

B-5 Fixative Modified, Zinc Chloride - Technical Memo

SOLUTION:

B-5 Fixative Modified, Zinc Chloride

1 Liter

Part 1015A

6 X 1 Liter

Part 1015A

1 Gallon

Part 1015C

Additionally Needed:

Formaldehyde 37-40%, ACS

Part 1089

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

APPLICATION:

Newcomer Supply B-5 Fixative Modified, Zinc Chloride is a safe mercury free alternative to the classic B-5 fixative. It is the fixative of choice for bone marrow, lymph nodes, spleen and other hematopoietic tissues, and provides clear nuclear detail while preserving immunohistochemical (IHC) staining.

METHOD:**Fixation Recommendations:**

- Bone Marrow Clot: Minimum of 2 hours.
- Bone Marrow Biopsy: Minimum of 3 hours.
- Lymph Nodes and Small Biopsies: Minimum of 4 hours.
- Small nodes (5 mm or less) should be halved.
- Larger nodes, dissected so no piece is thicker than 3 mm.

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

FIXATION PROCEDURE:

1. B-5 Fixative Modified, Zinc Chloride Working Solution:
 - a. B-5 Fixative Modified, Zinc Chloride 50 ml
 - b. Formaldehyde 37-40%, ACS 5 ml
2. Combine solutions directly before use. Fix tissue in fresh 10:1 working solution a minimum of 2 to 4 hours.
3. Hold tissue specimens in B-5 Fixative Modified, Zinc Chloride Working Solution until ready to process or a maximum of 72 hours.
 - a. See Procedure Note #1.
4. Wash fixed tissue in running tap water to remove residual zinc chloride.
5. Place on tissue processor in Formalin 10%, Phosphate Buffered (Part 1090) fixation step.

PROCEDURE NOTES:

1. After maximum fixation of 72 hours, transfer B-5 fixed wet tissue to 70% Ethyl Alcohol (Part 10844) for long-term storage.
2. Nitric acid is not recommended as a decalcification agent following fixation in B-5 Fixative Modified, Zinc Chloride.
3. Neutralize B-5 Fixative Modified, Zinc Chloride with sodium carbonate or sodium bicarbonate to precipitate zinc at pH 7.0-8.0.
 - a. Approximately 100 grams of sodium bicarbonate will neutralize/precipitate zinc from 1 liter of B-5 Fixative Modified, Zinc Chloride.

REFERENCES:

1. Bancroft, John D., and Marilyn Gamble. *Theory and Practice of Histological Techniques*. 6th ed. Oxford: Churchill Livingstone Elsevier, 2008. 69.
2. Carson, Freida L., and Christa Hladik Cappellano. *Histotechnology: A Self-Instructional Text*. 4th ed. Chicago: ASCP Press, 2015. 19-20.
3. Dapson, Janet Crookham, and Richard Dapson. *Hazardous Materials in the Histopathology Laboratory: Regulations, Risks, Handling, and Disposal*. 4th ed. Battle Creek, MI: Anatech, 2005. 148-149, 279.
4. Modifications developed by Newcomer Supply Laboratory.