OXFORD LAB FINE CHEM LLP
ISO 9001-2008 Certified Company

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Oxford
Range of
Laboratory Chemicals

TECHNICAL DATA SHEET

TCBS Agar
(Thiosulphate Citrate Bile Salts Sucrose Agar)

Principle

TCBS agar is composed of yeast extract, proteose peptone, sodium citrate, sodium thiosulfate, oxgall, saccharose, sodium chloride, ferric citrate, bromothymol blue, thymol blue and agar. Yeast extract provides nitrogen, carbon, vitamins and other growth factors and proteose peptone provide the nitrogen and amino acids. Sodium citrate, sodium thiosulfate and oxgall are selective agents to inhibit gram-positive organisms and suppress coliforms in addition to that increase the pH of medium. The alkaline pH of the medium enhances the growth of *Vibrio cholerae*. Saccharose is a fermentable carbohydrate. Sodium chloride maintain osmatic balance. Sodium Thiosulfate is a sulfur source and reacts with ferric citrate as an indicator to detect hydrogen sulfide production. Bromothymol blue and thymol blue are pH indicators. Agar is a solidifying agent.

Use: For selective isolation of Vibrio cholerae & other enteropathogenic Vibrios causing food poisoning.

Contents*

Ingredients	Gram/Liter
Yeast Extract	5.00
Proteose Peptone	10.00
Sodium Citrate	10.00
Sodium Thiosulfate	10.00
Oxgall	8.00
Saccharose	20.00
Sodium Chloride	10.00
Ferric Citrate	1.00
Bromothymol Blue	0.04
Thymol Blue	0.04
Agar	15.00
pH at 25˚C	8.6 ±0.2

*** Formula adjusted for optimum performance and parameters**

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Directions: Dissolve 89.00 grams in 1000 ml distilled water. Boil to dissolve the medium completely DO NOT AUTOCLAVE, cool it to 42-45°C and distribute aseptically in petri plates. Ensure complete solidification and inoculate test sample aseptically.

Specimens types analyzed

Pharmaceutical samples, clinical and non-clinical samples etc.

Precautions to be taken

These microbial media are intended for the in-vitro use only. All the handling, experiments, storage, and discarding should be performed with the help of skilled and knowledgeable technicians and as per the established guidelines. The material should be disposed only after proper sterilization by autoclaving. Please go through the MSDS of the media to avoid any accidents or in emergency.

Performance and Evaluation

The expected performance of the medium is liable to use as per the direction on the label when stored at optimum conditions and within expiry date.

Quality Control

Appearance	**Light tan with greenish ting colored free flowing, homogeneous powder**
Reaction of 8.9% solution	**8.6 ±0.2 at 25 ˚C**
pH	**8.40- 8.80**
Gelling	**Firm comparable with 1.5% agar gel**
Color and clarity of ready medium	**Greenish blue colored opalescent gel**
Growth Promotion properties	**Best at ≤ 100 CFU at 32-37 ºC for 18-72 h**
Indicative properties	**Optimum at ≤ 100 CFU at 32-37 ºC for 18-48 h**
Negative control	**Performed using sterile distilled water**

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Different Microbial Response: Cultural characteristics observed after incubation at 33-37°C for 18-24 hours.

Organism	ATCC	Inoculum (CFU)	Growth	Recovery	Colony color
Vibrio cholerae	14035	50-100	Luxuriant	≥ 60%	Yellow color
Vibrio parahaemolyticus	17802	50-100	Luxuriant	≥ 60%	Bluish Green
Escherichia coli	8739	50-100	Inhibited	--	--
Shigella flexneri	9199	50-100	Inhibited	--	--
Enterococcus faecalis	14506	50-100	Inhibited	--	--

Storage and Shelf Life: The product is highly hygroscopic; keep the container tightly closed at all times and store it properly as per the conditions mentioned on the label. The declared expiry is valid only when stored as per the conditions mentioned on the label. Note: Sterilize media immediately after reconstitution.

Disposal: To avoid the contamination or propagation of any hazardous microbes the used, unusable or modified preparation of this product must be disposed after autoclaving after completion of task.

Reference

1. **American Public Health Association, Standard Methods for the Examination of Dairy Products, 1978, 14th Ed., Washington D.C.**
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3. **Difco Manual (1998). 11th Edition. Difco Laboratories., Division of Becton Dickinson and Company, Sparks, Maryland, USA.**
4. **Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.**
5. **Rand, M. C., Arnold E. Greenberg, and Michael J. Taras, (1976), Standard methods for the examination of water and wastewater. Prepared and published jointly by American Public Health Association, American Water Works Association, and Water Pollution Control Federation.**
6. **Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.**

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