



Technical Data

Tryptone Soya Broth w/ 10% NaCl and 1% Sodium Pyruvate M1229

Tryptone Soya Broth with 10% NaCl and 1% Sodium pyruvate is recommended for enumeration of *Staphylococcus aureus* in dairy products by MPN technique.

Composition**

Ingredients	Gms / Litre
Casein enzymic hydrolysate	17.000
Papaic digest of soyabean meal	3.000
Dextrose	2.500
Sodium chloride	100.000
Dipotassium phosphate	2.500
Sodium pyruvate	10.000
Final pH (at 25°C)	7.3±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 135 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Mix well and dispense as desired.

Principle And Interpretation

Staphylococcal food poisoning ranks as one of the most prevalent causes of gastroenteritis worldwide. Staphylococci ferment glucose to produce acid from glucose. Tryptone Soya Broth with 10% sodium chloride and 1% sodium pyruvate is used for enumeration of *Staphylococcus aureus* in dairy products (1, 2) and is recommended for enumeration by MPN technique.

Casein enzymic hydrolysate and papaic digest of soyabean meal provide essential nutrients. Dextrose serves as an energy source. Sodium pyruvate protects injured cells, helps recovery and also enhances growth of *S.aureus*. Many other bacteria except staphylococci are inhibited by 10% sodium chloride (3).

For MPN Technique: Inoculate 3 tubes of Tryptone Soya Broth w/ 10% NaCl and 1% sodium pyruvate (M1229) of each test dilution with 1 ml aliquots of decimal dilutions of sample. Incubate at 35-37°C for 48 hours. Following incubation, transfer a loopful from each positive growth tube to Baird-Parker Agar (M043) plates. Colonies of *S.aureus* on Baird Parker Agar are typically circular, smooth, convex, moist, 2-3 mm in diameter, grey-black to jet black and surrounded by an opaque zone.

Quality Control

Appearance

Cream to yellow homogeneous free flowing powder

Colour and Clarity of prepared medium

Light yellow coloured clear solution without any precipitate

Reaction

Reaction of 13.5% w/v aqueous solution at 25°C. pH : 7.3±0.2

pH

7.10-7.50

Cultural Response

M1229: Cultural characteristics observed after an incubation at 35-37°C for 18-48 hours.

Organism	Inoculum (CFU)	Growth
Cultural Response		
<i>Bacillus subtilis</i> ATCC 6633	>=10 ³	inhibited
<i>Staphylococcus aureus</i> ATCC 25923	50-100	luxuriant

Escherichia coli ATCC 25922 $\geq 10^3$ inhibited

Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2 - 8°C. Use before expiry date on the label.

Reference

1. AOAC, 2000, Official Method 987.09, Staphylococcus aureus in Foods, J. Assn. Off. Anal. Chem. 17:52.
2. APHA, 1985, "Standard Methods for the Examination of Dairy Products 15th Ed., Am. Pub. Health Assn, Washington, D.C.
3. Chapman G. H, 1945, J. Bacteriol., 50:201.

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