



Abbey Veterinary Services

RAPID DIAGNOSTIC HISTOPATHOLOGY & CYTOLOGY

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Formalin as a biological fixative

Formaldehyde is a gas which is utilised by dissolving it in water to produce **formalin**. The typical maximum concentration achieved is 40%.
i.e. full strength formalin contains 40% formaldehyde.

For routine fixation full strength formalin is diluted to 10% (vol/vol).
i.e. 10% formalin contains 4% formaldehyde.

Neutral buffered formalin is produced by adding alkaline buffers such as monobasic sodium phosphate or sodium borate to the 10% solution. This stabilises the solution.

If you wish to make up buffered formalin the following amounts of chemicals should be mixed together:

Buffered (ph 7.0) 10% formal saline:

Formalin (40% formaldehyde soln) 100 mls.

Distilled water 900 mls.

$\text{NaH}_2\text{PO}_4 \cdot 2\text{H}_2\text{O}$ (Sodium dihydrogen phosphate dihydrate) - 4.5 g

Na_2HPO_4 (Sodium phosphate, (anhydrous)) - 6.5g

Where possible please send the whole lesion, and if more than 1cm in thickness make a deep cut into the substance to aid penetration of the formalin. Sample should be sent in a sealed container (not glass) with a WIDE neck and sample should be submitted with 10 times the volume of formalin to tissue. When handling large pieces of tissue it may be necessary to keep back parts of the organ(s) and submit small representative pieces. If these are not representative, submission of more tissue maybe indicated (postal regulation compliance).