

Information about 10% Formalin

The fixative 10% buffered formalin is commonly used to preserve tissues for routine histology in many labs. The formaldehyde has a greater chance for oxidation in this concentration of tissue fixative and eventually the solution will start to drop in pH, in spite of the buffer. We recommend that 10% buffered formalin solutions be used no longer than 3 months after they were initially mixed. The solution should be clear, colorless, with no precipitate and the pH should not be below 6.5.

The other problem with 10% buffered formalin is the slowly increasing concentration of methanol (an unwanted byproduct of aging formaldehyde). Methanol promotes clumping of proteins, instead of the cross-linking of proteins that formaldehyde performs. A methanol-free fixative will give the best preservation, particularly if you plan to use the tissue for antibody staining at a later time.

The other option is 10% neutral buffered Formalin (4% formaldehyde), use it for 3-6 months and then discard it (as a hazardous material). There will be some methanol in this solution (typically 1-2%), but if used soon after purchase this should not be significant for most users. The buffered solution helps slow the acidification process. Some labs have asked about using an un-buffered 10% formalin. Unless there is a specific reason for this choice, we do not recommend it since this fixative rapidly becomes acidic. Storage of tissue in this fixative beyond several hours should be strongly discouraged.

Exodus Breeders Corporation sells only a 4% neutralized buffered solution