

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.

Part Number: 10011

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product Name: Clear Choice Xylene Substitute

Part Number: 1443

CAS-No.: Not applicable

SDS Number: 5040

1.2 Recommended Use: Laboratory Chemicals

1.3 Company: Newcomer Supply
2505 Parview Road
Middleton, WI 53562 USA

Telephone: 1-800-383-7799

Fax: 1-608-831-0866

Website: www.newcomersupply.com

Email: info@newcomersupply.com

24 HOUR EMERGENCY CONTACT
CALL CHEMTREC: 1-800-424-9300
Contact CHEMTREC only in the event of an emergency involving a chemical spill, leak, fire, exposure or other accident.

2. HAZARD(S) IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification, (in accordance with 29 CFR1910.1200)

Flammable liquid, Category 4

Aspiration Hazard, Category 1

Acute toxicity (inhalation), Category 4

Serious Eye Damage/Eye irritation, Category 2

Skin irritation, Category 3

Specific Target Organ Toxicity – Single exposure, Category 3

2.2 GHS Label elements

Signal Word DANGER

Pictogram



Hazard Statement(s):

- Combustible liquid
- May be fatal if swallowed and enters airways
- May cause respiratory irritation
- Harmful if inhaled
- Causes eye irritation
- Causes mild skin irritation
- May cause drowsiness or dizziness

Precautionary Statement(s):

Prevention:

- Avoid breathing dust/fume/gas/mist/vapours/spray.
- Use only outdoors or in a well-ventilated area.
- Wash skin thoroughly after handling.
- Keep away from heat/sparks/open flames/hot surfaces – No smoking.
- Wear protective gloves/protective clothing/eye protection/face protection.
- Keep cool.

Response:

- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.
- If skin irritation occurs: Get medical advice/attention.
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- In case of fire use carbon dioxide, dry chemical or alcohol-resistant foam.

Storage:

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- Store in a well ventilated place. Keep cool.
- Store locked up.
- Keep container tightly closed.

Disposal:

- Dispose of contents/ container to an approved waste disposal plant.

2.3 Description of any hazards not otherwise classified None

2.4 >1% of mixture with unknown acute toxicity None

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixture

Hazardous Components

Component		Concentration
Name	Trade Secret	
CAS-No.	Proprietary	40-80%
Name	Trade Secret	
CAS-No.	Proprietary	20-40%
Name	Trade Secret	
CAS-No.	Proprietary	20-60%

4.1 Description of necessary measures

Inhalation (breathing)

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF exposed or concerned: Get medical advice/attention.

Skin Contact

IF ON SKIN: Gently wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs: Get medical advice/attention.

Eye Contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. If eye irritation persists get medical advice/attention.

Ingestion (swallowed)

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF exposed or concerned: Get medical advice/attention.

4.2 Most important symptoms and or effects, acute and delayed

The most important symptoms/effects are presented in Section 2 and or Section 11.

4.3 Indication of any immediate medical attention and special treatment needed

No data available

5. FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media

Carbon dioxide, dry chemical, water spray, alcohol-resistant foam.

5.2 Specific hazards arising from the substance or mixture

No data available

5.3 Protective equipment and precautions for fire-fighters

Wear a positive-pressure self-contained breathing apparatus if necessary. Wear chemical resistant clothing as recommended by clothing manufacturer.

NFPA Rating

Health	Fire	Reactivity
hazard: 1	hazard: 2	hazard: 0

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6. ACCIDENTAL RELEASE MEASURES
6.1 Personal precautions, protective equipment and emergency procedures

Apply personal protective equipment (see Section 8). Use in a properly ventilated area. Avoid breathing vapors. Avoid skin contact. Avoid eye contact. Wash hands after use. In case of large spill, remove personnel to a safe area. Keep product away from heat, flame, ignition sources, and reactive materials. Avoid accumulation of vapor to form explosive concentration. Pay particular attention to low areas where vapor accumulates more easily.

6.2 Methods and material for containment and cleaning up

Apply personal protective equipment (see Section 8). Contain spill. Prevent further leakage if possible and safe to do so. Ensure proper ventilation. For small amounts, wipe or absorb spill using inert material and dispose of according to local regulations. For large amounts, evacuate area and limit access. Prevent entry of material into sewage drains and confined areas. Dispose of any contaminated materials according to local regulations. Eliminate sources of ignition.

7. HANDLING AND STORAGE
7.1 Precautions for safe handling

Keep away from heat/sparks/open flames/hot surfaces – No smoking. Do not breathe dust/fume/gas/mist/vapours/spray. Wear protective gloves/protective clothing/eye protection/face protection.

7.2 Conditions for safe storage, including any incompatibilities

Refer to Section 2.2 for proper storage temperature. Store the tightly closed container in a cool, dry, well-ventilated area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION
8.1 Control Parameters

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

8.2 Exposure Controls
Appropriate engineering controls

Use in a properly ventilated area. Remove/wash before reuse contaminated clothing. Wash hands upon exiting work premises. Use product in an appropriately designated fume hood. Take measures to keep concentrations below acceptable limits.

8.3 Personal Protective Equipment
Eye/Face protection

Wear chemical safety goggles and/or a full face shield if splashing is possible. Keep eye wash fountain nearby.

Skin Protection

Wear chemical-resistant gloves. Gloves should be resistant to components of product. Refer to glove manufacturer for appropriate type and glove thickness.

Body Protection

No data available

Respiratory Protection

No data available

Other Information

None

9. PHYSICAL AND CHEMICAL PROPERTIES

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9.1 Information on basic physical and chemical properties

Physical state	Colorless liquid
Odor	Mild, hydrocarbon
Odor threshold	No data available
pH	No data available
Melting point/freezing point	-49°C (-56.2°F)
Initial boiling point and boiling range	178-198°C (352-389°F)
Flash point	60°C (150.8°F) Closed cup
Evaporation rate	1
Flammability (solid, gas)	No data available
Upper flammability or explosive limits	0.8%
Lower flammability or explosive limits	6%
Vapor pressure	~1.00 mm Hg
Vapor density	3 (Air = 1.0)
Relative density	0.79
Solubility(ies)	No data available
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	336°C (636.8°F)
Decomposition temperature	No data available
Viscosity	1.12 cSt

10. STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical stability

Stable in a closed container within label-specified storage temperature and expiration date.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Extremes of temperature and direct sunlight.

10.5 Incompatible materials

No data available

10.6 Hazardous decomposition products

Carbon dioxide and carbon monoxide may be released if product is heated to decomposition.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Inhalation exposure

No data available

Oral exposure

No data available

Dermal exposure

No data available

Skin corrosion/irritation

No data available

Serious eye damage/irritation

No data available

Respiratory or skin sensitization

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No data available

Germ cell mutagenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

Exposure to ethyl alcohol may affect the liver and the nervous system.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Acute toxicity

Trade Secret:

LD50 rat oral >5000 mg/kg

LD50 mouse dermal >2000 mg/kg

LC50 rat inhalation >5.2 mg/L/4H

Carcinogenicity

IARC: None of the components are listed

NTP: None of the components are listed

OSHA: None of the components are listed

Additional information

RTECS: No data available

12. ECOLOGICAL INFORMATION
12.1 Ecotoxicity

Trade Secret

Algae/aquatic plants:

4700: 72 h Pseudokirchneriella subcapitata mg/L EC50

Fish:

2.2: 96 h Lepomis macrochirus

mg/L LC50 static 2.4: 96 h

Oncorhynchus mykiss mg/L LC50

static 45: 96 h Pimephales promelas

mg/L LC50 flow-through

Crustacea:

4720: 96 h Den-dronereidesheteropoda mg/L LC50

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS

Part Number: 10011

13.1 Waste disposal methods**Contents**

Dispose of contents in a safe manner to comply with local, state and federal regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of packaging in a safe manner to comply with local, state and federal regulations. Contact a licensed professional waste disposal service to dispose of this material.

14. TRANSPORT INFORMATION**14.1 DOT (US)**

UN-Number	Not regulated
Proper shipping name	Not regulated
Hazard class	Not regulated
Packing group	Not regulated
Environmental hazards	Not regulated

15. REGULATORY INFORMATION**15.1** No data available**16. OTHER INFORMATION**

Preparation Information

Newcomer Supply Inc.

800-383-7799

www.newcomersupply.com

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