PROCEDURE UPDATE

RECYCLING USED ACETONE IN PLASTINATION LABORATORIES

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Last year, we published a technique for recycling acetone in plastination laboratories (Grondin and Berube, 1992). Our method includes three steps: The first step is called "freeze-separation" which consists of leaving the used acetone at -20°C overnight and then filtering it through cheese cloth. This step is very efficient in removing fat from the contaminated acetone. The second step, called "vacuum distillation", uses the standard equipment (vacuum pump, freezer, manometer) found in a plastination laboratory and produces an acetone that is 97% pure. The third step, called "physical water extraction", is achieved by adding to the distilled acetone a desiccant that will extract the residual water and bring the purity to 99%. The molecular sieves (Fisher Scientific, Cat. No. M518-5LB) are used for filtration which eliminates the light yellow coloration of the acetone.

In our original publication (Grondin and Berube, 1992), the second step did not provide precise information on the pressure requirements in the vacuum system during the distillation process. This was due to the fact that we did not have an adequate pressure gauge to monitor the pressure. The manometer used was a Bennert Manometer which does not register a pressure reading high enough to meet the requirement for the procedure. But, as a result of the money saved on acetone disposal we were able to purchase a vacuum gauge which precisely measures the pressure during the distillation. In beginning any exacting procedure, good reliable equipment must be used, and not simply trying to save money just to start up.

REFERENCE

Grondin, Giles G, S. Berube: A simple and Inexpensive Method for Recycling Used Acetone; Vol. 6, J. Intl. Society Plastination, p 17-19.

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