

TECHNICAL SHEET

B012	BISMUTH SULPHITE AGAR (AS PER I.P.)		
Formula			
Ingredients :	gms/lit.		
Peptone	10.00		
Beef Extract	6.00		
Dextrose,monohydrate	5.00		
Disodium hydrogen – phosphate Anhydrous	4.00		
Sodium sulphite	10.00		
Ferrous citrate	0.40		
Bismuth ammonium citrate	3.00		
Brilliant Green	0.01		
Agar	24.00		
Final pH (at 25°C) :	7.7 ± 0.2		
Directions :			
Suspend 63.40 grams in 1000ml distilled water. Boil to dissolve the medium completely. Mix well to disperse suspension and pour plates.DO NOT AUTOCALVE OR OVERHEAT.			
Principle :			
In Bismuth Sulfite Agar, Beef extract and Peptone provide nitrogen, vitamins and minerals. Dextrose is an energy source. Disodium phosphate is a buffering agent. Bismuth sulfite indicator and brilliant green are complementary in inhibiting gram-positive bacteria and members of the coliform group, while allowing Salmonella to grow luxuriantly. Ferrous sulfate is for H ₂ S production. When H ₂ S is present , the iron in the formula is precipitated, giving positive cultures the characteristic brown to black colour with metallic sheen. Agar is a solidifying agent.			
QC Tests - (I)Dehydrated Medium			
Colour :	Greenish cream to greenish yellow		
Appearance :	Homogeneous Free Flowing powder		
(II)Rehydrated medium			
pH (post autoclaving/heating) :	7.7 ± 0.2		
Colour (post autoclaving/heating) :	Greenish yellow		
Clarity (post autoclaving/heating) :	Opalescent gel with flocculent precipitate.		
(III)Q.C. Test Microbiological			
Cultural characteristics observed after 40 –48 hrs at 35-37°C.			
MICROORGANISM (ATCC)	GROWTH	COLOUR OF COLONY	
Salmonella enteritidis (13076)	Luxuriant	Black with metallic sheen	
Salmonella typhi (19430)	Luxuriant	Black with metallic sheen	
Enterobacter aerogenes (13048)	None - Poor	Brown to green*	
Escherichia coli (25922)	None - Poor	Brown to green*	
Shigella flexneri (12022)	None - Poor	Brown	
Enterococcus faecalis (29212)	Inhibited	---	
Key: * depends on inoculum density.			

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.				
	3. HARMFUL. May cause sensitization by inhalation. Irritating to eyes, respiratory system and skin. Avoid contact with skin and eyes. Do not breathe dust. Wear suitable protective clothing. Keep container tightly closed.				
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. It is important to streak for well isolated colonies. In heavy growth areas, <i>S. typhi</i> appears light green and may be misinterpreted as negative growth for <i>S. typhi</i> .				
	3. <i>S. typhi</i> and <i>S. arizonae</i> are the only enteric organisms to exhibit typical brown zones on the medium. Brown zones are not produced by other members of the Enterobacteriaceae. However, <i>S. arizonae</i> is usually inhibited.				
	4. Colonies on Bismuth Sulfite Agar may be contaminated with other viable organisms; therefore, isolated colonies should be subcultured to a less selective medium (e.g. Mac Conkey Agar).				
	5. Typical <i>S. typhi</i> colonies usually develop within 24 hours ; however, all plates should be incubated for a total of 48 hours to allow growth of all typhoid strains.				
	6. DO NOT AUTOCLAVE. Heating this medium for a period longer than necessary to just dissolve the ingredients destroys its selectivity.				
Use :	For detection of Salmonella species in pharmaceutical samples as per IP.				
Storage :	Dehydrated medium-below 30°C Prepared medium- Between 2 to 8°C. but not for more than two days as after which dye oxidizes to give green medium that could be inhibitory to some Salmonellae. Current references suggest that the prepared medium should be aged for one day before use.				
Packing :	500 gm. bottle				
Product profile:	Reconstitution	Quantity on Preparation (500g)	pH (25°C)	Supplement	Sterilization
B012	63.40g/l	7.886L	7.7 ± 0.2	NIL	DO NOT AUTOCLAVE OR OVERHEAT.

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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