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Part 1482 Revised January 2023

Zinc Formalin Fixative - Technical Memo

SOLUTION: Zinc Formalin Fixative 1 Liter Part 1482A 1 Gallon Part 1482B 20 Liter Cube Part 1482C

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

APPLICATION:

Newcomer Supply Zinc Formalin Fixative (ZFF) is a ready-to-use unbuffered zinc sulfate solution, recommended as an all-purpose tissue fixative for demonstration of crisp nuclear detail, superior cellular morphology, enhanced hematoxylin and eosin (H&E) staining, special staining and immunohistochemical (IHC) studies. This zinc sulfate fixative presents minimal safety hazards and is non-corrosive.

Zinc Formalin Fixative can also be used as a substitute for Zinc Formalin Sensitizer in the Steiner-Chapman Modified Silver Stain Kit (9172).

METHOD:

Fixation:

Small biopsies: Minimum of 2-6 hours Larger biopsies: Minimum of 6-8 hours

Solutions: All solutions are manufactured by Newcomer Supply, Inc.

FIXATION PROCEDURE:

- Place fresh tissue in Zinc Formalin Fixative promptly after surgical excision.
 - a. See Procedure Note #1.
- 2. Hold tissue in Zinc Formalin Fixative until ready to process.
 - a. See Procedure Note #2.
- 3. Tissue Processor Fixation with Zinc Formalin Fixative:
 - Refer to manufacturer specifications for restrictions on the use of zinc sulfate fixative stations on tissue processor instrumentation.
 - A 70% or lower alcohol percentage is recommended in the processor's first dehydration station to deter formation of zinc precipitate in tissues and solutions.
- 4 Post-Fixation in Formalin 10%, Phosphate Buffered:
 - Wash Zinc Formalin Fixative fixed tissue in distilled water for a minimum of 10 minutes to remove residual zinc and deter formation of formalin pigment.
 - Place on tissue processor in Formalin 10%, Phosphate Buffered fixation step.

PROCEDURE NOTES:

- If received in Formalin 10%, Phosphate Buffered, rinse thoroughly in tap water prior to placing in Zinc Formalin Fixative.
- Extended storage of tissue in Zinc Formalin Fixative will not affect antigenicity or excessively harden tissue.
- Zinc Formalin Fixative can be neutralized with sodium carbonate or sodium bicarbonate to precipitate zinc at pH 7.0-8.0.
 - Approximately 100 grams of sodium bicarbonate will neutralize/precipitate zinc from 1 liter of Zinc Formalin Fixative.

REFERENCES:

- Carson, Freida L., and Christa Hladik Cappellano. Histotechnology: A Self-instructional Text. 4th ed. Chicago: ASCP Press, 2015. 22-23.
- Dapson, Janet Crookham, and Richard Dapson. Hazardous Materials in the Histopathology Laboratory: Regulations, Risks, Handling, and Disposal. 4th ed. Battle Creek, MI: Anatech, 2005. 148, 279.
- 3. L'Hoste, Robert J., and Mary Ann Tourres. "Using Zinc Formalin as a Routine Fixative in the Histology Laboratory." *Laboratory Medicine* 26.3 (1995): 210-214.
- 4. Modifications developed by Newcomer Supply Laboratory.

SUPPORT/WARRANTY: For assistance regarding this product contact Newcomer Supply at 800-383-7799 or info@newcomersupply.com. The information presented in this technical memo is to the best of our knowledge accurate. No warranty is expressed or implied. The user is responsible for determining the suitability of this product for their use and upon receipt assumes all liability for its use and responsibility for compliance with any laws or regulations. Please refer to www.newcomersupply.com for complete warranty information. © Newcomer Supply, Inc., 2023