

Selenite Cystine Broth

For the selective enrichment of *Salmonella* and some other *Shigella* strains

Formula in grams per liter:

Sodium Phosphate	10,00	Peptone Mixture	5,00
Lactose	4,00	Sodium Selenite	4,00
L-Cystine	0,01		

Final pH: 7,0 ± 0,2 at 25 °C

Preparation:

Suspend 23 grams of the medium in one liter of distilled water. Mix well and heat slowly until the medium is dissolved. Dispense in screw-capped test tubes sterilize under flowing steam for 5 minutes. **Do not autoclave.** The color of medium should be beige to pale pink.

Uses:

In 1953, North and Bartram modified an enriched medium prepared by Leifson in 1936 by adding the amino acid cystine. This amino acid establishes a redox potential that seems to be very good for enrichment and recovery of *Salmonella* and some strains of *Shigella*, present in limited numbers in feces, diverse foods, and other products of sanitary concern. Selenite Cystine Broth is used particularly to limit the loss of sensitivity that affects other enrichment media especially in food products with a high content of organic material, for example, foods of egg and egg powder.

Selenite Cystine Broth inhibits the early multiplication of bacteria such as coliforms, but allows the salmonellas to grow with ease. Nevertheless, after 18 hours of incubation, the commensal microorganisms rapidly increase and begin to impede the isolation of salmonellas, so that it is necessary to restreak or subculture before the elapse of this critical time. These inoculations to differential solid media should be performed at the end of 8-12 hours of incubation.

Follow the usual methods used in the microbiological analysis of food.

Microbiological Tests:

Microorganisms	Growth
<i>Escherichia coli</i> ATCC 25922	No increase
<i>Salmonella pullorum</i> ATCC 9120	Satisfactory
<i>Salmonella choleraesuis</i> ATCC 12011	Satisfactory
<i>Salmonella typhimurium</i> ATCC 6539	Satisfactory

