Technical Information

Thiobacillus Broth

Product Code: DM 1789

Application: - Thiobacillus Broth is used for cultivation of *Thiobacillus* species.

Composition**

Ingredients	Gms / Litre
Ammonium sulphate	0.400
Monopotassium phosphate	4.000
Calcium chloride	0.250
Ferrous sulphate	0.010
Magnesium sulphate	0.500
Sodium thiosulphate	5.000

**Formula adjusted, standardized to suit performance parameters

Principle & Interpretation

The genus *Thiobacillus* is also known under the name of *Acidithiobacillus* . *Thiobacillus* are obligate autotrophic organisms, as they require organic carbon both as an electron and carbon source. Thiobacilli produce high quantity of sulphuric acid as a byproduct during oxidation of thiosuphates, sulphur and related inorganic sulphur-containing compounds to generate metabolic energy. *Thiobacillus,* by its ability of production of sulphuric acid is involved in the destruction of concrete sewers and the acid corrosion of metals [(2).]

Thiobacillus Broth is a modification of formulae described by Starkey [(1).] It used for the isolation and maintenance of *Thiobacillus* species.

The medium contains three inorganic sulphates and a thiosulphate. Phosphate serves as a buffer while sodium chloride maintains the osmotic balance of the medium.

Samples are inoculated into Thiobacillus Broth. After incubation at 25-30°C for about 7 days or more, turbidity or sulphur precipitation on the surface of the liquid or against the walls of the flasks, indicates growth of bacteria. Isolation is subsequently done on Thiobacillus Agar.

Methodology

Suspend 10.16 grams of powder media in 1000 ml distilled water. Shake well & 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.

Quality Control

Physical Appearance

White to cream homogeneous free flowing powder

Colour and Clarity of prepared medium

Light amber coloured clear solution in tubes.

Cultural Response/Characteristics

DM 1789: Cultural characteristics observed after an incubation at 25-30°C for upto 7 days.

Organism	Growth
Thiobacillus thioparus ATCC 8158	luxuriant
Thiobacillus thiooxidans ATCC 8085	luxuriant

Storage and Shelf Life

Dried Media: Store below 30°C in tightly closed container and use before expiry date as mentioned on the label.
Prepared Media: 2-8^0 in sealable plastic bags for 2-5 days.

Further Reading

2.Eaton A. D., Clesceri L. S. and Greenberg A. E., (Ed.), 1995, Standard Methods for the Examination of water and Wastewater, 19th Ed., American Public Health Association, Washington, D.C.

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