

## PRODUCT INFORMATION Z-FIX CONCENTRATE



### INTENDED USE

Properly diluted Z-Fix Concentrate is 10% aqueous buffered zinc formalin and is equivalent to Z-Fix ready to use. It is used as a histological fixative.

### PRODUCT SUMMARY

Diluted Z-Fix Concentrate (Z-Fix) is designed to provide the desirable features of formaldehyde fixation without the negative effects of excessive crosslinking.

Formaldehyde fixation is a two-step process. First, formaldehyde forms addition products with macromolecules. Second, the formaldehyde adduct crosslinks the macromolecules, firming the tissue. While necessary for complete fixation, the crosslinks (methylene bridges) can block access to antigenic epitopes. With Z-Fix, both the zinc and formalin initially attach to tissue sites. Additional zinc ions then form large coordination complexes that prevent the formaldehyde from further crosslinking by simply getting in the way. The zinc constituent of Z-Fix gives cellular components enough rigidity without undesirable hardening.

Z-Fix prevents the formalin artifact described as nuclear bubbling, in which chromatin patterns are disrupted due to inadequate exposure to formalin. Enhanced H&E staining due to the mordant effect of the zinc is another Z-Fix benefit. With fewer methylene bridges, Z-Fix reduces or eliminates the need for antigen recovery procedures in immunohistochemistry.

### INGREDIENTS

Formaldehyde, ionized zinc, buffer, methanol (inherent to formaldehyde)

### WARNING

**DANGER. CONTAINS FORMALDEHYDE.** May cause cancer. Toxic if swallowed, in contact with skin or if inhaled. Causes serious eye damage. May cause sensitization by inhalation or by skin contact. Causes skin, eye, and respiratory irritation. Do not breathe vapors. Do not get on skin.

Methanol Warning:

**DANGER. POISON. ☠ VAPOR HARMFUL. MAY BE FATAL OR CAUSE BLINDNESS IF SWALLOWED. CANNOT BE MADE NONPOISONOUS.**

For In Vitro Diagnostic Use.

### STORAGE

Store at room temperature.

Avoid freezing; product is not harmed but container may break.

Keep containers tightly closed when not in use.

### DIRECTIONS FOR USE

1. Z-Fix Concentrate must be diluted before use. To make 5 gallons:
  - a. Dilute 1 gallon of Z-Fix Concentrate with 4.0 gallons of deionized/distilled water.
  - b. Mix well.

2. Mixing and dispensing of Z-Fix Concentrate will be easier with a graduated five-gallon plastic carboy equipped with a spigot (ANATECH Catalog #003).
3. Phosphate salts from neutral buffered formalin (NBF) will precipitate zinc. To dilute Z-Fix Concentrate in a container that previously held NBF, rinse several times with tap water, followed by deionized/distilled water to remove residual phosphate salts.

Best results are obtained when Z-Fix is used for collection and processing.

1. Processing recommendations:
  - a. Fix tissues for a total of 6-8 hours for highest quality nuclear detail.
  - b. Place Z-Fix in the first two stations on the processor. Ionized zinc is not corrosive to the machine.
  - c. Alcoholic Z-Fix Concentrate (ANATECH Catalog #161) is strongly recommended as a secondary fixative on the processor when fixation time is short.
2. Specimens may be stored in Z-Fix indefinitely. Immunohistochemical reactivity will decrease only slightly after a month.
3. Z-Fix may be used as the primary or secondary fixative in conjunction with NBF. However, exposure to NBF can cause the precipitation of zinc phosphate.
  - a. A water rinse between fixatives is recommended to prevent the precipitation.
    - i. Inadequate rinsing causes precipitation in the processing chamber and in the first dehydrant.
    - ii. Remove by purging with a mild acid solution (5% acetic acid in water), followed by a water rinse.
  - b. The benefits of Z-Fix will diminish as time in NBF increases.

### DISPOSAL

1. Contact a licensed professional waste disposal service to dispose of this material.
2. Dispose of contents/containers in accordance with governmental regulations.
3. Proper waste disposal is the generator's responsibility.

### SAFETY DATA SHEETS (SDS)

SDS are available online at [www.anatechltdusa.com](http://www.anatechltdusa.com).

### ORDERING INFORMATION FOR Z-FIX CONCENTRATE

<u>Cat#</u>	<u>Packaging</u>
171	1 gallon