

CM 20183 – ATCC 2039 BROTH (DOUBLE PACK)

INTENDED USE

Recommended for the growth and maintenance of *Acidithiobacillus ferrooxidans* by ATCC.

PRODUCT SUMMARY AND EXPLANATION

This medium is recommended by ATCC for the maintenance and cultivation of *Acidithiobacillus ferrooxidans*.

COMPOSITION

Ingredients	Gms / Ltr
Part I	
Diammonium Sulphate	0.800
Magnesium Sulphate.7H ₂ O	2.015
Dipotassium hydrogen phosphate	0.400
Nitrilotriacetic acid	0.0075
Manganese Sulphate. 7H ₂ O	0.0025
Sodium Chloride	0.005
Ferrous Sulphate. 7H ₂ O	0.0005
Cobalt Chloride. 6H ₂ O	0.0005
Calcium Chloride	0.0005
Zinc Sulphate.7H ₂ O	0.0005
Copper Sulphate. 5H ₂ O	0.00005
Aluminium Potassium Sulphate.12H ₂ O	0.00005
Boric Acid	0.00005
Sodium Molybdate.2H ₂ O	0.00005
Part II	
Ferrous Sulphate.7H ₂ O	20.000

PRINCIPLE

Acidithiobacillus ferrooxidans is gram negative, acidophilic, chemolithoautotrophic bacteria which obtains its energy source from oxidation of ferrous ions, elemental sulphur or partially oxidized sulphur compounds.

INSTRUCTION FOR USE

Dissolve 2.12 grams (the equivalent weight of dehydrated medium per litre) of Part I in 800 ml purified / distilled water.

Adjust the pH of the solution to 2.3 with H₂SO₄.

Filter sterilize the solution. Suspend 20.0 grams of Part II in 200ml purified / distilled water.

Mix and stir well. Quickly filter sterilize the solution.

Aseptically mix both the parts (Part A and B). Dispense as desired.

QUALITY CONTROL SPECIFICATIONS



Appearance of Powder	: Part I: White to pale green homogeneous free flowing powder Part II : Light green to green crystals
Appearance of prepared medium	: Yellow coloured opalescent solution with yellow precipitate which may become darker on standing.
pH (at 25°C)	: 2.3±0.1

INTERPRETATION

Cultural characteristics observed after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Incubation Temperature	Incubation Period
Acidithiobacillus ferrooxidans	23270	50-100	Good	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

- American Type Culture Collection. Catalogue of Bacteria and phages. 18th Edition 1992.
- Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
- Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
- Leduc, L.G., Ferroni, G.D. (1994) The chemolithotrophic bacterium Thiobacillus ferrooxidans. FEMS Microbiol. Lett. 108, 103-120.
- Rohwerder, T., Gehrke, T., Kinzler, K., Sand, W. (2003) Bioleaching review part A: Progress in bioleaching- Fundamentals and mechanism of bacterial metal sulfide oxidation. Appl. Microbiol. Biotechnol 63, 239-248.

 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

