

## PRODUCT OVERVIEW

Safe to use **Alja-Safe®** is the world's first alginate that does not contain crystalline silica (a known carcinogen). Alja-Safe® is perfect for making single-use molds of the face, hands and other body parts. It 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.

For making re-usable molds of any body part, use "Body Double" silicone rubber. Visit [www.smooth-on.com](http://www.smooth-on.com) for more information on lifecasting and what these materials can do for you.

### TECHNICAL OVERVIEW

**Mix Ratio:** 1 Part Warm Water (80° F / 27° C) to 1 Part Alja-Safe Powder By Volume (or 4 parts water to 1 part Alja-Safe by weight)

**Specific Volume,** cu. in./lb.: 26

**Pot Life:** 5 minutes (ASTM D-2471)

**Cure time:** 8 minutes

**Color:** Light Purple

## PROCESSING RECOMMENDATIONS

### PREPARATION...

**Preparation** - Store and use Alja-Safe® in a dry environment at room temperature. Alja-Safe® powder may get warm in storage/shipping during the summer months which will cause the powder/water mixture to set too fast. To remedy, store Alja-Safe® in a cool area (60°C - 70°F or 15°C - 31°C) for 24 hours before using. Alja-Safe® has a limited shelf life and should be used as soon as possible. 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 most surfaces. When making a mold of the head, a release preparation is recommended to prevent mechanical lock to the hair. CHOLESTEROL Brand 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, WATER QUALITY & WATER TEMPERATURE...

**Measuring** – Alja-Safe® is mixed 1 part water to 1 part powder by volume (1 cup + 1 cup, for example). You can vary the water level somewhat to change consistency of the mixture. Less water will make Alja-Safe® thicker. More water will make the mixture thinner and easier to pour. **Be careful**...too much water will may result in the mixture not curing.

**Water Quality** – 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 into water and mix as directed.**

## Safety First!

**CAUTION:** Do not inhale dust. In case of eye contact, flush thoroughly with water. Children should not use this product without adult supervision.

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.**

Read the Technical Bulletin and MSDS before using.

## MIXING, POURING & VERTICAL APPLICATION...

**Mixing** – Alja-Safe® can be hand mixed, but best results will be obtained using a power drill with a mixer attachment. Attach a Jiffy Mixer or Turbine Mixer to a power drill and mix for one minute (depending on volume) to a gel-like consistency – smooth without any powder lumps. Jiffy mixers are available at many hardware stores. Turbine Mixers will yield the best mix and are available from Smooth-On or your Smooth-On distributor.

**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 or other model in a fixed position inside a container. Suspend the model just above the bottom of the container and have at least ½" (1.27 cm) space between the model and the side walls of the container.



**For Best Results:** Apply a thin coating of Alja-Safe® to the surface of the model by smoothing a small amount of material on by hand. Pour Alja-Safe® into the container at the lowest point and let the material rise around the model. Make sure your model has a good clearance distance from the bottom and sides of the container. Keep your model still until

the Alja-Safe® sets up. You will know the Alja Safe has set when it is firm and no longer gel-like.

**For Vertical Application** – 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.

**Applying 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, and are available from Smooth-On or your Smooth-On distributor.

## 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.

## HOW MUCH ALJA-SAFE® DO I NEED?

Anatomy	Alja-Safe®	Anatomy	Alja-Safe®
Baby's Hand / Foot	1/2 lb.	Full Torso – Front & Back	3 lbs.
Adult Hand / Foot	1 lb.	Arm to Shoulder	1.5 lbs.
Face – No Ears	1 lb.	Buttocks	1 lb.
Full Head & Shoulders	2.5 lbs.	Intimate Areas	0.5 lb.
Front Torso	1.5 lbs.	Full Body	15 lbs.

\* This guide is offered as a reference tool only. It is an estimation and actual amounts needed will vary from individual to individual. End User assumes full responsibility for own calculations of material needed.



**Call Us Anytime With Questions About Your Application.**

**Toll-free: (800) 762-0744 Fax: (610) 252-6200**

The new [www.smooth-on.com](http://www.smooth-on.com) is loaded with information about mold making, casting and more.