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Decades of Experience In EM Specimen Prep Equipment

Slide Preparations: Heater for Mountants

James Denko, Microspec Analytical

In the past, I have used mountants such as **DIATEX** (which is a synthetic mountant of 40% acrylic resin solids, and 60% toluene), or Canada Balsam in xylene for general purpose mountants. If a tight seal of resin forms around the coverslip, the prep is usually good for some time and may last indefinitely. However, the center of the prep still contains resin mixed with solvent that has not had a chance to evaporate. If the solvent continues to evaporate slowly from the prep, large air bubbles will replace the solvent and ruin the prep.

One way around this is to use a mountant with little or no solvent. This means that the mountant must be heated to make it fluid at a higher temperature so it can be added to the prep as a liquid which will then become a solid at room temperature.

Rather than dedicating a small hotplate and a balsam bottle to this task, I have found it more convenient to use a small "hot pot" used for hot melt glues that can be found in many craft stores. This item has a plastic housing and contains a small electric heater set at roughly 240° F (115° C) used to heat the metal glue pot. Normally, a hot melt glue stick is loaded and allowed to melt into the pot. The glue chamber volume is roughly 10-15 mL, having dimensions of 4.5 x 4.5 x 1 cm. It can be unplugged and stored with mountant in the chamber until needed and becomes hot enough to use in a matter of a few minutes. The entire unit costs only \$5.00.

Clear, hot melt glue sticks make a useable, but viscous mountant, but any small air bubbles introduced when making a slide are almost impossible to eliminate. The advantage of this hot pot, however, is that you are not restricted to glue sticks. You can use anything that suits your needs. I prefer to use a 1:1 mixture of Canada balsam and one clear 2" glue stick to make a less viscous mountant that still has more body than balsam alone. I also have another pot reserved for pure Canada balsam. Try it!!

MICROSCOPIST

The Goodyear Tire & Rubber Company, a world leader in tire development and manufacturing, has an excellent opportunity for a professional skilled in Microscopy in its Analytical Sciences Department, Corporate Research Division, located in Akron, Ohio. This position involves the analysis and characterization of polymers and materials used in the tire and rubber industry.

Qualified candidates must have a Ph.D. or MS with 3 years experience in light, electron and atomic force microscopy with a strong background in image analysis. Current experience should include techniques employed in polarized light, brightfield, phase contrast, fluorescence, interference microscopy and photomicrography. Knowledge of transmission and scanning electron microscopy and EDS systems is also required. Familiarity with failure analysis and mixing studies of rubber, plastics and composites is desirable.

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COMING EVENTS

✓ American Type Culture Collection (ATCC) Workshops:

- June 4/6 '97: *In Vitro* Toxicology
 July 7/10 '97: Theory and Techniques for Extremophile Research
 Nov 4/7 '97: Microbial DNA Fingerprinting
 Nov 10/14 '97: Advanced Recombinant DNA: Techniques and Applications
 Nov 17/20 '97: Polymerase Chain Reaction (PCR) Applications/Cycle DNA Sequencing
 Sept 8/10 '97: Cell Culture and Hybridomas: Quality Control and Cryopreservation Techniques
 Sept 15/16 '97: The 15th Annual ATCC Biotech Patent Forum
 Sept 17/19 '97: Cytogenetic and Fluorescence *In Situ* Hybridization
 Sept 23/26 '97: Fermentation Microbiology
 Oct 6/9 '97: Hybridoma Technology and Monoclonal Antibody Product Development
 Oct 15/17 '97: Microscopy/Photomicrography
 Oct 15/17 '97: Diagnostic Virology
 Oct 22/24 '97: Downstream Processing, Recovery and Purification of Proteins
 Oct 27/30 '97: Freezing and freeze-Drying of Microorganisms
 INFORMATION: (800)359-7370, Local: (301)231-5566, Fax: (301)816-4364

MATERIALS TEM SPECIMEN PREPARATION WORKSHOPS

- AMC Group, Scottsdale, AZ. Dr. F. Shaapur: (602)949-4203, Fax: (602)473-9421
 May 7/9 '97: FIB Cross-Section for SEM/TEM
 May 14/16 '97: TEM Wedge-Polishing
 May 19/21 '97: Basic Ultramicrotomy
 May 22/23 '97: Advanced Ultramicrotomy

✓ April 27 - May 1 '97: **19th International Conference on Cement Microscopy.** Cincinnati, OH. Louis Jany: (610)261-4429, Fax: (610)261-4430.

✓ April 28/30 '97: **Specimen Preparation** (Gatan, Inc.), Pleasanton, CA. (510)463-0200, Fax: (510)463-0204

✓ May 8/16 '97: **Analytical & Quantitative Microscopy** (Marine Biological Lab) Woods Hole, MA. Carol Hamel: (508)289-7401.

✓ May 10/15 '97: **30th Anniversary Scanning Microscopy and Cells and Materials 1997 Meeting.** (Scanning Microscopy International). Chicago, IL. (847)524-6677, Fax: (847)985-6698.

✓ May 12/15 '97: **Materials Characterization for the Metal, Mineral and Microelectronics Industry.** (McGill Univ.) Montreal, QC. Norma Procyshyn: (514)398-4383, Fax: (514)398-6004

✓ May 15/16 '97: **Transmission Electron Microscopy for Materials Science.** (Univ. of Minnesota) Minneapolis, MN. Beth Trend: (612)624-1365, Fax: (612)626-7530, eMail: btrend@tc.umn.edu

✓ May 15/17 & May 19/21 '97: **Quantitative Image Analysis Short Course.** (N.C. State Univ.) Raleigh, NC. (919)515-2261.

✓ May 19/23 & 26/30 '97: **PASEM 97 Practical Aspects of Scanning Electron Microscopy** (SEM Short Course - Univ. of Maryland). College Park, MD. Tim Maugel: (301)405-6898, Fax: (301)314-9358.

✓ May 20/27 '97: **Microinjection Techniques in Cell Biology** (Marine Biological Lab) Woods Hole, MA. Carol Hamel: (508)289-7401.

✓ May 30 - June 2 '97: **Korea International Scientific Instruments Exhibition '97** Seoul, Korea. Tel: 82-2-551-1112, Fax: 82-2-551-1311

✓ June 1/6 '97: **Light Microscopy for the Biomedical Sciences.** (Univ. of North Carolina). Chapel Hill, NC. Dr. Wayne Litaker: (919)966-1730, Fax: (919)966-6821, litaker@med.unc.edu

✓ June 4/7 '97: **24th Annual Meeting of the Microscopical Society of Canada.** Edmonton. Ray Egerton: (403)492-5095, Fax: (403)492-0714.

LEHIGH UNIVERSITY MICROSCOPY COURSES:

✓ June 9/13 '97: SEM and X-ray Microanalysis

✓ June 16/19 '98: **Advanced Scanning Electron Microscopy with Digital Image Processing**
Quantitative X-ray Microanalysis of Bulk Specimens & Particles
 June 17/20 '97: **Atomic Force Microscopy & other Scanned Probe Microscopies.**
 Bethlehem, PA. David B. Williams, (610)758-5133, Fax: (610)758-4244.

✓ June 4/7 '97: **24th Annual Meeting of the Microscopical Society of Canada.** Edmonton, Canada. Ray Egerton: (403)492-5095, Fax: (403)492-0714.

✓ June 6/7 '97: **Workshop on Tripod Polishing** (South Bay Technology) San Clemente, CA. (800)728-2233, Fax: (714)492-1499.

✓ June 9/14 '97: **ACHEM 97 - International Meeting on Chemical Engineering, Environmental Protection and Biotechnology.** Frankfurt am Main. +49(69)7564-280, Fax: +49(69)7564-201.

✓ June 16/19 '96: **Quantitative Image Analysis Short Course** (N.C. State Univ.) Taastrup, Denmark (919)515-2261

✓ June 19/20 '97: **3D Microscopy of Living Cells Short Course and NEW post-course workshop.** (Univ of WI & Univ of B.C.) Vancouver, B.C. James Pawley: (608)263-3147, fax: (608)265-5315

✓ June 22/27 '97: **Fundamentals and Applications of Light Microscopy.** Burlington, VT. Mary McCann: (617)484-7865, Fax: (617)484-2489.

✓ June 23/27 '97: **13th Annual Short Course on Molecular Microspectroscopy.** (Miami University) Oxford, OH. (513)529-2874, Fax: (513)529-7284

✓ June 23/27 '97: **OIM Academy: OIM Theory & Applications** (TSL) Provo, UT. Klaus Behnert: (801)344-8990, Fax: (801)344-8997.

✓ July 6/9 '97: **CRYO '97 - Low Temperature Microscopy and Analysis & The Application of the Microscope in Life Sciences, Cells, and Signaling Including FLOW.** (Royal Microscopical Society). Univ. of York, RMS: +44(0)1865 248768, Fax: +44(0)1865 791237

✓ Aug 9/10 '97: **Multi-Photon Excitation Symposium and Workshop** (Univ of WI/Carnegie Mellon Univ/MSA). Cleveland, OH. Dawn Volkman: (608)265-3083, dvolkman@students.wisc.edu

✓ Aug 10/15 '97: **Microscopy Society of America 55th Annual Meeting - Jointly with the Microbeam Analysis Society.** Cleveland, OH. MSA Business Office: (800)538-3672. Fax: (508)548-9053

✓ Sept 7/11 '97: **111th AOAC International Annual Meeting & Exposition.** San Diego, CA. (800)379-2622, Fax: (301)924-7089

✓ Sept 22/25 '97: **International Conference on Texture and Anisotropy of Polycrystals** (TU Clausthal, Germany). Robert Schwarzer: Fax: (+49)5323-722340, eMail: schwarzer@tu-clausthal.de

✓ Sept 25 '97: **Computers in Microscopy** (RMS) Cambridge, UK. Rebecca Morden: eMail: info@rms.org.uk

✓ Oct 5/8 '97: **Multinational Congress on Electron Microscopy.** Portoroz, Slovenia. <http://www2.ijs.si/~k5www/MCEM97/index.html>

✓ Oct 8/16 '97: **Optical Microscopy and Imaging in the Biomedical Sciences** (Marine Biological Lab) Woods Hole, MA. Carol Hamel: (508)289-7401.

✓ Nov. 16/20 '97: **Eastern Analytical Symposium.** Somerset, NJ. (302)738-6218, Fax: (302)738-5275.

✓ Aug 31 - Sept 4 '98: **ICEM XIV/International Congress on Electron Microscopy.** Cancun, Mexico. (525)553-4507, Fax: (525)553-4500, email: icem@icem.inin.mx