

Fun with Asbestos

Credit

This exercise is in part taken verbatim from an article by Lang and Halsor (in Brady, Mogk and Perkins, Teaching Mineralogy, Mineralogical Society of America, 1997).

Samples and Sample Preparation

You can use any samples you wish, but a good collection has, in the past been available from Ward's Earth Science (Asbestos Standards Set. 49E5840) for about \$125.

To avoid having students deal with asbestos minerals, we have grain-mount prepared samples for them. To do this, we put a small amount of the mineral on a slide, add a cover slip and some IR oil, and then put a bead of epoxy around the cover slip. With some care, it is possible to seal the oil completely. The mounts will be usable for years. We have seen no discoloration or other problems even in samples prepared 3 years ago.

Goals

A major goal of this project is for students to learn about different properties that can be seen with an optical microscope. Relief, extinction angle, birefringence, etc., are all very well "discovered" as they go through this exercise.

A secondary goal is to have them see a practical application for petrography. So, a good add-on to this lab is to use some specimens of insulation from your geology building or apartments or some other place where students actually spend time.

Difficulty

This is not a terribly difficult project and, if they understand the different properties, they should be quite successful.