

Clear Choice Xylene Substitute – Technical Memo

SOLUTION: 4 X 1 Gallon
Clear Choice Part 1443C

Additionally Needed:
Alcohol, Ethyl Denatured, 70% Part 10844
Alcohol, Ethyl Denatured, 95% Part 10842
Alcohol, Ethyl Denatured, 100% Part 10841
Choice Mounting Medium Part 1032

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

APPLICATION:

Newcomer Supply Clear Choice Xylene Substitute is classified as an aliphatic hydrocarbon that provides a safe alternative to xylene, reduces risks and improves personnel safety in the laboratory. Benefits of Clear Choice Xylene Substitute include:

- Odorless, low toxicity, non-irritating and fast drying.
- Gentle on tissue, no brittleness, shrinkage or adverse morphologic changes.
- Compatible with IHC staining.
- Flash point of 66°C/150.8°F (29°C/84°F flash point of xylene)
- Compatible on tissue processors and staining systems.

METHOD:

Fixation: Formalin 10%, Phosphate Buffered (Part 1090)

Technique: Paraffin, frozen sections, smears

PROCESSING PROCEDURE:

1. Use three Clear Choice Xylene Substitute clearing stations for 60 minutes each.
 - a. For two clearing stations, allow 90 minutes per station.
2. Rotate, filter and/or replace Clear Choice Xylene Substitute stations daily or after processing approximately 1000 blocks.
3. Test and optimize Clear Choice Xylene Substitute as a clearing agent in tissue processing schedules prior to standard use.

STAINING PROCEDURE:

1. Deparaffinize thoroughly in three changes of Clear Choice Xylene Substitute, 3 minutes each. Hydrate through two changes each of 100% and 95% ethyl alcohols, 10 dips each. Wash well with distilled water.
 - a. See Procedure Notes #1 and #2.
2. Proceed with staining protocol.
3. Dehydrate in two changes of 95% and three changes of 100% ethyl alcohol. Clear in four changes of Clear Choice Xylene Substitute, 1-2 minutes each change.
4. Coverslip with Choice Mounting Medium (Part 1032).
 - a. See Procedure Note #3.
5. Test and optimize Clear Choice Xylene Substitute in staining procedures and automated staining systems prior to standard use.

PROCEDURE NOTES:

1. Deparaffinization and clearing steps may require longer timings than xylene.
2. Clear Choice Xylene Substitute may require more frequent changes compared to xylene.
3. Test Clear Choice Xylene Substitute compatibility with other mounting mediums prior to use.
 - a. If mounting medium displays separation or is not readily miscible, it is incompatible with Clear Choice Xylene Substitute.
4. Clear Choice Xylene Substitute is not recommended for automated coverslippers.
5. Clear Choice Xylene Substitute will not remove adhered coverslips as well as xylene.
6. Refer to manufacturer's specifications on the use of xylene substitutes on all instrumentation.

REFERENCES:

1. Dapson, Janet Crookham, and Richard W. Dapson. *Hazardous Materials in the Histopathology Laboratory: Regulations, Risks, Handling and Disposal*. 4th ed. Battle Creek, MI: Anatech, 2005. 150-155, 235.
2. Wynnchuk, Maria. "Evaluation of Xylene Substitutes for Paraffin Tissue Processing." *The Journal of Histotechnology* 17.2 (1994): 143-149.
3. Modifications developed by Newcomer Supply Laboratory.