

PRODUCT PROFILE

Serim[®] GUARDIAN[™] HiSENSE ULTRA 0.1[™] TEST STRIPS

WHAT does this product do?

Serim[®] GUARDIAN[™] HiSENSE ULTRA 0.1[™] detects the total chlorine concentration (free chlorine and/or chloramine) in feed water used to prepare dialysate.

The test can also be used to detect residual chlorine bleach in the solution used to rinse dialysate lines following disinfection of hemodialysis machines.

WHY should I use this product?

Feed Water:

Chlorine remaining in the treated water will damage RO membranes, but more importantly exposure to chlorine/ chloramine in dialysis solution can cause hemolytic anemia in hemodialysis patients.¹

Therefore, the dialysis facility must make sure that the level of chlorine/chloramine in final product water used to prepare dialysate or concentrates is below the AAMI Standards of 0.5 ppm chlorine and 0.1 ppm chloramine (or 0.1 ppm total chlorine).²

Rinse Water:

Testing for chlorine in rinse solution verifies that hemodialysis machines and bicarb jugs disinfected with chlorine bleach have been adequately rinsed, such that the free chlorine concentration is below the AAMI maximum allowable concentration of 0.5 ppm.²



WHERE do I use this product?

Feed Water:

Collect a sample of water after the first carbon tank^{2,3,4} and test it according to the HiSENSE ULTRA 0.1 directions. If the results are positive, a second sample should be taken immediately after the water leaves the second tank. *If there is chlorine leaving the second tank, dialysis should be discontinued in the facility.*

If there is no breakthrough after the second tank, the water can be used but the chlorine level should continue to be monitored after the second tank on an hourly basis until the primary tank is replaced. This is because there is no redundant protection.³

Rinse Water:

Collect a sample of rinse solution from the drain line of the hemodialysis machine.

WHEN do I use this product?

Feed Water:

A protocol should be established to perform chlorine/chloramine testing on post-carbon water before each patient shift.⁴

Rinse Water:

Testing for residual chlorine bleach is performed during the rinse cycle of the disinfection procedure and before initiating the next dialysis.

Testing Feed Water:

The water system must be in full operation for *at least 15 to 20 minutes* before the water sample is collected and tested.²

| | |
|----------------------|---|
| Sample | Fill sample cup with ~20 ml of post-carbon water, discard and re-fill with another ~20 ml of water. |
| Test Strip Technique | Immerse indicator pad in water sample and swish vigorously for 30 seconds . Remove strip, shake off excess sample. |
| Results | Compare indicator pad to color block on bottle label |

Store bottles of Serim GUARDIAN HiSENSE ULTRA 0.1 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.

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Ordering Information

Serim GUARDIAN HiSENSE ULTRA 0.1 (Product Code 5167) comes in a kit containing 5 bottles of test strips (100 strips/bottle), 5 sample cups and a product insert.

Related Products:

- Serim GUARDIAN Chlorine Control Pack (Product Code 5100QC) contains 1 bottle of 20 chlorine control tablets and 5 sample cups. The tablets can be used to prepare a Positive Control Solution for Serim GUARDIAN HiSENSE ULTRA 0.1 (Product Code 5167), Serim GUARDIAN HiSENSE™ Test Strips (Product Code 5109) and Serim GUARDIAN Residual Chlorine Test Strips (Product Code 5100A, 5100C).

SERIM GUARDIAN HiSENSE ULTRA 0.1 TEST STRIPS

| Features | Benefits |
|--|--|
| Easy to use "swish & read" test | <ul style="list-style-type: none"> ▪ No preparation or mixing of reagents ▪ No calibration or instruments needed ▪ No glass vials or sharps needed |
| Quick results | <ul style="list-style-type: none"> ▪ Semi-quantitative results in 30-seconds |
| Reliable | <ul style="list-style-type: none"> ▪ Meets the AAMI maximum allowable concentration of 0.1 ppm chloramine or total chlorine |
| Each bottle is clearly labeled with: <ul style="list-style-type: none"> ▪ Lot number ▪ Expiration date | <ul style="list-style-type: none"> ▪ Traceability of product through manufacturing to final user ▪ Leaves no doubt as to age or integrity of the product |
| Product is labeled for dialysis use ⁵ | <ul style="list-style-type: none"> ▪ No need to qualify an "off-label" test for dialysis use ▪ No need to monitor changes in product performance from lot to lot |

References:

1. Core Curriculum for the Dialysis Technician. Third Edition, pg 244, 2006 Amgen, Inc.
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. Monitoring Your Dialysis Water Treatment System, Northwest Renal Network, Seattle, Washington, June, 2005; www.nwrenalnetwork.org
4. Dialysis Technology, A manual for dialysis technicians. Second Edition, pg. 103, 2000 National Association of Nephrology Technicians/Technologists
5. *Proper mechanisms for assuring disinfectant concentrations for use in hemodialysis.* Nephrol News Issues. 1999 Jun;13(6):18, 23, 27. Arduino MJ.

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