

Technical Tip

Lead Staining

Lead stains are very sensitive and will precipitate quickly upon contact with CO₂. To prevent this from happening either during preparation, storage, or staining the following steps should be followed:

1. Prepare CO₂ free water: boil double distilled water and store it at once (while still hot) in tightly capped bottles or glass stop-pered bottles. When these bottles are opened you should hear a hissing sound which indicates the bottles were sealed properly. The water bottle should be opened only prior to use. The above procedure needs to be repeated if ample amount of water remains in the bottle and the bottle was left open for an extended period of time (more than 10 minutes).
2. Construct a staining apparatus: A sheet of dental wax is placed on top of wetted filter paper (1N NaOH) and it is surrounded with several NaOH pellets inside of a petri dish which serves as the staining chamber. The NaOH will quickly absorb CO₂ in the chamber, giving a CO₂ free area for lead staining.

Refer to:

For a detailed description and explanation of lead staining, please refer to the following book:
Electron Microscopy Principles And Techniques For Biologists By John J. Bozzola And Lonnie D. Russell.
1992 Pp.115-118.