

10% neutral buffered formalin (ready to use) Contains Formaldehyde 4%

IVD In-vitro diagnostic medical device **CE**
CND Code: W01030705

Catalog number	Unit size	Container capacity	Volume contained	Container dimensions (cm)	Plateau dimensions (cm)	Box dimensions (cm)
05-01V1000P	600 ml x 6	1000 ml	600 ml	Ø 12 x h 13	-	45.5 x 30.5 x 14

Packaging Primary container: container in PP silkscreened. Serigraphy resistant to water, alcohol and solvents. Pressure cap with a seal and plastic handle. Secondary container: dispenser box + label.

Wear, water, alcohol and solvents resistant PVC label. Scratchproof ink resistant to water and alcohol.

Expected aim Product for the preparation of cyto-histological samples for optical microscopy.

Specifications pH 7.2 - 7.2 ± 0.2
density 1.003
buffer molarity 0.05 M

Application Universal fixative for histological specimens.

Principle The 10% formalin neutral buffered (equivalent to an aqueous solution of 4% formaldehyde) is the fixative most commonly used in the histopathological routine. The interaction between formaldehyde and functional groups present in tissue macromolecules (proteins and nucleic acids) occurs according to the following scheme:
- formation of methylene glycol: the molecule of formaldehyde in water gives rise to the following equilibrium

$$\text{CH}_2\text{O} + \text{H}_2\text{O} = \text{CH}_2(\text{OH})_2$$

- The methylene glycol is the chemical species that interacts primarily with the functional groups present in the side chains of the proteins and with acids stabilizing the nuclear structure.
- secondarily formaldehyde form crosslinks between the free amino groups present in the side chains of amino acids.

Fixation technique

- 1) Volume ratio specimen/ fixative 1 : 50
- 2) Specimen thickness 1 cm max
- 3) Fixation time at room temperature: for specimens up to 5 mm 5 hours, for greater thickness 1-2 days

Components

Components	CAS	CE	Index
Sodium phosphate dibasic dihydrate 0,7-0,8% p/v	10028-24-7	231-448-7	-
Sodium phosphate monobasic monohydrate 0,15-0,2% p/v	7558-80-7	231-449-2	-
Formaldehyde 4% p/v	50-00-0	200-001-8	605-001-00-5
Methanol 0,1% v/v	67-56-1	200-659-6	603-001-00-X
Deionized water			

Warning and precaution The product must be used exclusively by specialized technical operators. Carefully read the information on the classification of dangerous substances on the label. Always refer to the safety data sheet where are available the information on the risks presented by the mixture, the precautionary measures during use, the measures first aid and the intervention in the event of accidental release.
Do not use if the primary container is damaged.

Storage Store the preparation at 15-25°C. Keep the containers tightly closed.

Stability

After the first opening, the product is usable until the expiry date, if correctly stored. Product validity: 2 years.

Disposal

Hazardous preparation: observe all state and local environmental regulations regarding waste disposal.

References

- American Forces Institute of Pathology: Laboratory Methods in Histotechnology, Washington D.C., A.F.I.P. 1994.
- Fox CH, Johnson FB, Whiting J. and Roller PP: Formaldehyde fixation. The Journal of Histochemistry and Cytochemistry vol. 33, N. 8, pp. 845-853, 1985.
- Le botlan DJ, Mechin BG, and Martin GJ: Proton and carbon-13 nuclear magnetic resonance spectrometry of formaldehyde in water. Anal. Chem. 1983, 55, 587-591.
- Bancroft JD, Gamble M. Theory and Practice of Histological Technique. Churchill Livingstone Elsevier, 2008.

Date of issue: January 2014