

Table 5.1 Recyclable plastics.

Number	Abbreviation	Plastic	Archival
1	PETE	Polyethylene tetrathalate	Yes
2	HDPE	Polyester, Dacron [®] , Mylar [®]	Yes
3	PVC	High density polyethylene	No
4	LDPE	Polyvinyl chloride	Yes
5	PP	Low density polyethylene	Yes
6	PS	Polypropylene	Uncertain
7	Others	Polystyrene	No
		Other plastics	

fluoroethylene are not recyclable plastics and thus do not appear in the chart.

Williams *et al.* (1998) discussed a sequence of tests that are useful in distinguishing twelve clear plastics. Their algorithm includes polyethylene, polypropylene, polystyrene, polycarbonate, and polyethylene tetrathalate.

5.7 CONSOLIDANTS AND ADHESIVES

I will begin with some definitions. An adhesive is a substance used to bind items together. Glues are adhesives that are derived from animal origins; for example, rabbit hide glue. A consolidant is a substance used to permeate and strengthen a specimen. Just because a glue or consolidant was described as being useful in the past literature, do not assume that it is still an appropriate substance to use. Shellac was once widely used, but it is no longer considered an acceptable consolidant. With adhesives and consolidants, reversibility is an important consideration. We should be able to undo what we did, with minimal effect on the specimen. Along with reversibility, a non-acidic nature and dimensional stability are also important and desired attributes.

Among the adhesives and consolidants that are considered to be safe and archival are polyvinyl butyral (Butvar 76 and Butvar 98), polyvinyl acetate (Vinac), and acrylic copolymer (Lucite, Acryloid B72, and Paraloid). My favorite is Butvar 76. It is soluble in acetone and I make a thick mixture by dissolving 2.2 kg (one pound) of Butvar 76 in 4 L (one gallon) of acetone. This mixture is used as an adhesive. I dilute this slurry 1:1 with acetone and use this solution as a consolidant. It has the properties

of fast penetration, a non-adhesive finish (non-tacky when dry), a brief drying time, and low toxicity.

If Butvar is applied to a specimen that contains moisture, a white haze will result on the surface of the specimen that was consolidated. Therefore, be sure specimens are dry when using Butvar. The main precaution is to use it with adequate ventilation. The solvent, acetone, can cause respiratory depression. Good ventilation prevents this. Acetone is also flammable and should not be used around an open flame.

Some adhesives and consolidants are no longer considered archival. These should be avoided. This group includes polyvinyl alcohol (shrinkage with age), cellulose nitrate (glyptal), and commercial mixtures. The problem with commercial mixtures (at least those that do not disclose the ingredients) is that one does not know what components are in the mixture. Also, without any warning, the manufacturer can reformulate the mixture.

You should also realize that some people avoid adhesives completely. They do not glue pieces of a specimen back together unless there is a specific reason to do so. They just put the pieces in a polyethylene bag and store them that way. This avoids any possible contamination to the specimen. If a specimen needs to be repaired in the future, a decision can be made then as to the best method to use. For further information on adhesives and consolidants see Elder *et al.* (1997).

5.8 RECORDS

A complementary activity to using archival methods is maintaining adequate records for the collec-