

TECHNICAL SHEET

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|---|-----------------------------|---------------------------------|---------------------|
| BW319 | SIMMONS CITRATE AGAR | | |
| Formula | | | |
| Ingredients : | | gms/lit. | |
| Magnesium sulphate | | 0.20 | |
| Ammonium dihydrogen phosphate | | 1.00 | |
| Dipotassium phosphate | | 1.00 | |
| Sodium citrate | | 2.00 | |
| Sodium chloride | | 5.00 | |
| Bromothymol blue | | 0.08 | |
| Agar | | 15.00 | |
| Final pH (at 25°C) : | | 6.8± 0.2 | |
| Directions : | | | |
| Suspend 24.28 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Mix well and distribute in tubes or flasks. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. | | | |
| Precaution: Before using water, ensure pH of water is 6.5 to 7.0. Initial colour of the medium may deviate from expected colour, if the above precaution is ignored. | | | |
| Principle : | | | |
| The ammonium dihydrogen phosphate is the sole source of nitrogen in Simmons Citrate Agar. Magnesium is a cofactor for a variety of metabolic reactions. Phosphate acts as a buffer. Sodium citrate is the sole source of carbon in this medium. Sodium chloride maintains the osmotic balance of the medium. Agar is the solidifying agent. Bromo thymol blue is the pH indicator. Organisms that can utilize ammonium dihydrogen phosphate and sodium citrate as their sole sources of nitrogen and carbon will grow on this medium and produce a colour change from green (neutral) to blue (alkaline). | | | |
| QC Tests – (I) Dehydrated Medium | | | |
| Colour : | | Cream to yellow | |
| Appearance : | | Homogeneous Free Flowing powder | |
| (II) Rehydrated medium | | | |
| pH (post autoclaving/heating) : | | 6.8 ± 0.2 | |
| Colour (post autoclaving/heating) : | | Forest green | |
| Clarity (post autoclaving/heating) : | | Slightly opalescent | |
| (III) Q.C. Test Microbiological | | | |
| Cultural characteristics observed after 18 – 24 hrs.at 35- 37°C. | | | |
| MICROORGANISM (ATCC) | GROWTH | COLOUR OF MEDIUM | CITRATE UTILIZATION |
| Enterobacter aerogenes (13048) | Good - Luxuriant | Blue | + |
| Salmonella enteritidis (13076) | Good - Luxuriant | Blue | + |
| Salmonella typhimurium (14028) | Good - Luxuriant | Blue | + |
| Salmonella typhi (6539) | Fair to good | Green | - |
| Escherichia coli (25922) | Inhibited | Green | - |
| Shigella dysenteriae (13313) | Inhibited | Green | - |

Refer disclaimer Overleaf

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|-------------------------|---|--------------------------------|-----------|------------|--------------------|
| Precautions : | 1. For Laboratory Use. | | | | |
| | 2. Follow proper, established laboratory procedures in handling and disposing of infectious materials. | | | | |
| Limitations : | 1. Since the nutritional requirements of organisms vary, some strains may be encountered that fail to grow or grow poorly on this medium. | | | | |
| | 2. When inoculating a variety of biochemicals, flame the inoculating loop or needle before streaking Simmons Citrate Agar or inoculate Simmons Citrate Agar first to avoid a false positive result. | | | | |
| | 3. Some citrate positive organisms require 48 hours or longer incubation for a pH change to occur. | | | | |
| | 4. Before using water, ensure pH of water is 6.5 to 7.0. Initial colour of the medium may deviate from expected colour, if the above precaution is ignored. | | | | |
| | 5. | | | | |
| Use : | Recommended by BIS for differentiation between faecal coil and members of the aerogenes group on the basis of citrate utilization. | | | | |
| Storage : | Dehydrated medium- below 30°C Prepared medium- Between 2 to 8°C. | | | | |
| Packing : | 500 gm bottle | | | | |
| Product profile: | Reconstitution | Quantity on Preparation (500g) | pH (25°C) | Supplement | Sterilization |
| BW319 | 24.28 G/L | 20.593L | 6.8 ± 0.2 | Nil | 121°C / 15 minutes |

Disclaimer:

User must ensure suitability of the product(s) in their application prior to use. Products conform solely to the information contained in this and other related BIOMARKLABORATORIES publications.

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