# AMS (Ammonium Mineral Salts) Agar

Medium used for the cultivation of methane-utilizing bacteria.

## • CONTENTS (Liter)

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|---|---|
| Dipotassium Phosphate | 0.7 g |
| Monopotassium Phosphate | 0.54 g |
| Magnesium Sulfate Heptahydrate | 1.0 g |
| Calcium Chloride | 0.2 g |
| Ferrous Sulfate Heptahydrate | 0.004 g |
| Ammonium Chloride | 0.5 g |
| Zinc Sulfate Heptahydrate | 0.0001 g |
| Manganese Chloride Tetrahydrate | 0.00003 g |
| Boric Acid | 0.0003 g |
| Cobalt Chloride | 0.0002 g |
| Copper(Ⅱ) Chloride | 0.00001 g |
| Nickel(Ⅱ) Chloride | 0.00002 g |
| Sodium Molybdate | 0.00006 g |
| Agar | 15.0 g |

Final pH = 6.8 ± 0.2 at 25°C.

## • PROCEDURE

Suspend 18.0 G of powder in 1 L of distilled or deionized water. Heat to boiling until completely dissolved. Sterilize by autoclave at 121°C for 15 minutes. Aseptically add 0.5% of methanol. Cool to 45-50°C in water bath. Dispense in petri dishes.

## • INTERPRETATION

AMS (Ammonium Mineral Salts) Agar is a medium used for the cultivation of methane-utilizing bacteria. Phosphates are the buffering agent. Magnesium sulfate heptahydrate is a cofactor for many metabolic reactions. Calcium chloride provides growth factors. Ferrous sulfate heptahydrate is present as oxygen scavengers. Ammonium chloride provides nitrogen. Manganese chloride, zinc sulfate, cobalt chloride, Boric acid, copper chloride, nickel chloride and sodium molybdate provide the essential electrolytes and minerals. Agar is the solidifying agent.

## • TECHNIC

Inoculate the plates with spreading the specimen on surface of the medium using a sterile loop. Incubate at 45°C for 24 - 48 up to 5 days under mixture of 50% methane and 50% air. Refer appropriate references for recommended test procedure.

## • QUALITY CONTROL FOR USE

Dehydrated medium
Appearance: free-flowing, homogeneous.
Color: off-white.
Prepared medium
Appearance: very slightly opalescent without precipitate.
Color: colorless.
Incubation conditions: 45°C / 24 - 48 up to 5 days / mixture of 50% methane and 50% air

| Microorganism | ATCC | Inoculum CFU | Growth |
|---|---|---|---|
| *Methylococcus capsulatus* | 33009 | 50-100 | good |

## • STORE

The powder is very hygroscopic. Store the powder at room temperature, in a dry environment, in its original container tightly closed and use it before the expiry date on the label or until signs of deterioration or contamination are evident. Store prepared medium at 2-8˚C.

## • REFERENCES


1. DAMES,S .L. & WHITTENBURRY., (1970). Fine structure of methane and other hydrocarbonutilizing ba cteria. Journal of General Microbiology 61,227.
2. WHITTENBURRY, R., DAVIES, S. L. & DAVEY, J. F. (1970). Exospores and cysts formed by methane-utilizing bacteria. Journal of General Microbiology 61,219.


## • PACKAGE

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|---|---|
| Cat. No : MB-A1607<br>AMS (Ammonium Mineral Salts) Agar | 500 G |