CLARKE'S FIXATIVE SOLUTION

Use all appropriate safety measures when working with Clark's fixative solution. Refer to the relevant safety data sheet(s).

The use of a fixative is the first step in the preservation of tissue specimens. The purpose of using any fixative is to preserve a specimen without changing it more than necessary, and in so doing, preserving both the specimen and its finer details. The choice of which fixative to use depends on the nature of the specimen to be fixed and the further processing intended for that specimen. We recommend Clarke's solution for fixing:

- Frozen tissue sections,
- Applications where preserving nucleic acid is an important factor,
- Soft tissues generally, and
- Where the loss of lipids is not a concern.

Important considerations in the use of Clarke's fixative solution:

- Clarke's solution will lyses/lysis/lyse erythrocytes.
- Appropriate personal protective measures, including wearing gloves, should be worn.
- The low water content in Clarke's solution (sequestered by the glacial acidic acid) leaves the absolute alcohol component extremely flammable. Do not smoke or use an open flame when working with Clarke's solution.
- Refer to the Safety Data Sheet (SDS) supplied with the product and on the hempsteadhalide.com website. Also, refer to the warning label on the bottle or packaging of Hempstead Halide®'s Clarke's solution.

Specimen preparation:

- Dispense a volume of Clarke's solution larger by a factor of twenty (20) in volume to receive a specimen to be fixed. (e.g., a 25ml bottle of Hempstead Halide® Clarke's solution will accommodate a specimen with a volume of 1.25cc).
- Specimens to be fixed should be less than 5mm thick.
- Immerse a specimen in Clarke's solution as soon as it is removed from the host organism. Clarke's solution may serve as a holding solution for specimens that will be processed by a mechanical tissue processor.

Fixation Procedure:

- Immerse the specimen completely in Clarke's solution.
- This emersion should last for four (4) to eighteen (18) hours, depending on the physical properties of the specimen being fixed (thicker, tougher = longer).
- After fixation, wash the specimen for at least one (1) hour in running tap water and a further wash in deionized/distilled water.
- The specimen may be held in a similar aqueous alcohol solution indefinitely. Otherwise, the specimen will be ready for further processing by a tissue processor, a microtome (*see* TECH031), clarifying solution (*see* TECH011, 012, 013, 014, and 028), staining (*see* TECH029), and mounting (*see* TECH 001, 002, 003, and 030).

