

**SCHUBERTS ARGININE BROTH****TM 1607**for isolation of chlorine damaged *Pseudomonas aeruginosa* in swimming pool**Composition**

Ingredients	Gms/Ltr.
Casein enzymic hydrolysate	17.000
Papaic digest of soyabean meal	3.000
D-Glucose	0.500
Sodium chloride	5.000
L-Arginine monohydrochloride	10.000
Bromothymol blue	0.0075
Cresol red	0.010
Brilliant green	0.00038

\* Dehydrated powder, store in a dry place, in tightly-sealed containers at 24°C and protect from direct Sunlight.

**Instructions for Use**

Dissolve 35.50 gms in 1000 ml of distilled water. Heat if necessary to dissolve the medium completely. Mix well and sterilize by autoclaving at 15 psi (121°C) for 15 minutes and dispense the medium into sterile tubes.

**Appearance:** Grey green coloured clear solution

**PH (at 25°C):** 7.0 ± 0.2

**Principle**

**SCHUBERTS ARGININE BROTH** is used for isolation of chlorine damaged *Pseudomonas aeruginosa* in swimming pool. Swimming pool is a body of water of limited size contained in a holding structure. Indicators of health risk in swimming pools include normal skin flora that are shed, such as *Pseudomonas* and *Staphylococcus*. However these bacteria may be stressed or injured due to chlorination. These injured bacteria are incapable of growth and colony formation under standard conditions because of structural or metabolic changes.

This medium is formulated by Schuberts, utilizes the fact that with arginine, *P. aeruginosa* produces a strongly alkaline reaction resulting in an easily identifiable colour change from grey-green to blue-violet. The indicators used for this purpose are bromothymol blue and cresol red. The medium may be used with either the membrane filter or the liquid enrichment technique.

Casein enzymic hydrolysate and papaic digest of soyabean meal serve as rich sources of carbon, nitrogen and essential growth nutrients. Glucose is the energy source. Brilliant-green inhibits the accompanying



## PRODUCT DATA SHEET

gram-positive flora while having no toxic effect on pre-stressed *P. aeruginosa*. A color change from grey-green to blue-violet indicates the presence of *P. aeruginosa* allowing presumptive detection of *P. aeruginosa*.

### Interpretation

Cultural characteristics observed after incubation at 35 - 37°C for 24 - 48 hours.

Microorganisms	ATCC	Inoculum (CFU)	Growth (Plain)	Colour change to violet
<i>Pseudomonas aeruginosa</i>	27853	10 <sup>3</sup>	Good-Luxuriant	Positive reaction
<i>Pseudomonas aeruginosa</i>	9027	10 <sup>3</sup>	Good-Luxuriant	Positive reaction
<i>Pseudomonas stutzeri</i>	17832	10 <sup>3</sup>	None-Poor	Negative reaction
<i>Aeromonas hydrophila</i>	7966	10 <sup>3</sup>	Good-Luxuriant	Positive reaction
<i>Enterococcus faecalis</i>	19433	10 <sup>3</sup>	None-Poor	Negative reaction
<i>Escherichia coli</i>	25922	10 <sup>3</sup>	Good-Luxuriant	Variable reaction

### References

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3. Eaton A. D., Clesceri L. S. and Greenberg A. E. (Ed.), 1998, Standard Methods for the Examination of Water and Wastewater, 20th Ed., American Public Health Association, Washington, D.C.
4. DIN 38411, Part 8, May 1982, Nachweis Van Pseudomonas aeruginosa.
5. Schubert, R., 1989, Zbl. Bakt. Hyg. B 187; 266-268.