

Mountant Control on Glass

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Some microscope slide mountants exhibit a tendency to spread beyond the periphery of their cover slips, flowing over the edge and under the slide, fouling the stationary and moving components of the mechanical stage. In the authors' experience, mountants that are most commonly associated with this problem are alcohol, lactophenol, water and other water-soluble preparations of low viscosity.

The problem of mountant control is particularly bothersome in examination of water mounts using the compound microscope. After many years of living with the problem, a method has been found that will control droplet size and prevent mounting preparations from flattening and creeping in an uncontrolled manner across the length and width of a microscope slide.

Glass slides are treated with Siliclad[®], a silicone preparation marketed by Clay Adams Co. The process is relatively simple and the coating is reasonably long-lasting. Glassware to be treated is washed, then rinsed in clear deionized water. It is then immersed for 5 sec in a solution of 1 part Siliclad to 100 parts water. The silicone-coated glass must undergo a curing period at 100 C for 10 min, or at room temperature for 24 hr. At the time of this writing, treated slides which have been used repeatedly for temporary water mounts almost

every working day for 10 months maintain mountant control with no noticeable loss in efficiency.

Alcohol is one of the most difficult substances in which to mount specimens for temporary examination, as droplets usually flatten and spread unmanageably on a glass slide. Since the authors use alcohol on a limited basis, tests were made to determine the effect of 70% ethyl alcohol on Siliclad coated slides. A large 20- to 30-mm drop of alcohol was maintained on a Siliclad treated slide in a mini-moist chamber for 8 days. Little spreading occurred and mountant control capability of the Siliclad surface was not affected. A single drop of alcohol was added to each of two Siliclad treated microscope slides and each of two untreated microscope slides, then wiped clean with cheesecloth. This procedure was repeated 300 times, at which point the treated slides maintained drop control and the untreated did not. To determine drop control and drop longevity, one drop of alcohol was added to five Siliclad treated slides and five untreated (new) slides and the drop diameters and evaporation time recorded. Alcohol drops on Siliclad treated slides averaged 7.7 mm diam and took a mean of 25 min to evaporate. Alcohol on untreated slides had an average diameter of 33.8 mm and evaporated in a mean of 4 min. These tests indicate that an alcohol drop can be maintained 21 min longer on a Siliclad-treated slide than on a new untreated slide. Integrity of the silicone coat was not affected by alcohol under the conditions of these tests.

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