

PRODUCT PROFILE

Serim[®] GUARDIAN[™] WATER HARDNESS TEST STRIPS

WHAT does this product do?

Serim[®] GUARDIAN[™] Water Hardness Test Strips give a semi-quantitative indication of the level of hardness in water. Hardness is used to describe the total concentration of calcium and magnesium ions, expressed as ppm (or grains per gallon) of calcium carbonate, CaCO₃.

WHY should I use this product?

Hard water can adversely affect the dialysis patient as well as damage the water purification equipment. In general, water treatment system manufacturers recommend that the hardness of water entering the RO filter should not exceed 10 ppm of calcium carbonate.¹

AAMI Guidelines set the maximum concentration in final product water at 2 ppm for calcium and 4 ppm magnesium.²

WHERE do I use this product?

Test a sample of water at the post-softener stage of the water treatment process to make sure that the softener is removing calcium and magnesium.



WHEN do I use this product?

Daily. Water used in hemodialysis should be monitored closely for hardness.³

HOW to use this product

Serim GUARDIAN Water Hardness Test Strips are supplied in ready-to-use form. When placed in contact with the water sample according to the directions for use (see below), the indicator pad changes color relative to the total level of calcium and magnesium present.

Ordering Information

Serim GUARDIAN Water Hardness Tests:

- Product Code 5129 contains 6 bottles with 50 test strips per bottle

Related Products

Serim GUARDIAN HiSENSE[™] Test Strips (Product Code 5109) or Serim GUARDIAN HiSENSE ULTRA 0.1[™] Test Strips (Product Code 5167) indicate low levels of total chlorine in water used to prepare dialysate.

Test Method	Immersion	Stream
Sample	Collect water sample in a clean container.	Open valve and allow water to run out in a slow, steady stream.
Test Strip Technique	Immerse indicator pad into water sample for 1 second.	Insert indicator pad into stream of water for 1 second.
Results	Compare the color of the indicator pad to the color blocks on the bottle label 10 seconds after immersion of the pad.	Immediately compare the color of the indicator pad to the color blocks on the bottle label.

Store bottles of Serim GUARDIAN Water Hardness Test Strips at temperatures between 15°- 30°C (59°- 86°F).
The lot number and expiration date are printed on the bottom of each bottle.

PRODUCT PROFILE

SERIM GUARDIAN WATER HARDNESS TEST STRIPS

Features	Benefits
Greater sensitivity than most other water hardness test strips	<ul style="list-style-type: none"> • Monitors hardness levels at the critical 10 ppm range • Levels between 0 and 10 ppm can be estimated
Simple "Dip & Read" procedure	<ul style="list-style-type: none"> • Simple, quick and reliable method to determine level of hardness in water • No calculations or "drop counting" needed
Quick, semi-quantitative results in 10 seconds	<ul style="list-style-type: none"> • Allows rapid check of source water or the efficacy of the water softener
Ready-to-use strips	<ul style="list-style-type: none"> • No preparation or mixing of reagents • No accessories, calibration or instruments needed • No glass vials or sharps needed
Product performance is not affected by high levels of common water contaminants	<ul style="list-style-type: none"> • Minimize concerns that performance may be affected by quality of incoming water • Consistent results with most types of water sources
Consistent color reactions	<ul style="list-style-type: none"> • Results not affected by aging throughout shelf life of the product
Simple to interpret color blocks labeled as "parts per million" (ppm) and equivalent "grains per gallon" (gpg)	<ul style="list-style-type: none"> • Accurate and consistent results minimize variation between readers • Color of indicator pad is directly compared to color blocks on bottle label • No need to convert units or calculate results
Each bottle clearly labeled with: <ul style="list-style-type: none"> • Lot number • Expiration date 	<ul style="list-style-type: none"> • Traceability of product from manufacturing to final user • Leaves no doubt as to the age or integrity of the product
Test strip can be immersed into sample or held in sample stream	<ul style="list-style-type: none"> • Maximum convenience for user, no matter where a proper sample is most easily obtained

References:

1. NANT Dialysis Technology – A Manual for Dialysis Technicians, 2nd Edition (2000), pg. 109. National Association of Nephrology Technicians/ Technologists, Dayton, OH
2. AAMI Standards and Recommended Practices, Dialysis, 2008 Edition, RD62 - *Water treatment equipment for hemodialysis applications*. Association for the Advancement of Medical Instrumentation, Arlington, Virginia
3. NANT Dialysis Technology – A Manual for Dialysis Technicians, 2nd Edition. (2000) pp 102-103. National Association of Nephrology Technicians/ Technologists, Dayton, OH

©2010 Serim Research Corporation



Certified to ISO 9001:2008 & ISO 13485:2003

P.O. Box 4002, Elkhart, IN 46514-0002

(574)264-3440 ☎ FAX (574)266-6222 🌐 www.serim.com