

# TECHNICAL SOURCE GUIDE

## KRYOLAN TWO-PART COLD FOAM SYSTEM

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Two products are available for creating facial and body prostheses for the stage: (1) foamed latex, or hot foam, and (2) Polyurethane, or cold foam. Hot foam has been in use since Jack Dawn, the head of the makeup department at MGM in 1939, used it for the Cowardly Lion and many others in *The Wizard of Oz*. Three-part hot foam is mixed much like two-part cold foam and then is poured into a plaster mold and allowed to stand undisturbed until jelled. It is then baked in the oven for four to five hours for proper curing.

The cold foam process, which does not require the use of an oven or a lengthy cooling period, consists of A and B components which must be measured on a gram scale and mixed together thoroughly in order to begin the chemical reaction. In the Stage Make-up II class at the University of Wisconsin Oshkosh, we have found that using a wire loop in a variable speed drill, as recommended by Kryolan, worked well in mixing the two chemicals together. The foam starts to set as soon as it is completely mixed, so it is important to have everything ready, and you should be prepared to work quickly.

Positive and negative plaster molds, which must be completely dry, are coated with the cold foam release agent. (It has been our experience that not enough release agent is supplied with the kit, requiring an additional purchase.) The cold foam mixture is then poured into the negative half of the mold and the positive half is placed onto it, using a 20 lb. stage weight to hold it in place. A weight or some kind of securing device is necessary because the cold foam mixture will expand as it completes its chemical reaction. It needs the compression to create a fine-textured foam and if mixed properly will set in about 10 minutes.

The goal with a molded foam prosthetic is to have a piece that fits the actor's face exactly and is a flexible, soft and accurate character feature. It is also important that the piece can be used for repeated performances and can be cleaned without destroying or altering it. The Kryolan Company has recently changed the formula for its two-part cold foam product to make it safer and easier to use. It is self-skinning, which gives it a natural look with make-up, and holds up to repeated washings. Unlike the previous formulation, it can be worn immediately after it comes out of the mold. Before the change in formula, it was recommended that you wait 12 hours before putting it next to your skin. The chemicals are affected by exposure to air and light. Therefore, purchasing just prior to its use and doing several batches at once is recommended. Clean-up can be done with soap and water while the mixture is still liquid.

Tim Santry, in Research and Development at Kryolan, stated that the product was over two years in development and is improved in several respects from the previous formula. He stated that "one in a million people" may develop a skin rash but there have been no breathing or respiratory side effects thus far. Mr. Santry does suggest the use of latex gloves to protect your hands when working with the chemicals. However, an article published in the July 1993 issue of *Arts, Crafts and Theatre Safety (ACTS)* states that Polymeric MDI, which is in Part B

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of the cold foam, is listed as hazardous under OSHA Standards. Manufacturers have modified the isocyanates by adding various chemical groups or by 'prepolymerizing' them (adding urethane units). These new chemicals usually are unstudied for toxicity and their materials safety data sheets (MSDS) often list no hazards and indicate that air-quality regulations do not apply to them. Artists can be misled by these MSDS's into believing that the new chemicals are safe. However, in order to function, each chemical must contain a reactive isocyanate group. It is this reactive group that makes them all toxic. The EPA designated 43 of the isocyanates for assessment and data reporting. It is unlikely that any of them will be found safe .... Meanwhile, artists should use all two-component urethanes in local exhaust ventilation or with air-supplied respirators." (ACTS FACTS, July 1993, Vol. 7, No. 7.)

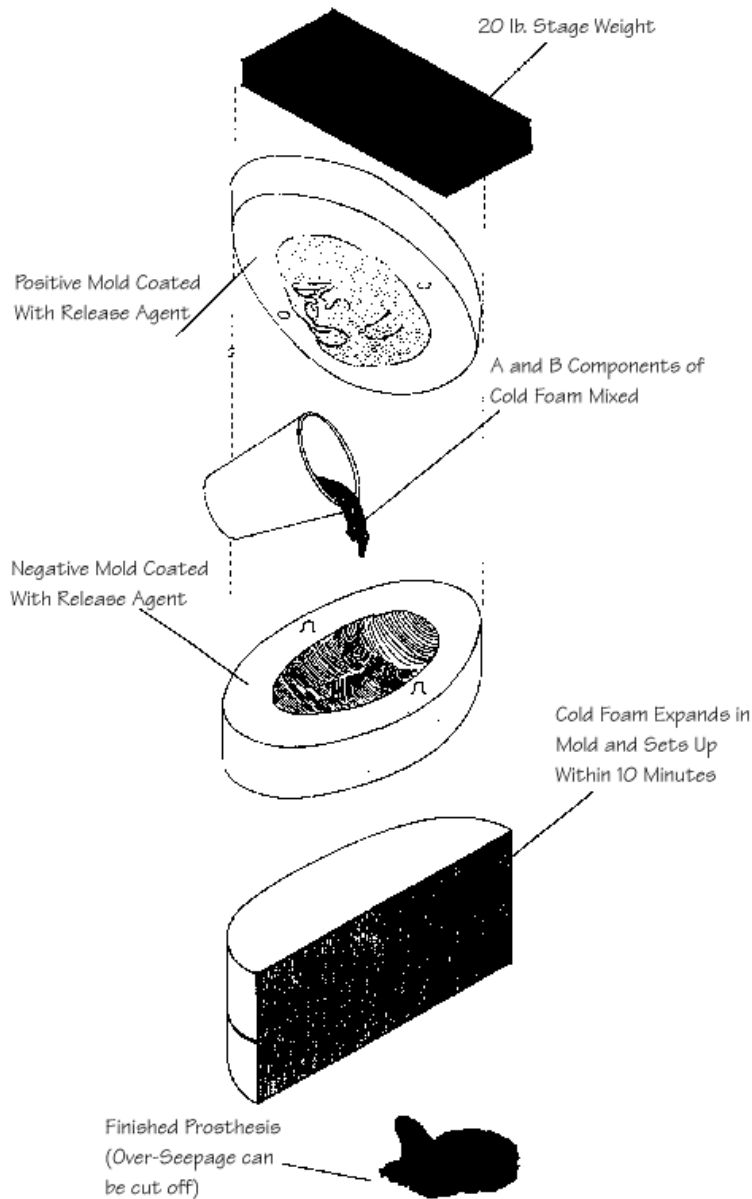
With this information in mind, users of the cold foam product would be wise to err on the side of safety by not only using latex gloves to protect your hands but also ensuring proper ventilation while using this product, until more conclusive information becomes available.

The two-part cold foam urethane system can be purchased from Kryolan for \$36.40 and the release agent for \$9.70.

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