SERANA Science for Life	Document ID:	TDS-TSB-001-1KG	Version:	001
	Date of Issue:	10-JAN-2025	Approved by:	Dr. Iman Kamranfar
	Review Date:	10-JAN-2027	Signature:	
	Title:	**TECHNICAL DATASHEET**		

Tryptic Soy Broth Powder, Suitable for microbiology

Filtration/ Treatment	Grinded Powder
Product CodeS	TSB-001-1KG; TSB-001-500G
Synonyms	CASO Broth, Soybean Casein digest Broth, TSB, Tryptone Soy Broth, CASO Broth, Casein Soya Broth, Soybean Casein digest Broth, TSB, Tryptone Soya Broth
Shelf Life	5 years from DOM
Storage Temperature	+2 to +25°C
Shipping Temperature	ambient

QC Specifications

Physical and Chemical Analysis	**Method**	**Specifications**	**Units**
Appearance	Visual	Faint Yellow and Faint Beige powder	n/a
Solubility	Internally validated	30.0 g/l in Water, 121°C for < 20 min	g/L
Solubility (Colour & Turbidity)	Internally validated	Light yellow to light brown	n/a
pH (30g in Water)	*EP 2.2.3*	7.0 – 7-5	n/a

Cell culture Promotion on (American Type Culture Collection Code)	**Method**	**Specifications**	**Units**
Gram positive bacterium: *Staphylococcus aureus* (6538)	32.5°C +/- 2.5°C 24 h incubation	Conspicuous growth	n/a
Gram positive bacterium*: Pseudomonas paraeruginosa* (9027)	32.5°C +/- 2.5°C 48 h incubation	Conspicuous growth	n/a
Gram positive bacterium: *Bacillus spizizenii* (6633)	32.5°C +/- 2.5°C 24 h incubation	Conspicuous growth	n/a
Yeast : Candida albicans (10231)	22.5°C +/- 2.5°C 48 h incubation	Conspicuous growth	n/a
Mold : *Aspergillus brasiliensi* (16404)	22.5°C +/- 2.5°C 72 h incubation	Conspicuous growth	n/a

Formulation

Ingredients	**CAS number**	**Concentration (mg/L)**
Casein peptone	91079-40-2	17000.00
Soya peptone	91079-46-8	3000.00
Sodium chloride	7758-11-4	2500.00
L-Glutamine	50-99-7	2500.00

GENERAL INFORMATION

Tryptic Soy Broth (TSB) is a widely used, general-purpose liquid medium designed for the cultivation of a broad spectrum of microorganisms, including aerobic and facultative anaerobic bacteria. Due to its nutrient-rich composition, TSB is utilized in pharmaceutical, clinical, and food microbiology applications, particularly for sterility testing, microbial enumeration, and enrichment cultures.

- Casein peptone provides amino acids, peptides, and nitrogen sources.
- Soybean peptone is rich in vitamins, carbohydrates, and growth factors.
- Sodium Chloride maintains osmotic balance.
- Dipotassium Hydrogen Phosphate acts as a buffering agent.
- Glucose (Dextrose) serves as an energy source.

PRODUCT APPLICAIONS:

- **Sterility Testing:** used in pharmaceutical and medical device sterility testing as per European Pharmacopoeia (Ph. Eur.), USP, and ISO 11737-2.
- **Microbial Growth Promotion:** supports a wide range of bacterial and fungal species, including:
  - *Staphylococcus aureus* (ATCC 6538)
  - *Escherichia coli* (ATCC 8739)
  - *Pseudomonas aeruginosa* (ATCC 9027)
  - *Bacillus subtilis* (ATCC 6633)
  - *Candida albicans* (ATCC 10231)
  - *Aspergillus brasiliensis* (ATCC 16404)
- **Enrichment Medium:** enhances the recovery of low numbers of microorganisms, particularly in environmental monitoring and sterility testing.
- **Aerobic and Facultative Anaerobic Growth:** provides an optimal environment for obligate aerobes and facultative anaerobes due to its well-balanced nutrient composition.

INSTRUCTION FOR USE:

1. Dissolve **30.0 g** of TSB powder in **1 liter** of distilled or deionized water.
2. Heat gently if necessary to ensure complete dissolution.
3. Dispense into appropriate containers and autoclave at **121°C for 15 minutes** to sterilize.
4. After cooling, store at **2–25°C** in a dark environment to maintain stability.
5. Store the TSB powder, in a dry place, in tightly-sealed containers at 2-25°C.

PRECAUTIONS AND DISCLAIMER

- The medium is not intended for therapeutic use.
- Each laboratory is obliged to perform representative tests according to the valid legal regulations and in its own environment to ensure that it is suitable for this purpose before the medium can be used in routine diagnostics.
- Do not use this medium beyond the expiration date indicated on the product label.

REFERENCES:

1. J.L. Smith, B.J. Dell, Capability of selective media to detect heat –injured Shigella flexneri, *J. Food Protect*. 53, 141 (1990)
2. R.G. Garison, Studies of the respiratory activity of Histoplasma Capsulatum, *J. of infect.* Dis. 108: 120-124 (1961)
3. N.B. Mc Culloug, Laboratory tests in the diagnosis of brucellosis. *Amer. J. of puplic health* 39: 866-869 (1949)
4. Jean. F. Mac Faddin, *Media for Isolation-Cultivation-Identification-Maintenance of Medical Bacteria.* Vol. 1. Baltimore, MD.: Williams & Wilkins. (1985)

Product Use: This product is intended for research and development and laboratory use only.