

## TM 1303 – THIOBACILLUS BROTH

### INTENDED USE

For cultivation of *Thiobacillus* species.

### PRODUCT SUMMARY AND EXPLANATION

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 thiosulphates, sulphur and related inorganic sulphur-containing compounds to generate metabolic energy. *Thiobacillus*, by its production of sulphuric acid is involved in the destruction of concrete sewers and the acid corrosion of metals. Thiobacillus Broth is a modification of formulation described by Starkey and is used for the isolation and maintenance of *Thiobacillus* species.

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.

### COMPOSITION

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

### PRINCIPLE

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

### INSTRUCTION FOR USE

- Dissolve 10.16 grams in 1000 ml distilled water.
- Heat if necessary to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Mix well and dispense as desired.

### QUALITY CONTROL SPECIFICATIONS

Appearance of Powder	: White to cream homogeneous free flowing powder.
Appearance of prepared medium	: Colourless clear solution in tubes.
pH (at 25°C)	: 4.2±0.2

### INTERPRETATION

Cultural characteristics observed after incubation.



Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Incubation Temperature	Incubation Period
<i>Thiobacillus thioeparus</i>	8158	50-100	Luxuriant	25-30°C	7 Days
<i>Thiobacillus thiooxidans</i>	8085	50-100	Luxuriant	25-30°C	7 Days

**PACKAGING:**

In pack size of 500 gm bottles.

**STORAGE**

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.










**Product Deterioration:** Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

**DISPOSAL**

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

**REFERENCES**

- 1.Starkey R. L., 1935, Science, 39:197.
- 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.

 GMP Good Manufacturing Practices Certified	 Best Before	 QTY. Quantity	 REF Catalogue Number	 Manufacturer
 Temperature Unit	 LOT/ B. NO. Lot / Batch Number	 Consults Instructions for Use	 QR Code	

**NOTE:** Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

**\*For Lab Use Only**  
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