

Ultra-Low Viscosity Embedding Media

This medium, with a viscosity of only 20 cps at 25°C, is similar to Spurr Resin although it incorporates a lower viscosity hardener, N-Octenyl Succinic Anhydride.

This resin is useful for the rapid embedding of materials which are difficult to infiltrate even with Spurr.¹ Excellent ultrastructural preservation is demonstrated, especially in samples with highly vacuolated, thick walled cells.²

Ultra low viscosity resin also exhibits good sectioning qualities, beam stability and staining properties.

Procedure:

The components are combined, gravimetrically, into a dry beaker and mixed with a magnetic stirrer for 1-2 minutes at low speed. Shaking will cause bubbles in the resin. To minimize moisture contamination, all vessels and utensils that come in contact with the medium should be oven-dried.

Component	Standard Mix	Hard Mix
VCD (Vinyl Cyclohexane Dioxide), Epoxy resin	0.5 part	0.5 part
N-Octenyl Succinic Anhydride, Hardener	1.0 part	1.0 part
1,4-Butanediol Diglycidyl Ether, Modifier	0.075 part	0.05 part
DMAE (Dimethylaminoethanol), Catalyst	1.0% volume	1.0% volume

An increase of 1,4-butanediol diglycidyl ether will yield soft blocks, but a decrease of the same will produce harder blocks.

This medium is miscible with ethanol, methanol or acetone so the use of propylene oxide as a transitional solvent is unnecessary.

1. After a graded series of alcohol changes (approximately 5 minutes each) and several 10-minute changes of 100% alcohol, the sample is infiltrated for 5 to 10 minutes in a 1:1 resin/100% alcohol mix.
2. Final infiltration consists of 100% embedding media for 10-15 minutes.
3. Polymerization is accomplished at 70°C for 8-12 hours. BEEM* capsules or flat molds can be used for embedding.

Caution:

Components cause irritation. They may also be skin sensitizers. VCD may be absorbed through skin and, according to tests with lifetime skin painting on mice, may be carcinogenic³. So avoid contact with eyes, skin and clothing. Wear impervious gloves and goggles. Use only with adequate ventilation. Wash thoroughly after handling. See Material Safety Data Sheets for further information.

*"BEEM" is a registered Trademark of Better Equipment for Electron Microscopy, Inc.

Ordering Information:

Cat. #	Description	Size
17706	Ultra-Low Viscosity Embedding Kit	1 kit

To Order:

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In The U.S. FAX: 1-800-343-3291 • 215-343-0214 In Germany FAX: (49) 6221-764620

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References:

1. Mascorro, J.A., et al., 34th Ann. Proc. E.M.S.A., 346 (1976).
2. Oliveira, L., et al., J. Microscopy, **132**, 195 (1983).
3. Toxicological studies, Union Carbide Corporation.