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Part 1459 Revised March 2025

Zamboni Fixative - Technical Memo

SOLUTION: Zamboni Fixative 1 Liter Part 1459A

For storage requirements and expiration date refer to individual bottle labels.

APPLICATION:

Newcomer Supply Zamboni Fixative is a ready-to-use phosphate buffered picric acid-formaldehyde (PAF) fixative with applications for light and electron microscopy. Zamboni fixative provides general fixation with rapid penetration, optimal preservation and stabilization of cellular proteins.

METHOD:

Fixation:

- Small Biopsies: Minimum of 1 hour
 - Larger Biopsies: Minimum of 4 hours
- Solutions: All solutions are manufactured by Newcomer Supply, Inc.

FIXATION PROCEDURE:

- 1. Place fresh tissue in Zamboni Fixative after surgical excision. a. See Procedure Note #1.
- 2. Hold tissue specimens in Zamboni Fixative until ready to process. a. See Procedure Note #2.
- 3. Rinse Zamboni fixed tissue thoroughly in running tap water followed by Phosphate Buffered Saline 0.1M, pH 7.4 (133104) for a minimum of 15 minutes prior to processing.
- 4. Processing:
 - Light microscopy: place on tissue processor starting in either Formalin 10%, Phosphate Buffered (1090) fixation step or first dehydration station.
 - Electron microscopy: a secondary osmium tetroxide fixation is recommended. Refer to protocol for electron microscopy processing.

PROCEDURE NOTES:

- 1. For electron microscopy studies, fix tissues within 15 minutes after excision. Mince into 1mm cubes for expedient fixative infiltration.
- 2. Tissue can be held indefinitely in Zamboni Fixative at room temperature without compromising preservation.

REFERENCES:

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- Dapson, Janet Crookham and Richard Dapson. Hazardous Materials in the Histopathology Laboratory: Regulations, Risks, Handling, and Disposal. 4th ed. Battle Creek, MI: Anatech, 2005. 150, 265-266.
- Sheehan, Dezna C. and Barbara B. Hrapchak. *Theory and Practice of Histotechnology*. 2nd ed. St. Louis: Mosby, 1980. 48, 328-330.
- Zamboni, Luciano and Cesare De Martino. "Buffered Picric Acid Formaldehyde: A New Rapid Fixative for Electron Microscopy". *Journal of Cell Biology* (1967) 35: 148.
- 5. Modifications developed by Newcomer Supply Laboratory.