

Instructions for Use

PHOSPHATE BUFFER WITH MAGNESIUM CHLORIDE (MGCL₂)

Cat. no. D690	Phosphate Buffer with MgCl ₂ , Dilu-Lok II™ Vial, 90ml	50 vials/case
Cat. no. D699	Phosphate Buffer with MgCl ₂ , Dilu-Lok II™ Vial, 99ml	50 vials/case
Cat. no. U193	Phosphate Buffer with MgCl ₂ , 500ml PET Bottle, 500ml	10 bottles/box
Cat. no. U217	Phosphate Buffer with MgCl ₂ , 1L PET Bottle, 1000ml	10 bottles/box
Cat. no. U265	Phosphate Buffer with MgCl ₂ , 500ml Polypropylene Bottle, 500ml	10 bottles/box

INTENDED USE

Hardy Diagnostics Phosphate Buffer with MgCl₂ is used to prepare dilutions of samples for examination of water, dairy products, foods and other materials.

This product is not intended to be used for the diagnosis of human disease.

SUMMARY

Phosphate Buffer with MgCl₂ is recommended by the American Public Health Association (APHA), for the recovery of injured microorganisms from dairy and food samples. Dilu-Lok II™ Phosphate Buffer with MgCl₂ is prepared as specified in the *Standard Methods for the Examination of Dairy Products* and *Standard Methods for the Examination of Water and Wastewater*. Potassium phosphate is added to the formula to maintain the pH and the addition of magnesium chloride aids in the recovery of organisms that may be metabolically injured.

FORMULA

Ingredients per liter of deionized water:*

Monopotassium Phosphate	42.5mg
Magnesium Chloride	190.0mg

Final pH 7.2 +/- 0.2 at 25°C.

* Adjusted and/or supplemented as required to meet performance criteria.

STORAGE AND SHELF LIFE

Storage: Upon receipt store at 2-30°C. away from direct light. Media should not be used if there are any signs of deterioration (shrinking, cracking, or discoloration), contamination, or if the expiration date has passed. Product is light and temperature sensitive; protect from light, excessive heat and freezing.

The expiration date on the product label applies to the product in its intact packaging when stored as directed. The product may be used and tested up to the expiration date on the product label and incubated for the recommended incubation times as stated below.

Refer to the document "[Storage](#)" for more information.

PRECAUTIONS

This product may contain components of animal origin. Certified knowledge of the origin and/or sanitary state of the animals does not guarantee the absence of transmissible pathogenic agents. Therefore, it is recommended that these products be treated as potentially infectious, and handle observing the usual universal blood precautions. Do not ingest, inhale, or allow to come into contact with skin.

This product is for laboratory use only. It is to be used only by adequately trained and qualified laboratory personnel. Observe approved biohazard precautions and aseptic techniques. All laboratory specimens should be considered infectious and handled according to "standard precautions." Refer to the document "[Guidelines for Isolation Precautions](#)" from the Centers for Disease Control and Prevention.

For additional information regarding specific precautions for the prevention of the transmission of all infectious agents from laboratory instruments and materials, and for recommendations for the management of exposure to infectious disease, refer to CLSI document M29: *Protection of Laboratory Workers from Occupationally Acquired Infections*.

Sterilize all biohazard waste before disposal.

Refer to the document "[Precautions When Using Media](#)" for more information.

PROCEDURE

Consult listed references for information on specimen collection and specific standard methods.⁽¹⁻⁴⁾

General Dilution Guidelines:

1:10 Serial Dilutions:

1. Using a sterile pipet, aliquot 10ml of test suspension to 90ml of the Dilu-Lok II™ diluent. Mix thoroughly. This yields a 1:10 dilution.
2. Use a second sterile pipet to aliquot 10ml of the 1:10 dilution prepared in step 1 into a second 90ml filled Dilu-Lok II™ diluent. Mix thoroughly. This yields a 1:100 dilution.
3. Continue aliquoting 10ml of subsequent dilutions into 90ml filled Dilu-Lok II™ diluents until the desired concentration of test sample is obtained. Each succeeding dilution increases by a factor of 10. A separate sterile pipet should be used with each dilution.

1:100 Serial Dilutions:

- 1a. Using a sterile pipet, aliquot 1ml of test suspension to 99ml of the Dilu-Lok II™ diluent. Mix thoroughly. This yields a 1:100 dilution.
- 2a. Use a second sterile pipet to aliquot 1ml of the 1:100 dilution prepared in step 1a into a second 99ml filled Dilu-Lok II™ diluent. Mix thoroughly. This yields a 1:10,000 dilution.
- 3a. Continue aliquoting 1ml of subsequent dilutions into 99ml filled Dilu-Lok II™ diluents until the desired concentration of test sample is obtained. Each succeeding dilution increases by a factor of 100. A separate sterile pipet should be used with each dilution.

INTERPRETATION OF RESULTS

See listed references for interpretation of growth.^(2,5,6)

LIMITATIONS

It is recommended that biochemical, immunological, molecular, or mass spectrometry testing be performed on colonies from pure culture for complete identification of bacteria and/or fungi.

Refer to the document "[Limitations of Procedures and Warranty](#)" for more information.

MATERIALS REQUIRED BUT NOT PROVIDED

Standard microbiological supplies and equipment such as loops, other culture media, swabs, applicator sticks, incinerators, and incubators, etc., as well as serological and biochemical reagents, are not provided.

QUALITY CONTROL

Hardy Diagnostics tests Phosphate Buffer with MgCl₂ for sterility, pH, and fill volume.

It can be difficult to accurately measure the pH of high purity water products as these products have low hydrogen ion activity. When troubleshooting potential pH problems associated with diluents ensure that the electrode is rinsed thoroughly before immersion in the water sample, that the pH is measured immediately after placing the electrode deep in the sample, and that the reference electrode provides minimal junction potential (0.1KCl provides greater stability and compatibility). Hardy Diagnostics recommends that pH measurements of Dilu-Lok II™ Phosphate Buffer with MgCl₂ be taken with electrodes specifically designed for low ionic strength water dilutions.^(1,8)

USER QUALITY CONTROL

End users of commercially prepared culture media should perform QC testing in accordance with applicable government regulatory agencies, and in compliance with accreditation requirements. Hardy Diagnostics recommends end users check for signs of contamination and deterioration and, if dictated by laboratory quality control procedures or regulation, perform quality control testing to demonstrate growth or a positive reaction and to demonstrate inhibition or a negative reaction, if applicable. Hardy Diagnostics quality control testing is documented on the certificate of analysis (CofA) available from Hardy Diagnostics [Certificate of Analysis](#) website. Also refer to the document "[Finished Product Quality Control Procedures](#)," and the CLSI document M22-A3 *Quality Assurance for Commercially Prepared Microbiological Culture Media* for more information on the appropriate QC procedures. See the references below.

PHYSICAL APPEARANCE

Phosphate Buffer with MgCl₂ should appear clear and colorless, with no precipitate or debris.

REFERENCES

1. American Public Health Association. *Standard Methods for the Examination of Water and Wastewater*, APHA, Washington, D.C.
2. U.S. Food and Drug Administration. *Bacteriological Analytical Manual*. Arlington, VA. <http://www.fda.gov/Food/FoodScienceResearch/LaboratoryMethods/ucm2006949.htm>
3. Association of Official Analytical Chemists. *Official Methods of Analysis*, AOAC, Washington, D.C.
4. American Public Health Association. *Standard Methods for the Examination of Dairy Products*, APHA, Washington, D.C.
5. APHA Technical Committee on Microbiological Methods for Foods. *Compendium of Methods for the Microbiological Examination of Foods*, APHA, Washington, D.C.



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[Ordering Information](#)

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The Hardy Diagnostics manufacturing facility and quality management system is certified to ISO 13485.

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