
Bacteria, Hydrogen Sulfide Producing

DOC316.53.01197

Presence/Absence (P/A) Method

Methods 8506

Pathoscreen™ Medium

Scope and Application: For the detection of *Salmonella*, *Citrobacter*, *Proteus*, *Edwardsiella* and *Klebsiella* (some spp.) in drinking water, surface water and recreational water

Test preparation

PathoScreen Medium

PathoScreen Medium detects the presence of hydrogen sulfide-producing bacteria including *Salmonella*, *Citrobacter*, *Proteus*, *Edwardsiella* and some species of *Klebsiella*. The sterilized powder medium is a reliable medium for monitoring drinking water systems in developing tropical countries, in remote field locations and in disaster or emergency situations.

PathoScreen Medium is dehydrated, sterilized and packaged in powder pillows. Powder pillows are available for both Presence/Absence (P/A) and Most Probable Number (MPN) testing. Each powder pillow contains enough medium for one test. The medium is shipped with a Certificate of Analysis and has an expiration date printed on the label.

For P/A testing, add one P/A powder pillow to a 100-mL sample.

Before starting the test:

Incubate samples 24–48 hours between 25–35 °C, 77–95 °F. (30 °C, 80 °F is considered optimal.)

PathoScreen Medium has a detection sensitivity of 1 CFU/100 mL.

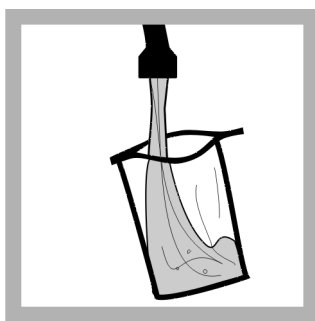
Disinfect the work bench with a germicidal cloth, dilute bleach solution, bactericidal spray or dilute iodine solution.

Wash hands thoroughly with soap and water.

PathoScreen medium P/A pillows, method 8506



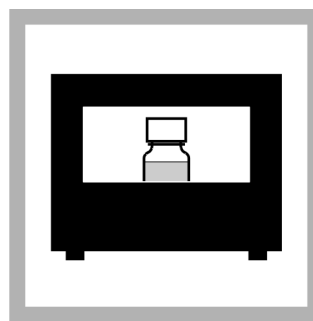
1. Wash hands thoroughly with soap and water.



2. Collect 100 mL of sample in a sterile sample container.



3. Swab the end of the PathoScreen Medium P/A Pillow with alcohol and aseptically cut it open with clippers. Add pillow contents to the 100 mL sample.

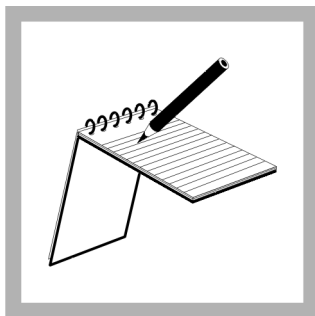


4. Place the bottle in a location with a constant temperature between 25–35 °C for 24–48 hours. If an incubator is available, incubate the sample at 30 ±0.5 °C for 24 to 48 hours.



5. Note the reaction after 24 hours of incubation.

If the temperature varies significantly, incubation may be extended an additional day.



6. Record the results. (See the [P/A results](#) table.)

Dispose of all completed tests appropriately. Refer to a current MSDS and local regulations.

Table 1 P/A results

Hydrogen sulfide producing bacteria			
Test Results	Positive	Negative	Follow-up
Color changes from yellow to black	X		
Black precipitate forms	X		
No color change		X	Incubate additional 12–24 hours and re-evaluate. If there is no color change, record as negative.

Consumables and replacement items

Required reagents

Description	Unit	Catalog number
PathoScreen™ Medium, P/A Pillows, 100-mL sample	50/pkg	2610696

Dilution water—media, reagents and apparatus

Description	Unit	Catalog number
Bottle, polysulfone, autoclavable (for preparing buffered dilution water)	12/pkg	2245300
Buffered Dilution Water, sterile, 99-mL ¹	25/pkg	1430598
Dechlorinating Reagent Powder Pillows	100/pkg	1436369

¹ Buffered Dilution Water is prepared with magnesium chloride and potassium dihydrogen phosphate.

Required apparatus

Description	Unit	Catalog number
Autoclave, Automatic, 120 VAC	each	2898600
Clippers, large	each	2065800
Contaminated Items Bags	200/pkg	2463300
Germicidal Cloth	50/pkg	2463200
Incubator, Culture, 120 VAC	each	2619200
Incubator, Culture, 220 VAC	each	2619202
Sampling Containers		
Sampling Bags, Whirl-Pak with dechlorinating agent, 180-mL	100/pkg	2075333
Sampling Bottles, autoclavable	6/pkg	2324333
Sampling Bottles, autoclavable	48/pkg	2324373
Sampling Bottles, sterilized, 100-mL fill-to line	12/pkg	2495012
Sampling Bottles, sterilized, 100-mL fill-to line	50/pkg	2495050
Sampling Bottles, sterilized, 100-mL fill-to line, with dechlorinating agent	12/pkg	2599112
Sampling Bottles, sterilized, 100-mL fill-to line, with dechlorinating agent	50/pkg	2599150

Optional media and reagents

Description	Unit	Catalog number
Bottle, polysulfone, autoclavable (for preparing buffered dilution water)	12/pkg	2245300
Magnesium Chloride and Potassium Dihydrogen Phosphate Powder Pillows	25 of each	2143166
Peptone Powder Pillows, 1-g	30/pkg	2142964
Sterilization Indicator, Sterikon®	15/pkg	2811115
Sterilization Indicator, Sterikon	100/pkg	2811199
Bags, Whirl-Pak®, without dechlor 207 mL	100/pkg	2233199
Bags, Whirl-Pak, without dechlor 720 mL	10/pkg	1437297



FOR TECHNICAL ASSISTANCE, PRICE INFORMATION AND ORDERING:

In the U.S.A. – Call toll-free 800-227-4224

Outside the U.S.A. – Contact the HACH office or distributor serving you.

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