



W122 Veterinary Medicine Bldg • Columbia, MO 65211-5120
voice: (573) 882-8304 • fax: (573) 884-2227
URL: www.emc.missouri.edu

Common Buffers and Fixatives for Electron Microscopy

0.4M Cacodylate Buffer Stock (500 ml)

- Measure out 42.8 g of cacodylic acid-sodium salts
- Add ultra pure water to make total volume of 500 ml

0.1M Cacodylate Buffer Working Solution

- Add 120 ml of 0.4M cacodylate stock solution to 360 ml ultrapure water to make a total of 480 ml of working buffer
- Check and adjust pH to 7.2-7.4 by adding HCL or NaOH solution

0.1M Cacodylate Buffer with 0.01M 2-Mercaptoethanol and 0.13M Sucrose (250 ml)

- 62.5 ml of 0.4M Cacodylate buffer stock
- Add 11.12 g sucrose
- Add ultrapure water to total volume of 250 ml
- Check and adjust pH to 7.3-7.4.
- Add 0.18 ml 2-Mercaptoethanol

Note: 2-Mercaptoethanol has a strong and lingering odor. It is best to add this in a fume hood.

2.5% Glutaraldehyde in 0.1M Cacodylate Buffer

- Add 10 ml of 50% glutaraldehyde to 50 ml of 0.4 M cacodylate buffer stock
- Bring total volume to 200 ml with ultra pure water.
- Check pH to 7.2-7.4

2% Glutaraldehyde / 2% Paraformaldehyde in 0.1M Cacodylate Buffer

- Start with 9.6 ml of 50% glutaraldehyde -
- Add 30 ml (3 vials) of 16% paraformaldehyde
- Add 60 ml of 0.4M cacodylate buffer stock
- Bring total volume to 240 ml with ultra pure water
- Check pH to 7.2-7.4

