

Thermo Scientific Richard-Allan Scientific Signature Series Pen-Fix Instructions for Use

For in vitro diagnostic use.

For fixation of pathology specimens.

Thermo Scientific™ Richard-Allan Scientific™ Pen-Fix™ is a formalin based fixative in a specially buffered dehydrant. The buffer assures consistent pH of 7.0 (6.8-7.2) at 25° C. The buffer used in Pen-Fix is completely soluble in water and alcohol, including anhydrous alcohol. This will ensure no precipitations during the tissue processing cycle. The controlled pH eliminates the possibility of the formation of formalin pigments. Pen-Fix is a clear liquid and is free of particulate matter. It is formulated to be used at full strength and should not require any additives.

Pen-Fix is designed to be used as a secondary fixative on tissue specimens that are difficult to fix. Examples include the following:

- Specimens received too late for adequate fixation
- Tissue specimens grossed thicker than 4 millimeters during grossing
- Specimens containing large amounts of lipid (fat)

Pen-Fix has the unique ability to fix and dehydrate tissue specimens simultaneously. It penetrates tissue 30% faster than 10% Neutral Buffered Formalin and can be used on all open and closed tissue processors. Pen-Fix is traditionally used in the gross room and in the second and/or third station of the tissue processor (in place of a 70 or 80% alcohol station). Simultaneous fixation and dehydration allows for added fixation of tissue specimens without sacrificing dehydration. Pen-Fix is also an excellent frozen section fixative.

The use of Pen-Fix is not always appropriate for all tissue situations. Small biopsies and/or sections grossed thinner than 2 millimeters should not be held in Pen-Fix for longer than 4 hours. Difficult to fix tissues such as breast, lymph node, and other fatty tissue may remain in Pen-Fix up to 36 hours. This product contains formaldehyde and should be regarded as hazardous.

Instructions For Use

Specimen Preparation

1. Tissue specimens should be placed in 10% Neutral Buffered Formalin immediately after removal from the body. Prompt fixation will prevent autolysis, putrefaction, and other undesirable cellular changes. Pen-Fix is recommended for use in the grossing room for difficult to fix tissues and specimens that arrive late in the day.
2. When grossing, tissue specimens should be no thicker than 5 millimeters to facilitate optimal fixation. If the tissues are 4-5 millimeters in thickness, Pen-Fix can be used to assist in the necessary penetration of fixative throughout the tissue.
3. Containers should be large enough to accommodate the specimen and to allow a ratio of 15 to 20 times the volume of Pen-Fix to the volume of the specimen.

Procedure

1. Pen-Fix is commonly used in the grossing room as a secondary fixative after the tissue specimens have been exposed to 10% Neutral Buffered Formalin. This solution should be replaced daily for optimal results. It is recommended to place the 3-5 millimeter sectioned specimens into the labeled cassette and then into the holding container containing Pen-Fix. The specimens can then be sent for loading onto the tissue processor.
Warning: Use this product in a well ventilated area and use protective gloves and other precautions when handling reagents containing formaldehyde.
2. Use Pen-Fix in the second and/or third stations of the tissue processor (in place of a 70 or 80% alcohol) to ensure adequate fixation of tissue sections. Forty five minutes to one hour immersion time in each station is generally used in conventional tissue processing. Pen-Fix can be used on all tissue processors.
3. It is not recommended to store tissue specimens in containers filled with Pen-Fix indefinitely. Specimens will over-harden or be prone to excessive shrinkage from prolonged storage in Pen-Fix. 10% Neutral Buffered Formalin is recommended for long term storage of tissue.

4. If used in enclosed tissue processors, it is advisable to follow the manufacturer's instructions regarding flushing and housekeeping procedures.
5. Use Pen-Fix as a frozen section fixative. Add 1 milliliter of glacial acetic acid to 60 mL of cold Pen-Fix and dip the frozen section slides 3-4 times.

Warnings and Precautions

**See Safety Data Sheets for warnings and precautions, as well as EUH code definitions.
See container label for warnings and precautions.**

Order Information

Product	Size	Qty.	REF
Pen-Fix	1 gal. (3.79 mL) bottle	4/cs.	6101
Pen-Fix	5 L (1.32 gal.)	4/cs.	6115
Pen-Fix	5 gal. (208 L)	ea.	6105

