Technical Data Sheet

Histocryl

#14390

Introduction

It is now well established that there are many advantages in embedding in resin rather than paraffin wax. Resin causes less shrinkage and separation of tissue layers and thinner sections can be cut.

Semi-thin sections are particularly useful in the diagnosis of renal disease. In the renal glomerulus pathological changes previously requiring electron microscopy for diagnosis can now be revealed under the light microscope. The histology of densely cellular tissues benefits considerably from thin sections and this is particularly true of lymph nodes in the diagnosis and classification of lymphomas.

Hard dense tissues such as bone and some botanical specimens are given improved support during sectioning, preserving the juxtaposition of hard soft tissues. For this reason many laboratories now embed bone marrow trephines in resin routinely.

Histocryl is a hydrophilic acrylic resin, simple to use and formulated specifically for light microscopists. For those laboratories currently using an acrylic resin such as HEMA glycol methacrylate or commercially branded methacrylates no alteration need be made to the current processing schedule.

Fixation

Most routine fixatives can be utilized with Histocryl (neutral buffered formalin is recommended), the time being dependent on the type and size of tissue in the normal way.

Dehydration

A graded ethanol series is the method of choice, times again being dependent on the size of the tissue. Graded acetones should not be used.

A typical dehydration schedule for a block (12 x 10 x 3 mm) on a mixer would be:
1. 70% alcohol - 30 minutes
2. 90% alcohol - 30 minutes
Two changes abs, alcohol 30 minutes each.

Infiltration

Infiltrating solution:
100 ml Histocryl plus 1.5g benzoyl peroxide paste.

Mix thoroughly until solution becomes clear.

Infiltrate tissue in 2-3 changes of catalyzed resin 60 minutes each or overnight, depending on tissue and size. When fully infiltrated the tissue will become translucent.

Polymerization

Using a cotton wool bud or swab smear accelerator onto the base of each mold, then add polymerized resin and finally the tissue, allowing it to sink to the base rather than applying pressure.

The rate of polymerization can be adjusted by varying the ratio of resin and accelerator e.g.:

One drop to 10 ml freshly catalyzed resin (with 1.5% benzoyl peroxide paste)	10 minutes
One drop to 20 ml freshly catalyzed resin (with 1.5% benzoyl peroxide paste)	15 minutes
One drop to 25 ml freshly catalyzed resin (with 1.5% benzoyl peroxide paste)	20 minutes

Polymerization is an exothermic reaction and it is important to cool the molds in a bath of cold water to disperse the heat produced.

Cutting and Mounting

Histocryl can be sectioned using a steel knife and a standard microtome, but the method of choice would be to use a motorized microtome and glass (Ralph type) knives. Sections can be obtained from 1-5u, floated onto a warm water bath picked up onto clean slides and dried on a hot plate at 60°C for at least 30 minutes.

Staining

It is not necessary to etch or remove the resin before staining. Most routine stains give good results on tissue. Most routine stains give good results on tissue embedded in Histocryl using standard times and temperatures, although it may occasionally be necessary to extend some staining times.

Mounting

For best results air dry sections prior to mounting. DPX or Canada Balsam are recommended as mounting media.