanical lock. CHOLESTEROL Hair Conditioner (available at most pharmacies) can be applied to hair-covered areas prior to applying Alja-Safe. It can be washed out of the hair easily after use. **Because no two applications are quite the same, a small test application to determine suitability for your project is recommended if performance of this material is in question.**

**Measuring** – Alja-Safe is mixed 1 Parts warm water to 1 Part Alja-Safe Powder by volume. Less water will make Alja-Safe thicker, and more water will make Alja-Safe thinner.

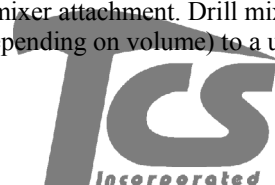
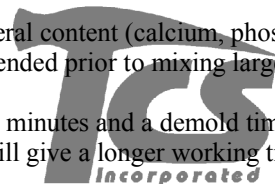
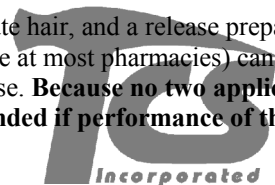
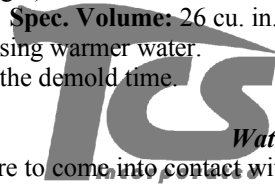
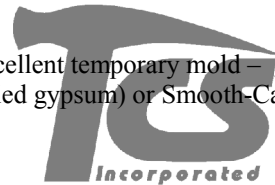
**Water Quality** – Water quality varies from region to region. Water that has a high mineral content (calcium, phosphate, etc.) may cause any alginate to become “lumpy” or not set properly. A small-scale test is recommended prior to mixing large amounts.

**Temperature Of The Water** - At 80°F / 27°C, Alja-Safe will have a working time of 8 minutes and a demold time of 10 minutes. Warmer water will cause the material to cure faster (less working time). Colder water will give a longer working time and slower demold time. For best results, sift Alja-Safe powder.

### MIXING

Mixing – Alja-Safe can be hand mixed, but best results will be obtained using a power mixer attachment. Drill mix for best results. Attach a Jiffy Mixer or Squirrel Cage Mixer to a power drill and mix for one minute (depending on volume) to a uniform consistency – smooth without any powder lumps. Jiffy mixers are available at many hardware stores.

**Applying** – Alja-Safe can be poured around an object or applied to vertical surfaces.



### Pouring Around An Object



Once mixed, Alja-Safe can be poured around the hand, foot, fingers, etc. in a fixed position inside a container. Suspend the model just above the bottom of the container and have at least 1/2" (1.27 cm) space between the model and the side walls of the container. Pour Alja-Safe into the container at the lowest point and let the alginate rise around the model.

Once Alja-Safe has cured, remove the model slowly and carefully. Removing the model too fast may result in a tear in the mold.

### For Vertical Surface Application – Applying A Support Shell

You may want to experiment with the amount of water added to Alja-Safe to find a thicker consistency that is right for vertical surface application. For example, some customers mix 1 part water to 1.5 parts Alja-Safe. Work Alja-Safe into model detail with your hands and let cure.

*Apply A Support Shell* - Once the alginate cures, a support shell will be necessary to support the alginate mold. "Gypsona" bandages are ideal for this purpose.

### Casting Into The Mold

All alginate molds will deteriorate quickly. It is recommended that you cast into the mold within 4 hours following demold. Materials commonly cast into alginates include Matrix NEO (polymer modified gypsum, available from Smooth-On), plaster, wax, clay and very fast urethane resins (such as Smooth-Cast 300Q).

*For Soft "Skin-Like" Castings* – You can cast Dragon Skin Q soft silicone rubber into Alja-Safe molds to make realistic hands, limbs, etc.

**Safety** - The Material Safety Data Sheet (MSDS) for this or any Smooth-On product should be read prior to Use. All Smooth-On products are safe to use if directions are read and followed carefully. The International Agency For Research on Cancer (IARC), which is part of the World Health Organization, has rated free crystalline silica a "Group 1" carcinogen, known to cause cancer. Alja-Safe alginate does not contain free crystalline silica.

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