

BUFFER TABLETS 6.8

CE IVD *In vitro* diagnostic medical device

Classified acc. to Regulation (EU) 2017/746 - **Class A** device

Phosphate buffer tablets for use in hematology and histology

INSTRUCTIONS FOR USE

BASIC UDI number	385889212HPC3010302HMCA		
EMDN kód	W0103010302		
REF Catalog number	Quantity	UDI-DI broj	
PT-68-50	50 pcs	03858890009170	
PT-68-100	100 pcs	0385888822538	



Intended use and test principle

BioGnost's Buffer tablets contain a combination of acidic and basic phosphate salts and are used for preparation of phosphate buffer solutions with stable pH, buffer capacity and low temperature coefficients. Buffer tablets are easy to use and dissolve easily. After that the pH value is automatically set at the necessary level. Besides general use in many histological and cytological methods in which buffer tablets are dissolved in distilled water, they are frequently used in practical hematology in blood smear counting procedures. The buffer solution is necessary for preparing diluted Giemsa/May-Grünwald/Wright/Leishman solutions and for rinsing stained preparations, ensuring that the stained cells are not decolorized in the process.

Product description

- **BUFFER TABLETS** - Tablets (50 or 100 pcs) for preparation of phosphate buffer solution with pH value of 6.8

Example of using Buffer tablets pH 6.8 in the staining procedure with Giemsa / May-Grünwald / Wright / Leishman solution

Additional reagents and materials that can be used in the method:

- VitroGnost slides and coverslips for use in histopathology and cytology
- BioGnost's immersion oils, such as Immersion oil, Cedarwood oil, Immersion oils types A and C, FF, 37 or Tropical Grade
- Fixatives such as BioGnost's Histanol M
- Hematology staining reagents such as BioGnost's staining solutions: Giemsa, May-Gruenwald, Wright, Wright-Giemsa, Leishman

Preparation of solutions

Preparation of buffer solutions with pH value of 6.8

Dissolve 1 buffer tablet of 6.8 pH value in 1 liter of distilled/demineralized water while stirring. Filter the solution. The buffer solution is stable for approximately 4 weeks if stored in a tightly closed glass bottle.

Diluted Giemsa solution for manual staining

Dilute 10 ml of Giemsa solution in 190 ml of buffer solution, stir well, leave it sit for 10 min. Filtrate if necessary.

Staining procedure

Staining on a rack using Giemsa solution

- Fix the previously dried blood smears by immersing them for 3-5 min in methanol (Histanol M)
- Immerse the fixed smear in the diluted Giemsa solution for 15-20 min
- Rinse the smear twice in the buffer solution of pH 6.8 for 1 min
- Dry the smear

Staining on a rack using May-Gruenwald solution

- Immerse the dried smear into May-Gruenwald solution for 3 min
- Remove the sample from the solution. Apply 1 ml of buffer solution pH 6,8 on horizontally placed sample and leave it to react for 6 min
- Rinse the smear using the buffer solution pH 6.8
- Dry the smear

Staining on a rack using Wright solution

- Immerse the dried smear into Wright solution for 1 min
- Remove the sample from the solution. Apply 1 ml of buffer solution pH 6.8 on horizontally placed sample and leave to react for 4 min
- Rinse the smear using the buffer solution of pH 6.8
- Dry the smear.

Staining on a rack using Leishman solution

- Immerse the dried smear into Leishman solution for 1 min
- Remove the sample from the solution. Apply 1 ml of buffer solution on horizontally placed sample and leave it to react for 5 min
- Rinse the smear using the buffer solution of pH 6.8
- Dry the smear.

NOTE: It is recommended to use immersion oil during microscopic analysis with magnification over 40x.

Result (using buffer solution pH 6,8)

Type or part of cell / staining result	<i>Giemsa solution</i>	<i>May-Gruenwald solution</i>	<i>Wright solution</i>	<i>Leishman solution</i>
<i>Nuclei</i>	purple to violet	red – pink	red - purple	red - purple
<i>Lymphocyte plasma</i>	blue	blue	blue	blue
<i>Monocyte plasma</i>	grey – blue	grey – blue	grey – blue	grey – blue
<i>Neutrophil granules</i>	bright purple	bright purple	bright purple	bright purple
<i>Eosinophil granules</i>	red	red to red – brown	dark red to red – brown	dark purple
<i>Basophil granules</i>	dark violet to black	dark purple to black	dark purple to black	dark purple
<i>Thrombocytes</i>	purple	purple	purple	purple
<i>Erythrocytes</i>	reddish	reddish	reddish	reddish

Limitations

This product is intended for professional laboratory use for diagnostic purposes only. Deviations from the staining procedure described in this Instruction for use may cause differences in staining results.

Sample preparation and diagnostics

Use only appropriate instruments for collecting and preparing the samples. Process the samples using modern technology and mark them clearly. Be sure to follow the manufacturer's handling instructions. To avoid errors, staining and diagnosis can only be carried out by qualified personnel. Use a microscope equipped according to medical diagnostic laboratory standards. To avoid an incorrect staining result, it is advised to use a positive and negative control.

If a serious incident occurs during use of this product or as a result of its use, please report it to the manufacturer or authorized representative and competent authority.

Safety at work and environmental protection

Handle the product in accordance with occupational health and environmental protection guidelines. Used and expired solutions must be disposed of as special waste following national guidelines. Reagents used in this procedure can pose a danger to human health. The examined tissue samples are potentially infectious, and it is necessary to take the measures needed to protect human health in accordance with the guidelines of good laboratory practice. It is mandatory to read and act according to the information and warning signs printed on the product label and in the Safety Data Sheet, which is available on request.

Storage, stability, and shelf life

Upon receipt, store the product in a dry place and well-closed original packaging at a temperature of +15 °C to +25 °C. Do not freeze or expose to direct sunlight. After first opening, the product can be used until the specified expiry date, if stored properly. The expiration date is printed on the product label.

References

1. Fritsch, E. F., Maniatis, T. et Sambrook, J. (1989): *Molecular Cloning: A Laboratory Manual*, 2nd ed., New York, Cold Spring Harbour Laboratory Press.
2. Ionatamishvili, T. V. et al. (1970): Tablets for adjusting and checking pH meters, *Measurement techniques*, 14 (2): str. 310-312.
3. Robinson, R. A. et Stokes, R. A. (1968): *Electrolyte solutions*, 2nd ed., London, Butterworths.

Warnings and precautions regarding the materials contained in the product:

Not a hazardous substance or mixture acc. to Regulation (EZ) br. 1272/2008.

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 Proizvođač	 Broj serije	 Pročitati priloženu uputu	 Europska sukladnost	
 Datum proizvodnje	 Kataloški broj	 Oprez		 Jedinstvena identifikacija proizvoda
 Rok uporabe	 Temperaturno ograničenje	 Samo za <i>in vitro</i> dijagnostičku primjenu		

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Version	Description / reason for change	Date
5	Revised acc. to Regulation (EU) 2017/746 - IVDR	27.02.2026.