

## Disposal of Bequeathed Remains

In all cases the dissected remains are placed with the appropriate cadaver for disposal. Each cadaver is placed in a separate wooden casket, identified by a coded number, prior to removal from the medical school to the crematorium. The cadavers are transported to the crematorium, in a hearse, by a licensed funeral director.

Cadavers are cremated, approximately 3 years after acquisition, and the ashes are disposed of as requested by the next-of-kin. Following cremation and a non-denominational service performed by the university chaplain and attended by the head of the Department of Anatomy and the anatomy mortician, about 75% of the ashes of cadavers used are scattered at a local cemetery. The remaining 25% of the cadaver ashes are returned to the next-of-kin for private internment.

At all times the identity of the donor and the treatment of the remains are maintained and kept confidential; as well the wishes of the next-of-kin are put ahead of those of the School of Medicine.

### PROCEDURE UPDATE RECYCLING USED ACETONE IN PLASTINATION LABORATORIES

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In 1992, we published a technique for recycling acetone in plastination laboratories (Grondin and Berube, 1992). Our method includes three steps: step one called "freeze-separation" consists of leaving the used acetone at -20°C for 1-2 days and then filtering it through cheese cloth. This step is very efficient to remove 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 last 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%. We now use for this step new molecular sieves (Fisher Scientific, catalog number M518-5LB). This new desiccant does not color the distilled acetone like our first one did.

In our original publication (Grondin and Brube, 1992), the second step did not give precise information on the pressure in the system during the distillation process. This was due to the fact that we only had, at that time, a Bennert Manometer which is not suitable to read a pressure higher than 24 cm of Hg. However, as a result of the money we saved on acetone disposal and procurement, we were able to buy a vacuum gauge and add it to our system. This permitted us to measure precisely the pressure during distillation.

For the distillation process, the acetone is heated to a temperature of 45°C to 50°C. Depending on the degree of contamination of the acetone to be distilled, the pressure will vary from 38 cm (15 inches) to 33 cm (13 inches) of Hg. We will never bring the pressure lower than 33cm (13 inches) of Hg-

When boiling stops by itself at 50°C and 33 cm of Hg, the residue, which contains around 25% acetone, is put back in the freezer. After 2 days, ice crystals have formed and the solution is filtered to remove this ice. This remaining fluid is now ready to be distilled with our next batch of contaminated acetone.

The Temperature-Pressure equilibrium required to obtain boiling of the contaminated acetone will always depend on the percentage of acetone found in the mixture (Table 1). A mixture of acetone with a high degree of purity requires less energy to boil. It will then be easier to distill. It will boil at lower temperature and higher pressure.

TABLE 1

TEMPERATURE AND PRESSURE REQUIRED TO OBTAIN BOILING OF CONTAMINATED ACETONE			
% Acetone	Temperature	Pressure	Boiling
70%	45°C	38 cmHg	Good
35%	50°C	35 cmHg	Good
25%	50°C	33 cmHg	Good
			Not

NOTE: All the pressure measures indicated in this text and table are measures of the real pressure in the system during the process. We are not talking of measures of the vacuum applied to the system.

#### REFERENCE

Grondin, G.G., Berube, R.: A simple and inexpensive Method for Recycling Used Acetone on Plastination Laboratories. J Int Soc Plastination 6: 17-19, 1992.

#### Editors Note:

The above article originally appeared in Vol. 8 No. 1, ISP Journal. Due to editorial errors, we are reprinting this article in its entirety.

We regret any problems caused by this mistake and constantly strive to do our best for ISP.