

## Technical information of Quetol 812 Set

Quetol 812 is the equivalent product to EPON 812, the most widely used embedding resin for electron microscopy, which was discontinued in 1978. Quetol 812 was developed in 1970's and has been used widely among Japanese researchers. Quetol 812 provides the same excellent preservation and cutting qualities as EPON 812, and may be substituted in all similar formulations.

Luft (1961) established EPON 812 as a reliable embedding medium, excellent both for plant and animal tissue. The same advantages offered by EPON 812, are offered by Quetol 812: rapid penetration, greater contrast, easy sectioning, stability under the electron beam, satisfactory staining of most thick sections for light microscopy and thin sections for electron microscopy.

# Recommended Procedure

### Fixation:

Tissues can be fixed in a wide range of fixatives. One of the more commonly used fixatives is an aldehyde (i.e.: glutaraldehyde) followed by osmium tetroxide.

### Dehydration:

There are many different dehydration schedules that can be followed.

A typical one is as follows:

70% Ethanol for 10 minutes

100% Ethanol for 10 minutes

100% Ethanol for 15 minutes

100% Propylene Oxide for 15 minutes

100% Propylene Oxide for 15 minutes

\*\*NOTE: Longer times may be required for some samples.

### Mixing Instructions:

	Amount
Mixture A:	
Quetol 812	62 ml
DDSA	100 ml
Mixture B:	
Quetol 812	100 ml
NMA	89 ml
Final Embedding Mixture:	
Mixture A:	162 ml
Mixture B:	189 ml
DMP-30*	1.5~2.0%

A:B=5:5(soft)-2:8(hard)

You can arrange the ratio of A:B depends on your sample, cutting environment etc.

Prior to measuring and mixing the resin and the anhydride should be warmed (60°C) to reduce their viscosity. Immediately before use, the two mixtures (A&B) are blended, and the accelerator added in the above mentioned proportion. Thorough mixing is imperative to be able to achieve uniform blocks.

While preparing Quetol 812, the hardness of the block can be varied to suit various sectioning conditions depending on the ratio of mixture A and mixture B in the final embedding mixture. An increase in the proportion of mixture B will make the block harder. All components of the kit should be kept at room temperature in tight stoppered bottles.

Although the mixture can be stored for up to 6 months at 4°C it is highly recommended that freshly prepared embedding medium always be used. If you choose to store the mixture you should warm it thoroughly prior to adding the accelerator.

### **Infiltration:**

It is recommended that for all of the infiltration steps a specimen rotator be used.

### **Embedding:**

This may be done in embedding capsules like Beem Capsule or a flat embedding mold.

Transfer each sample to a dry capsule or mold and fill the mold with embedding medium. Cure the medium in an oven at 60°C for 24 hours.

Blocks can be trimmed and sectioned after the blocks return to room temperature.

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