

GLASSWARE AND PLASTICWARE

All glassware and plasticware should be sterilized by autoclaving. It is particularly important to have available a supply of sterilized Eppendorf tubes and disposable tips for automatic pipetting devices. All of the procedures commonly used in molecular cloning can be carried out in plastic or glassware prepared in this way; there is no significant loss of material by absorption onto the surfaces of the containers. However, for certain procedures (e.g., handling very small quantities of single-stranded DNA or sequencing by the Maxam-Gilbert technique), it is advisable to use glass and plasticware that has been coated with a thin film of silicone. A simple procedure for siliconizing small items such as pipettes, tubes, beakers, and so forth is given below. For large items such as glass plates, see note ii below.

Siliconizing Glassware and Plasticware¹

1. Place the items to be siliconized inside a large, glass desiccator.
2. Add 1 ml of dichlorodimethylsilane to a small beaker inside the desiccator.
3. Attach the jar through a trap to a vacuum and turn on the vacuum for 5 minutes.
4. Turn off the vacuum and quickly allow air to enter the desiccator. This causes uniform dispersion of the gaseous dichlorodimethylsilane.
5. Turn on the vacuum again until a vacuum is achieved inside the desiccator.
6. Close the system and leave the desiccator under vacuum for 2 hours.
7. Open the desiccator. Glassware should be baked at 180°C for at least 2 hours before use. Plasticware should be rinsed very well with water before use.

Notes

- i. Dichlorodimethylsilane is toxic and highly volatile and should be used only in a chemical hood.
- ii. Large items of glassware should be siliconized by soaking or rinsing in a 5% solution of dichlorodimethylsilane in chloroform. Then rinse them many times with water and bake at 180°C for 2 hours before use.

¹B. Seed (unpubl.).