

Manual Of Dehydrated Culture Media

A 1 Borth

Ord No. D01010.500

Price€ 32.00

A 1 Broth is used for detecting faecal coliforms in water samples Wastewater, seawater and food by a MPN Method.

Compositions (Gr/Lit):Casein enzymic hydrolysate 20.00 hydrolysate 20.00 Lactose 5.00 Sodium chloride 5.00 salicin 0.50 Polyethylene glycol p-isooctylphenyl ether (Triton 100) 1 ml pHat 25C App.6.9

Directions: **Suspend 31.5 Gm of powder in 1 Liter of distilled or deionized water. Boil the media to dissolve completely. Distribute 10ml amounts into tubes containing inverted Durham S tubes. Sterilize by Autoclaving at 15 lbs pressure and 121C for 10 Minutes.**

Quality Control	Organism(ATCC)	Recovery at 35C	Recovery at 44C
	Enterobacter aerogenes (13048)	Luxuriant	poor to good
	Escherichia coli(25922)	Luxuriant w/gas	Luxuriant w/gas
	Salmonella typhimurium(1334)	Luxuriant w/gas	good without gas
	Streptococcus faecalis(19433)	poor	none to poor
	Bacillus subtilis (6633)	none	none

Shelf Life: Stor below 25C and the prepared medium at 2-8C .Use before expiry date on label.

AATCC Bacteriostasis Agar

Ord No. D01020.500

Price€ 32.00

AATCC Bacteriostasis Agar is used for the detection of antibacterial activity of fabrics while broth is used for routine antibacterial testing of antiseptics ad disinfectants.

Compositions (Gr/Lit):Peptic digest of animal tissue 10.00, 10.00 Beef extract 5.00,5.00 Sodium chloride 5.00, - , pHat 25C App 7.2

Directions: **Suspend 35 Gm of M231 or 20 grams of M221 in 1000ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by Autoclaving at 15 lbs pressure and 121C for 15 Minutes.**

Quality Control	Organism(ATCC)	Growth
	Escherichia coli(25922)	Luxuriant
	Staphylococcus aureus(6538)	Luxuriant
	Pseudomonas aeruginosa(27853)	Luxuriant
	Salmonella typhi (6539)	Luxuriant

Shelf Life: Stor below 25C and the prepared medium at 2-8C .Use before expiry date on label.

AAcid Broth

Ord No. D01030.500

Price€ 32.00

Acid Broth is recommended for the cultivation of acid tolerant microorganisms from canned foods

Compositions (Gr/Lit): Peptic digest of animal tissue 10.00 Yeast extract 7.50 Invert sugar 10.00 pHat 25C App 4.0

Directions: **Suspend 27.5 Gm in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Distribute into tubes or flasks. Sterilize by Autoclaving at 15 lbs pressure 121C for 15 Minutes**

Quality Control	Organism(ATCC)	Growth
	Lactobacillus acidophilus (4356)	good luxuriant
	Leuconostoc mesenteroides (12291))	good luxuriant
	Bacillus coagulans (8038))	good luxuriant

Shelf Life: Stor below 25C and the prepared medium at 2-8C .Use before expiry date on label.

Alkaline Peptone Water

Ord No. D01030.500

Price€ 32.00

Alkaline Peptone Water is recommended for enrichment of Vibrio species.

Compositions (Gr/Lit): Peptic digest of animal tissue 10.00 Sodium chloride 10.00 pHat 25C App 8.4

Directions: **Suspend 20 Gm of M618 or 50 grams of M181 in 1000ml distilled water. Boil to dissolve the medium completely. Dispense as desired and sterilize by Autoclaving at 15 lbs pressure and 121C for 15 Minutes**

Quality Control	Organism(ATCC)	Growth
	Vibrio parahaemolyticus (17802)	luxuriant
	Vibrio cholerae (15748)	luxuriant

Shelf Life: Stor below 25C and the prepared medium at 2-8C .Use before expiry date on label.

Alternative Thioglycollate Medium (NIH Thioglycollate Broth)

rd No. D01030.500

Price€ 32.00

Alternative Thioglycollate Medium is recommended for sterility testing with certain biological products which are turbid or viscous.

Compositions (Gr/Lit): Casein enzymic hydrolysate 15.00 Yeast extract 5.00 Dextrose 5.00 Sodium chloride 2.50 L-Cystine 0.50 Sodium thioglycollate 0.50 pHat 25C App 7.1

Directions: **Suspend 29 grams in 1000ml distilled water. Heat if necessary to dissolve the meium completely. Distribute into tubes or flask as desired. Sterilize by autoclaving at 15 lbs pressure (121 C) for 15 minutes.**

Note: It is preferable to use freshly prepared medium, alternatively it should be boiled and cooled just once prior to use or with reheating , toxic oxygen radicles are formed.

Quality Control	Organism(ATCC)	Growth
	Bacillus subtilis (6633)	luxuriant
	Bacteroides vulgatus (8482)	luxuriant
	Candida albicans (10231)	luxuriant
	Clostridium sporogenes (11437)	luxuriant
	Staphylococcus aureus (25923)	luxuriant
	Streptococcus pyogenes (19615)	luxuriant
	Neisseria meningitides (13090)	luxuriant
	Micrococcus luteus (9341)	luxuriant
	Bacteroides fragilis (25285)	luxuriant

Shelf Life: Stor below 25C and the prepared medium at 2-8C .Use before expiry date on label.

Manual Of Dehydrated Culture Media

Amies Transport Medium with Charcoal

rd No. D01030.500 Price€32.00

Amies Transport Medium is used for transportation and preservation of microbiological specimen.

Compositions (Gr/Lit): Sodium chloride 3.00 Potassium chloride 0.20 Calcium chloride 0.10 Magnesium chloride 0.10 Monopotassium phosphate 0.20 Disodium phosphate 1.15 Sodium thioglycollate 1.00 Charcoal 10.00 Agar 4.00 pHat 25C App 7.2

Directions: **Suspend 20 grams in 1000ml distilled water. Boil to dissolve the medium completely. Distribute in screwcap bottles or tubes in 6 ml or desired quantity. Sterilize by autoclaving at 15 lbs pressure (121 C) for 15 minutes. Cool in an upright position. Turn the tubes several times while agar is solidifying, to maintain uniform suspension of charcoal particles.**

Quality Control Organism(ATCC)	Growth
Escherichia coli (25922)	luxuriant
Klebsiella pneumoniae (13883)	luxuriant
Pseudomonas aeruginosa (9027)	luxuriant
Salmonella typhi (6531)	luxuriant
Shigella flexneri (12022)	luxuriant
Staphylococcus aureus (25923)	luxuriant
Vibrio cholerae (15748)	luxuriant

Shelf Life: Stor below 25C and the prepared medium at 2-8C .Use before expiry date on label.

Ammonium Phosphate Agar

rd No. D01030.500 Price€32.00

Ammonium Phosphate Agar is recommended for detecting microorganisms the can use ammonium phosphate as source of nitrogen especially during differentiating Micrococci from Staphylococci.

Compositions (Gr/Lit): Ammonium phosphate 1.00 Dextrose 10.00 Potassium choride 0.20 Magnesium sulphate 0.20 Bromo cresol purple 15.00 Agar pHat 25C App 7.0

Directions: **Suspend 26 grams in 1000ml distilled water. Mix thoroughly and heat to dissolve the medium completely. Distribute into tubes and sterilize by autoclaving at 12-15 lbs pressure (118-121 C) for 10 minutes. Allow the tubes to cool in slanted position.**

Quality Control Organism(ATCC)	Growth	Colour of slant
Staphylococcus aureus (25923)	luxuriant	purple
Micrococcus lutesu (10240)	luxuriant	yellow

Shelf Life: Stor below 25C and the prepared medium at 2-8C .Use before expiry date on label.

Anaerobic Agar

rd No. D01030.500 Price€32.00

Anaerobic Agar is recommended for the cultivation of anaerobic bacteria, especially Clostridium species and other anaerobic organisms.

Compositions (Gr/Lit): Casein enzymic hydrolysate 20.00 Dextrose 10.00 Sodium chloride 5.00 Sodium thioglycollate 2.00 Sodium formaldehyde sulfoxylate Methylene blue 0.002 Agar 20.00 pH at 25C App 7.2

Directions: **Suspend 58 grams in 1000ml distilled water. Boil to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121 C) for 15 minutes.**

Quality Control Organism(ATCC)	Growth
Clostridium butyricum (9690)	luxuriant
Clostridium perfringens (12914)	luxuriant
Clostridium sporogenes (11437)	luxuriant

Shelf Life: Stor below 25C and the prepared medium at 2-8C .Use before expiry date on label.

Amies Transport Medium with Charcoal

rd No. D01030.500 Price€32.00

Compositions (Gr/Lit): Dextrose 50.00 Sodium citrate 4.50 Potassium phosphate 0.55 Citric acid 1.00 Casein enzymic hydrolysate 4.00 Pyridoxine hydrochloride 0.00025 Thiamine 0.00025 Inositol 0.025 calcium pantothenate 0.0025 Niacin 0.0025 Potassium chloride 0.425 Calcium chloride 0.125 Magnesium sulphate 0.125 Ferric chloride 0.0025

Manganese sulphate 0.0025 Biotin 0.000008 Agar 15.00 pHat 25C App 7.0
Directions: **Suspend 75.76 grams in 1000ml distilled water. Boil to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121 C) for 15 minutes.**

Quality Control Organism(ATCC)	Growth
Saccharomyces cerevisiae (9763)	luxuriant
Aspergillus niger (16404)	luxuriant

Shelf Life: Stor below 25C and the prepared medium at 2-8C .Use before expiry date on label.

Azide Dextrose Broth

rd No. D01030.500 Price€32.00

Azide Dextrose Broth is used for detection and enumeration of Streptococci in water, sewage, food and other materials suspected of sewage contamination.

Compositions (Gr/Lit): Peptone, special 15.00 Beef extract 4.50 Dextrose 7.50 Sodium chloride 7.50 Sodium azide 0.20 pH at 25C App7.2

Directions: **Suspend 34.7 Gm in 1000 ml distilled water for preparing single strength broth or use 69.4 Gm in 1000 ml distilled water for double strength broth. Heat to boiling to ensure complete solution. Dispense in test tubes and sterilize by Autoclaving at 12 lbs pressure 118C for 15 Minutes. Warning: Sodium azide has a tendency to form explosive metal azides with plumbing materials. It is advisable to use enough water to flush off the disposables.**

Quality Control Organism(ATCC)	Growth
Enterococcus faecalis (29212)	luxuriant
Escherichia coli (25922)	inhibited

Shelf Life: Stor below 25C and the prepared medium at 2-8C .Use before expiry date on label.

Manual Of Dehydrated Culture Media

Baird Parker Agar Base rd No. D01030.500 Price€ 32.00

Baird Parker Agar Base with supplements is recommended for the isolation and enumeration of coagulase positive Staphylococci from food and other materials.

Compositions (Gr/Lit): Casein enzymic hydrolysate 10.00 Beef extract 5.00 Yeast extract 1.00 Glycine 12.00 Sodium pyruvate 10.00 Lithium chloride 5.00 Sulphamethazine – Agar 20.00 pH at 25C App7.2

Directions: **aseptically add 50 ml concentrated Egg Yolk Emulsion (FD045) and 3 ml sterile 3.5% Potassium Tellurite solution (FD047) or 50 ml Egg Yolk Tellurite Emulsion (FD046). Mix well and pour into sterile Petri plates.**

Warning : Lithium chloride is harmful. Avoid bodily contact and inhalation of vapours. On contact with skin wash with plenty of water immediately.

Quality Control Organism(ATCC)	Growth	
Proteus mirabilis (25933)	good to luxuriant	brown – black
Staphylococcus aureus (25923)	good to luxuriant	grey-black shiny
Staphylococcus Epidermidis (12228)	poor to good	black
Micrococcus luteus (10240)	poor to good	very small in shades Of brown – black
Bacillus subtilis (6633)	none to poor	dark brown matt
Esherichia coli (25922)	non to poor	large brown black
On M1140 Proteus species show none to poor growth without swarming.		

Shelf Life: Stor below 25C and prepare fresh plate medium for best results. Use before expiry date on label.

Beef Extract Agar / Broth rd No. D01030.500 Price€ 32.00

Beef Extract Media are used as a general purpose nutrient media which can support growth of not particularly fastidious bacteria.

Compositions (Gr/Lit): Peptic digest of animal tissue 10.00/10.00 Beef extract 3.00 / 3.00 Sodium chloride 5.00 / 5.00 Agar 15.00 /- pH at 25C App7.6

Directions: **Suspend 33 grams of M806 or 18 grams of M807 in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Dispense in tubes. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. Allow the tubes of M806 to cool in slanting position if required.**

Quality Control Organism(ATCC)	Growth
Escherichia coli (25922)	luxuriant
Staphylococcus aureus (25923)	luxuriant
Candida albicans (10231)	luxuriant
Salmonella typhi (6539)	luxuriant
Pseudomonas aeruginosa (27853)	luxuriant

Shelf Life: Stor below 25C and the prepared medium at 2-8C .Use before expiry date on label.

Bile Esculin Agar Ord No. D01010.500 Price€ 32.00

Bile Esculin Agar is a differential medium recommended for isolation and presumptive identification of group D Streptococci from food and pharmaceutical products.

Compositions (Gr/Lit):Peptic digest of animal tissue 5.00 Beef extract 3.00 Oxgall 40.00 Esculin 1.00 Ferric citrate 0.50 Agar 15.00 pHat 25C 6.6 ± 0.2

Directions: **Suspend 64.5 grams of M340 in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Add 1 gram of Esculin (FD050) in M340. Mix and dispense into tubes or flasks as desired. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. Allow the tubed medium to solidify in slanted position.**

Quality Control Organism(ATCC)	Growth	Esculin hydrolysis
Enterococcus faecalis (2912)	luxuriant	+
Streptococcus pyogenes (19615)	luxuriant	-
Proteus mirabilis (25933)	luxuriant	-

Shelf Life: Store 25C and the prepared medium at 2-8C. Use before expiry date on label.

Bile Esculin Agar Ord No. D01010.500 Price€ 32.00

Bile Esculin Agar is recommended for isolation and identification of esculin hydrolyzing organisms. It is recommended for Yersinia enterocolitica by ISO Committee under the specification ISO 10273: 1994.

Compositions (Gr/Lit):Peptic digest of animal tissue 5.00 Beef extract 3.00 Esculin 1.00 Bile salts 40.00 Ferric citrate 0.50 Agar 15.00 pHat 25C 6.6 ± 0.2

Directions: **Suspend 64.5 grams of M340 in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Dispense in tubes or flasks. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. Allow the tubed medium to solidify in slanted position.**

Quality Control Organism(ATCC)	Growth	Esculin hydrolysis
Enterococcus faecalis (2912)	luxuriant	+
Streptococcus pyogenes (8482)	luxuriant	+
Yersinia enterocolitica (27729)	luxuriant	+
Esherichia coli (25922)	good	-
Key : + = blackening of the medium		
- = no change		

Shelf Life: Store 25C and the prepared medium at 2-8C. Use before expiry date on label.

Manual Of Dehydrated Culture Media

Bismuth Sulphite Agar

Ord No. D01010.500

Price€32.00

Bismuth Sulphite Agar is recommended for the selective isolation and preliminary identification of Salmonellatyphi and other Salmonellea from pathological materials , Sewage, water supplies, food etc.

Compositions (Gr/Lit):Peptic digest of animal tissue 10.00 Beef extract 5.00 Dextrose 5.00 Disodium phosphate 4.00 Ferrous sulphate 0.30 Bismuth sulphite indicator 8.00 Brilliant green 0.025 Agar 20.00 pHat 25C 7.7 ± 0.2

Directions: **Suspend 52.33 grams of M027 or 40 grams of M1004 in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. DO NOT STERILIZE IN AUTOCLAVE or by fractional sterilisation since overheating may destroy the selectivity of the medium.**

The sensitivity of the medium depends largely upon uniform dispersion of precipitated bismuth sulphite in the final gel, which should be dispersed before pouring into the sterile Petri plates.

Quality Control	Organism(ATCC)	Growth	Esculin hydrolysis
	Salmonella enteritidis (13076)	luxuriant	black with metallic sheen
	Salmonella typhi (19430)	luxuriant	black with metallic sheen
	Enterobacter aerogenes (13048)	none to poor	brown to green*
	Escherichia coli (25922)	none to poor	brown to green*
	Shigella flexneri (12022)	none to poor	brown
	Enterococcus faecalis (29212)	inhibited	-

Shelf Life: Store 25C and the prepared medium at 2-8C. but not for more than 2 days as after which dye oxidizes to give green medium that could be inhibitory to some Salmonellae. Use before expiry date on label.

Blood Agar Base

Ord No. D01010.500

Price€32.00

Blood Agar Base is recommended as a base to which blood may be added for use in the isolation and cultivation of fastidious pathogenic microorganisms like Neisseria, Streptococci eat.

Compositions (Gr/Lit):Beef heart infusion from (Beef extract) 500.00 Tryptose 10.00 Sodium chloride 5.00 Agar 15.00 pHat 25C 7.3 ± 0.2

Directions: **Suspend 40 grams in 1000 ml distilled water. Boil to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. Cool to 50 C and aseptically add 5% v/v sterile defibrinated blood. Mix well and pour into sterile Petri plates.**

Quality Control	Organism(ATCC)	Growth	Growth	Haemolysis
	Neisseria meningitidis (13090)	luxuriant	luxuriant	none
	Staphylococcus aureus (25923)	luxuriant	luxuriant	beta
	Staphylococcus epidermidis (12228)	luxuriant	luxuriant	none
	Streptococcus pneumoniae (6303)	fair to good	luxuriant	alpha
	Streptococcus pyogenes (19615)	fair to good	luxuriant	beta

Shelf Life: Store 25C and the prepared medium at 2-8C. Use before expiry date on label.

Brain Heart Infusion Agar

Ord No. D01010.500

Price€32.00

Brain Heart Infusion Agar is a solid medium recommended for the cultivation of fastidious pathogenic bacteria, yeasts and moulds.

Compositions (Gr/Lit):Calf brain, infusion from 200.00 Beef infusion from 250.00 Proteose peptone 10.00 Dextrose 2.00 Sodium chloride 5.00 Disodium phosphate 2.50 Agar 15.00 pHat 25C 7.4 ± 0.2

Directions: **Suspend 52 grams of M211 or 48 grams of M211A in 1000 ml distilled water. Boil to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. Mix well before pouring . if desired, 20 units Penicillin and 40 mg Streptomycin per ml of medium may be added to make the medium selective for fungi.**

Quality Control	Organism(ATCC)	Growth
	Escherichia coli (25922)	luxuriant
	Shigella flexneri (12022)	luxuriant
	Streptococcus pneumoniae (6303)	luxuriant
	Staphylococcus aureus (25923)	luxuriant
	Candida albicans (26790)	luxuriant
	*Trichophyton mentagrophytes (9533)	luxuriant
	*Incubation at 25-30C for 1-2weeks.	luxuriant

Shelf Life: Store 25C and the prepared medium at 2-8C. Use before expiry date on label.

Brain Heart Infusion Broth

Ord No. D01010.500

Price€32.00

Brain Heart Infusion Broth is highly nutritious medium employed for the propagation of fastidious pathogenic cocci and other organisms associated with blood culture work and allied pathological investigations.

Compositions (Gr/Lit): Calf brain, infusion from 200.00 Beef infusion from 250.00 Proteose peptone 10.00 Dextrose 2.00 Sodium chloride 5.00 Disodium phosphate 2.50 Agar 15.00 pHat 25C 7.4 ± 0.2

Directions: **Suspend 37 grams of M210 or 38 grams of M1036 or 97 grams of M1037 in 1000 ml distilled water. Dispense into bottles or tubes and sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. For best results. The medium should be used on the day it is prepared , otherwise , it is prepared, other wise, it should be boiled or steamed for a few minutes and then cooled before use.**

Quality Control	Organism(ATCC)	Growth*	Growth**
	Neisseria meningitidis (13090)	luxuriant	inhibited
	Streptococcus pneumoniae (6303)	luxuriant	inhibited
	Streptococcus pyogenes (19615)	luxuriant	inhibited
	Enterococcus faecalis (29212)	luxuriant	luxuriant

Shelf Life: Store 25C and the prepared medium at 2-8C. Use before expiry date on label.

Manual Of Dehydrated Culture Media

Brain Heart Infusion Broth

Ord No. D01010.500

Price€ 32.00

Brain Heart Infusion Broth is employed for the propagation of fastidious pathogenic cocci and other organisms associated with blood culture work and allied pathological investigations.

Compositions (Gr/Lit): Peptic digest of animal tissues 10.00 Calf brain infusion (solids) 12.50 Beef heart infusion (solids) 5.00 Dextrose 2.00 Sodium chloride 5.00 Disodium phosphate 2.50 pHat 25C 7.4 ± 0.2

Directions: **Suspend 37 in 1000 ml distilled water. Dispense into bottles or tubes and sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. For best results. The medium should be used on the day it is prepared, otherwise, it is prepared, other wise, it should be boiled or steamed for a few minutes and then cooled before use.**

Quality Control	Organism(ATCC)	Growth*
	Neisseria meningitides (13090)	luxuriant
	Streptococcus pneumoniae (6303)	luxuriant
	Streptococcus pyogenes (19615)	luxuriant
	Staphylococcus aureus(25923)	luxuriant

Shelf Life: Store 25C and the prepared medium at 2-8C. Use before expiry date on label.

Brilliant Green Agar

Ord No. D01010.500

Price€ 32.00

Brilliant Green Agar Media are used for selective isolation of Salmonellae other than Salmonella typhi from faeces and other materials and also recommended for examination of foods and also recommended for examination of foods and dairy products.

Compositions (Gr/Lit): Proteose peptone 10.00 Yeast extract 3.00 Lactose 10.00 Sucrose 10.00 Sodium chloride 5.00 Phenol red 0.08 Brilliant green 0.0125 Agar 20.00 pHat 25C 6.9 ± 0.2

Directions: **Suspend 58 grams of M016 or 50 grams of M016 in 1000 ml distilled water. Boil to dissolve medium completely. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. AVOID OVERHEATING. For more selectivity, aseptically add rehydrated Sulpha Supplement (FD068). Mix well before pouring into sterile petriplates.**

Quality Control	Organism(ATCC)	Growth*	Colour of colony
	Salmonella typhimurium (14028)	luxuriant	pinkish white
	Salmonella enteritidis (13076)	luxuriant	pinkish white
	Salmonella typhi (6539)	poor to good	reddish pink
	Escherichia coli (25922)	none to poor	yellowish green
	Staphylococcus aureus (25923)	inhibited	-

Shelf Life: Store 25C and the prepared medium at 2-8C. Use before expiry date on label.

Brilliant Green Bile Agar

Ord No. D01010.500

Price€ 32.00

Brilliant Green Bile Agar is recommended for enumeration of the coliform bacteria in water and wastewater.

Compositions (Gr/Lit): Peptic digest of animal tissue 8.25 Lactose 1.90 Sodium sulphite 0.205 Ferric chloride 0.0295 Monopotassium phosphate 0.0153 Erioglaucine 0.649 Basic fuchsin 0.0776 Oxgall 0.00295 Brilliant green 0.0000295 Agar 10.15 pHat 25C 6.9 ± 0.2

Directions: **Suspend 20.7 grams in 1000 ml distilled water. Boil to dissolve medium completely. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. For plating 10 ml quantities of water samples prepare the medium in double strength. Caution: Basic fuchsin is a potent carcinogen and care should be taken to avoid inhalation of the powdered dye and contamination of the skin.**

Quality Control	Organism(ATCC)	Growth*	Colour of colony
	Enterobacter aerogenes (13048)	luxuriant	pink
	Escherichia coli (25922)	luxuriant	deep red with bile precipitate
	Salmonella enteritidis (13076)	luxuriant	colourless to light pink
	Escherichia coli (25922)	none to poor	yellowish green
	Staphylococcus aureus (25923)	inhibited	-

Shelf Life: Store 25C and the prepared medium at 2-8C. Use before expiry date on label.

Brilliant Green Bile Broth 2%

Ord No. D01010.500

Price€ 32.00

Brilliant Green Bile Broth 2% is recommended for the confirmation of presumptive tests for coliform organisms in the bacteriological examination of water, sewage, foods, milk and dairy products. It is also recommended by ISO Committee under the specifications ISO 4831: 1991.

Compositions (Gr/Lit): Peptic digest of animal tissue 10.00 Lactose 10.00 Oxgall 20.00 Brilliant green 0.0133 pHat 25C 7.2 ± 0.2

Directions: **Suspend 40 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Distribute in fermentation tubes containing inverted Durham's tubes and sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. Do not autoclave double strength broth.**

Quality Control	Organism(ATCC)	Growth*	Gas
	Escherichia coli (25922)	luxuriant	+
	Enterobacter aerogenes (13048)	luxuriant	+
	Enterococcus faecalis (19433)	none to poor	-
	Staphylococcus aureus (25923)	inhibited	-
	Bacillus cereus (10876)	inhibited	-

Shelf Life: Store 25C and the prepared medium at 2-8C. Use before expiry date on label.

Manual Of Dehydrated Culture Media

Brucella Agar Base / Broth Base

Ord No. D01010.500

Price€32.00

Brucella Agar Base / Broth Base with supplement is recommended for enrichment, isolation and cultivation of Brucella species from clinical and nonclinical specimens.

Compositions (Gr/Lit): Casein enzymic hydrolysate 10.00 Peptic digest of animal tissue 10.00 Yeast extract 2.00 Dextrose 1.00 Sodium chloride 5.00 Sodium bisulphite 0.10 Agar 15.00 pHat 25C 7.2 ± 0.2

Directions: **Suspend 21.55 grams of M074 or 14.05 grams of M348 in 500 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. Cool to 45-50C and aseptically add sterile 5% v/v inactivated horse serum (FD074, Inactivate by heating at 56C for 30 minutes) and rehydrated contents of one vial of Brucella selective Supplement (FD005). For isolation of Campylobacter species add rehydrated contents of 1 vial of Campylobacter Growth Supplement (FD009) and 5-7% defibrinated sheep blood to 500 ml of M074. Mix well before into sterile petriplates or tubes.**

Quality Control	Organism(ATCC)	Growth*	Gas
	Brucella abortus (4315)	luxuriant	
	Brucella melitensis (4309)	luxuriant	
	Brucella suis (4314)	luxuriant	
	Escherichia coli (25922)	inhibited	
	Staphylococcus aureus(25923)	inhibited	

Shelf Life: Store 25C and the prepared medium at 2-8C. Use before expiry date on label.

Buffered Peptone Water

Ord No. D01010.500

Price€32.00

Buffered Peptone Water is a pre-enrichment medium used for increasing the recovery of injured Salmonella species from foods prior to selective enrichment and isolation. It is also recommended by ISO Committee under the specifications ISO 6579 : 1993.

Compositions (Gr/Lit): PROTEOSE PEPTONE 10.00 Sodium chloride 5.00 Disodium phosphate 3.50 Monopotassium phosphate 1.50 pHat 25C 7.2 ± 0.2

Directions: **Suspend 20 grams in 1000 ml distilled water. Dispense in 50 ml amounts. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes.**

Quality Control	Organism(ATCC)	Growth
	Salmonella enteritidis (13076)	luxuriant
	Salmonella typhi (19430)	luxuriant
	Salmonella typhimurium (14028)	luxuriant

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Buffered Yeast Agar

Ord No. D01010.500

Price€32.00

Buffered Yeast Agar is used as a semisynthetic medium for cultivation of yeasts and moulds and for controlling bottle washing operations in the soft drink and related industries.

Compositions (Gr/Lit): Yeast extract 5.00 Dextrose 20.00 Ammonium sulphate 0.72 Ammonium dihydrogen phosphate 0.26 Agar 15.00 pHat 25C 5.5 ± 0.2

Directions: **Suspend 41 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 10 lbs pressure (115C) for 20 minutes.**

Quality Control	Organism(ATCC)	Growth
	Aspergillus niger (16404)	luxuriant
	Saccharomyces cerevisiae (9763)	luxuriant
	Candida albicans (10231)	luxuriant

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Bushnell Haas Agar/ Broth

Ord No. D01010.500

Price€32.00

Bushnell Haas Agar / Broth is recommended for the examination of fuels for microbial contamination and for studying hydrocarbon deterioration by microorganisms.

Compositions (Gr/Lit): Magnesium sulphate 0.20 , 0.20 Calcium chloride 0.02 , 0.02 Monopotassium phosphate 1.00, 1.00 Dipotassium phosphate 1.00, 1.00 Ammonium nitrate 1.00, 1.00 Ferric chloride 0.05 , 0.05 Agar 20.00 , - 1.50 pHat 25C 7.2 ± 0.2

Directions: **Suspend 23.27 grams of M349 or 3.27 grams of M350 in 1000 ml distilled water. Boil to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. A white precipitate prior to sterilization becoming yellow to orange after sterilization is normal.**

Quality Control	Organism(ATCC)	Growth
	Pseudomonas aeruginosa (9027)	poor
	Pseudomonas aeruginosa (27853)	poor

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

CHO Medium Base

Ord No. D01010.500

Price€32.00

CHO Medium Base is a basal medium to which carbohydrates may be added for use in fermentation studies of anaerobic bacteria.

Compositions (Gr/Lit): Casein enzymic hydrolysate 15.00 Yeast extract 7.00 L-Cystine 0.25 Sodium chloride 2.50 Ascorbic acid 0.10 Sodium thioglycollate 0.50 Bromo thymol blue 0.01 Agar 0.75 pHat 25C 7.0 ± 0.2

Directions: **Suspend 26 grams in 1000 ml distilled water. Boil to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. Cool to 45-50C. Aseptically add 6.25 ml of 10% sterile carbohydrate solution. Mix well and dispense in sterile tubes containing inverted Durham's tubes.**

Quality Control	Organism(ATCC)	Growth		
	Clostridium perfringens (12924)	luxuriant	+	+
	Clostridium botulinum (25763)	luxuriant	-	+
	Escherichia coli (35218)	luxuriant	+	+
	Bacteroides vulgatus (8482)	luxuriant	-	-
	Bacteroides fragilis (25285)	luxuriant	+	+

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Manual Of Dehydrated Culture Media

C.L.E.D. Agar

Ord No. D01010.500

Price€ 32.00

C.L.E.D. Agar with Bromo Thymol Blue is recommended for isolation. Enumeration and identification of urinary pathogens on the basis of lactose fermentation.

Compositions (Gr/Lit): Peptic digest of animal tissue 4.00 Casein enzymic hydrolysate 4.00 Beef extract 3.00 Lactose 10.00 L-Cystine 0.128 Bromo thymol blue 0.02 Agar 15.00 pHat 25C 7.0 ± 0.2

Directions: **Suspend 36.15 grams in 1000 ml of M792 or 36.1 grams of M1146 in 998 ml distilled water. Add rehydrated contents of 1 vial of Bromo Thymol Blue Supplement (FD091) in M 1146. Boil to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes.**

Quality Control	Organism(ATCC)	Growth	
	Escherichia coli (25922)	luxuriant	yellow, opaque, center slightly, deeper yellow
	Klebsiella pneumoniae (13883)	luxuriant	yellow to whitish blue
	Proteus vulgaris (13315)	luxuriant	blue
	Salmonella typhi (6539)	luxuriant	bluish
	Staphylococcus aureus (25923)	luxuriant	deep yellow
	Enterococcus faecalis (29212)	luxuriant	slight yellowish or greenish

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Campylobacter Agar Base

Ord No. D01010.500

Price€ 32.00

Campylobacter Agar Base is used as a highly nutritious basal medium which after appropriate additions is used for selective isolation of Campylobacter species from faecal specimens, food and environmental specimens.

Compositions (Gr/Lit): Proteose peptone 15.00 Liver digest 2.50 Yeast extract 5.00 Sodium chloride 5.00 Agar 12.00 pHat 25C 7.4 ± 0.2

Directions: **Suspend 19.75 grams in 500 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. Cool to 40-50C and aseptically add 5-7% v/v sterile lysed horse blood or 10% sterile defibrinated sheep blood and Campylobacter Supplement (Blaser-Wang FD008). Mix well before pouring in sterile Petri plates.**

Quality Control	Organism(ATCC)	Growth	Growth
	Campylobacter fetus subsp. Jejuni (29428)	good luxuriant	good – luxuriant
	Candida albicans (10231)	none to poor	moderate
	Escherichia coli (25922)	none to poor	none to poor
	Streptococcus faecalis (29212)	none to poor	none to poor

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Candida BCG Agar Base

Ord No. D01010.500

Price€ 32.00

Candida BCG Agar Base with Neomycin addition is used for primary isolation and identification of Candida species.

Compositions (Gr/Lit): Peptic digest of animal tissue 10.00 Yeast extract 1.00 Dextrose 40.00 Bromo cresol green 0.02 Agar 15.00 pHat 25C 6.1 ± 0.2

Directions: **Suspend 66 grams in 1000 ml distilled water. Boil to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. Cool to 50C and add sterile Neomycin to a concentration of 500 mcg/ml. of medium. Mix well before pouring in sterile Petri plates**

Quality Control	Organism(ATCC)	Growth	
	Candida albicans(10231)	luxuriant	yellow
	Candida kruisii (24408)	luxuriant	yellow
	Candida tropicalis(1369)	luxuriant	yellow
	Escherichia coli (25922)	inhibited	green
	Staphylococcus aureus(25923)	inhibited	green

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Cary – Blair Medium

Ord No. D01010.500

Price€ 32.00

Cary – Blair Medium (Transport Medium without Charcoal) is recommended for collection and shipment of clinical specimens.

Compositions (Gr/Lit): Disodium phosphate 1.10 Sodium thioglycollate 1.50 Sodium chloride 5.00 Agar 5.00 pHat 25C 8.4 ± 0.2

Directions: **Suspend 12.6 grams in 991 ml distilled water. Boil to dissolve the medium completely. Cool to 50C and aseptically add 9 ml of 1% aqueous calcium chloride solution. Adjust pH to 8.4 if necessary. Distribute in 7 ml amounts in screw capped tubes. Steam for 15 minutes. Cool and tighten the caps.**

Quality Control	Organism(ATCC)	Growth	
	Enterobacter aerogenes (13048)	good -luxuriant	
	Escherichia coli (25922)	good –luxuriant	
	Klebsiella pneumoniae (13883)	good –luxuriant	
	Salmonella typhimurium (14028)	good –luxuriant	
	Shigella flexneri (12022)	good –luxuriant	
	Vibrio cholerae (15748)	good –luxuriant	
	Neisseria meningitidis (13090)	good -luxuriant	

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Cetrimide Agar Base

Ord No. D01010.500

Price€ 32.00

Cetrimide Agar Base is used as a selective medium for the isolation of Pseudomonas aeruginosa from pus, sputum, drains etc.

Compositions (Gr/Lit): Peptic digest of gelatin 20.00 Magnesium chloride 1.40 Potassium sulphate 10.00 Cetrimide 0.30 Agar 15.00 pHat 25C 7.2 ± 0.2

Directions: **Suspend 46.7 grams in 1000 ml distilled water containing 10 ml glycerol. Boil to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes.**

Quality Control	Organism(ATCC)	Growth	
	Pseudomonas aeruginosa (27853)	luxuriant	
	Pseudomonas maltophilia (13637)	luxuriant	
	Staphylococcus aureus (25923)	luxuriant	
	Escherichia coli (25922)	inhibited	

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Manual Of Dehydrated Culture Media

Chapman Stone Agar

Ord No. D01010.500

Price€ 32.00

Chapman Stone Agar is recommended for the selective isolation of Staphylococci causing food poisoning.

Compositions (Gr/Lit): Casein enzymic hydrolysate 10.00 Yeast extract 2.050 Gelatin 30.00 D-Mannitol 10.00 Sodium chloride 55.00 Ammonium sulphate 75.00 Dipotassium phosphate 5.00 Agar 15.00 pHat 25C 6.1± 0.2

Directions: **Suspend 20.25 grams in 100 ml distilled water. Boil to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121C) for 10 minutes.**

Quality Control	Organism(ATCC)	Growth		
	Staphylococcus aureus (25922)	luxuriant	+	+
	Staphylococcus epidermidis (12228)	luxuriant	+	-
	Escherichia coli (25922)	inhibited	-	-
Key: Gelatinase+ = Clearing or Halo.				

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Chloramphenicol Yeast Glucose Agar

Ord No. D01010.500

Price€ 32.00

Chloramphenicol Yeast Glucose Agar is Glucose Agar is a selective medium recommended for isolation and enumeration of fungi-yasts and moulds in milk and milk products. It is also recommended by ISO Committee under the specifications ISO 7954: 1987.

Compositions (Gr/Lit): Yeast extract 5.00 Dextrose 20.00 Chloramphenicol 0.10 Agar 14.90 pHat 25C 6.1± 0.2

Directions: **Suspend 40 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes.**

Quality Control	Organism(ATCC)	Growth
	Candida albicans(10231)	good- luxuriant
	Saccharomyces cerevisiae (9763)	good-luxuriant
	Aspergillus niger (16404)	good-luxuriant
	Escherichia coli (25922)	inhibited
	Staphylococcus aureus(25923)	inhibited

Shelf Life: Store below 8C and the prepared medium at 2-8C. Use before expiry date on label.

Columbia Blood Agar Base

Ord No. D01010.500

Price€ 32.00

Columbia Blood Agar Base is used as an efficient base for preparation of blood agar, chocolate agar and for various selective and identification media.

Compositions (Gr/Lit): Peptone, special 23.00, 23.00 Corn starch 1.00, 1.00 Sodium chloride 5.00, 5.00 Agar 15.00, 10.00 pHat 25C 7.3± 0.2

Directions: **Suspend 44 grams of M144 or 39 grams of M144A in 1000 ml distilled water. Boil to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. Cool to 45-50C before adding heat sensitive compounds.**

For Blood Agar: Add 5% sterile defibrinated sheep blood to sterile cool base.

For Chocolate Agar: Add 10% Sterile defibrinated sheep blood to sterile coll base. Heat to 80C for 10 minutes with constant agitation.

The medium can be made selective by adding different antimicrobials to sterile base.

For Brucella species: Add rehydrated contents of 1 Vial of Brucella Selective Supplement (FD005) to 500 ml sterile molten base.

For Campylobacter species : Add rehydrated contents of 1 Vial of Campylobacter Supplement-1 (Blaser – Wang, FD006) or Campylobacter Supplement- II (Butzler, FD008) or Campylobacter Selective Supplement (FD090) or Campylobacter Supplement – VI (Butzler, FD 106) to 500 ml sterile molten base.

For Gardnerella species: Add rehydrated contents of 1 vial of G. Vaginalis Selective Supplement (FD056) to 500 ml sterile molten base

For Cocci: Add rehydrated contents of 1 Vial of Staphstrepto Supplement (FD030) or Strepto Supplement (FD031) to 500 ml sterile molten base.

Quality Control	Organism(ATCC)	Growth	
	Neisseria meningitidis (13090)	luxuriant	none
	Staphylococcus aureus (25923)	luxuriant	bata or gamma
	Staphylococcus epidermidis (12228)	luxuriant	gamma
	Staphylococcus pneumoniae (6303)	luxuriant	alpha
	Staphylococcus pyogenes (19615)	luxuriant	beta

Shelf Life: Store below 8C and the prepared medium at 2-8C. Use before expiry date on label.

Cooked Meat Medium

Ord No. D01010.500

Price€ 32.00

Cooked Meat Medium (R.C. Medium) is used for cultivation of aerobes and anaerobes, especially pathogenic Clostridia. This can also be used as a maintenance medium for stock cultures.

Compositions (Gr/Lit): Beef heart, infusion from 454.00 Proteose peptone 20.00 Dextrose 2.00 Sodium chloride 5.00 pHat 25C 7.2± 0.2

Directions: **Suspend 12.5 grams in 1000 ml distilled water. Mix thoroughly and allow to stand for 15 minutes until all the particles are thoroughly wetted. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes.**

Quality Control	Organism(ATCC)	Growth
	Clostridium botulinum (25763)	luxuriant
	Clostridium perfringens (12924)	luxuriant
	Clostridium sporogenes (11437)	luxuriant
	Streptococcus pneumoniae(6303)	luxuriant
	Enterococcus faecalis (29212)	luxuriant

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Manual Of Dehydrated Culture Media

Corn Meal Agar / with Dextrose/ Corn Meal Peptone Yeast Agar

Corn Meal Agar media are recommended for chlamydo-spore production by *Candida albicans* and the maintenance of fungal stock cultures.

Compositions (Gr/Lit): Corn meal, infusion from 50.00 Agar 15.00 pHat 25C 6.0± 0.2

Directions: **Suspend 17 grams of M146, 19 grams of M150 or 64 grams of M731 in 1000 ml distilled water. Boil to dissolve the medium completely. If desired add 1% polysorbate 80 to M146. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes.**

Quality Control	Organism(ATCC)	Growth	
	<i>Aspergillus niger</i> (16404)	luxuriant	-
	<i>Candida albicans</i> (10231)	luxuriant	+
	<i>Seccharomyces uvarum</i> (9080)	luxuriant	-
	<i>Saccharomyces cerevisiae</i> (9763)	luxuriant	-

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Crystal Violet Lactose Agar

Crystal Violet Lactose Agar is used for differentiation of pure cultures of pathogenic and nonpathogenic *Staphylococci*.

Compositions (Gr/Lit): Proteose peptone 5.00 Beef extract 3.00 Lactose 10.00 Crystal violet 0.0033 Agar 15.00 pHat 25C 6.0± 0.2

Directions: **Suspend 17 grams of M146, 19 grams of M150 or 64 grams of M731 in 1000 ml distilled water. Boil to dissolve the medium completely. If desired add 1% polysorbate 80 to M146. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes.**

Quality Control	Organism(ATCC)	Recovery	Colour of colony
	<i>Escherichia coli</i> (25922)	luxuriant	purple
	<i>Staphylococcus aureus</i> (25923)	fair-good	yellow
	<i>Staphylococcus epidermidis</i> (14990)	fair-good	purple/very slight yellow
	<i>Staphylococcus Pyogenes</i> (19615)	none	-

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Crystal Violet Lactose Broth

Crystal Violet Lactose Broth is used for detection of coliforms in water filtration control works.

Compositions (Gr/Lit): Peptic digest of animal tissue 5.00 Lactose 5.00 Dipotassium phosphate 5.00 Monopotassium phosphate 1.00 Crystal violet 0.00143 pHat 25C 7.4± 0.2

Directions: **Suspend 16 grams in 1000 ml distilled water. Distribute in 10 ml quantities in tubes with inverted Durham tubes. Sterilize by autoclaving at 15 lbs pressure for 15 minutes. If the inoculum is more than 1 ml, double or multiple strength media should be used.**

Quality Control	Organism(ATCC)	Recovery	
	<i>Escherichia coli</i> (25922)	good-luxuriant	
	<i>Staphylococcus aureus</i> (25923)	fair-good	
	<i>Staphylococcus epidermidis</i> (12228)	fair-good	
	<i>Staphylococcus Pyogenes</i> (19615)	inhibited	

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

DNase Test Agar Base

DNase Test Agar is recommended for the detection of deoxyribonuclease activity of bacteria and fungi, and especially for identification of pathogenic *Staphylococci*.

Compositions (Gr/Lit): Casein enzymic hydrolysate 15.00 Papaic digest of soyabean meal 5.00 Deoxyribonucleic acid (DNA) 2.00 Sodium chloride 5.00 Agar 15.00 pHat 25C 7.4± 0.2

Directions: **Suspend 42 grams of M482 or 42.1 grams of M1041 in 1000 ml distilled water. Heat with frequent agitation to dissolve the medium completely. Sterilize by autoclaving at 12 to 15 lbs pressure (118C to 121C) for 15 minutes. Cool to 45C and pour into sterile petriplates. Add 0.1 gm Toluidine Blue (FD051) to M482 before sterilizing the medium or flood the plates with 0.1 % Toluidine Blue (FD051) after incubation as desired.**

Quality Control	Organism(ATCC)	Growth	DNase Activity
	<i>Staphylococcus aureus</i> (25923)	luxuriant	+
	<i>Staphylococcus epidermidis</i> (12228)	luxuriant	-
	<i>Staphylococcus Pyogenes</i> (19615)	luxuriant	+
	<i>Serratia marcescens</i> (8100)	luxuriant	+

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Deoxycholate Citrate Agar, Modified

A selective medium recommended for the isolation of *Salmonella* and *Shigella* species.

Compositions (Gr/Lit): Peptic digest of animal tissue 5.00 Beef extract 5.00 Lactose 10.00 Sodium deoxycholate 5.00 sodium thiosulphate 0.02 Neutral red 0.02 Agar 12.00 pHat 25C 7.3± 0.2

Directions: **Suspend 52 grams in 1000 ml distilled water. Boil to dissolve the medium completely. DONOT AUTOCLAVE OR OVERHEAT. Excessive heating is detrimental.**

Quality Control	Organism(ATCC)	Growth	DNase Activity
	<i>Salmonella enteritidis</i> (13076)	luxuriant	colourless +
	<i>Salmonella typhimurium</i> (14028)	good-luxuriant	colourless +
	<i>Shigella flexneri</i> (12022)	good-luxuriant	colourless +
	<i>Shigella sonnei</i> (25931)	good-luxuriant	colourless +
	<i>Klebsiella pneumoniae</i> (13883)	poor – fair	red -
	<i>Escherichia coli</i> (25922)	poor – fair	red -
	<i>Bacillus cereus</i> (10876)	inhibited	-
	<i>Staphylococcus aureus</i> (25923)	inhibited	-

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Manual Of Dehydrated Culture Media

Dextrose Agar/ Broth

Dextrose Agar / Broth is used for cultivation of wide variety of microorganisms. Dextrose Agar is used for preparing Dextrose Blood Agar.

Compositions (Gr/Lit): Tryptose 10.00 , 10.00 Beef extract 3.00, 3.00 Dextrose 10.00 , 5.00 Sodium chloride 5.00 , 5.00 Agar 15.00 , - pHat 25C 7.3± 0.2

Directions: **Suspend 43 grams of M084 or 23 grams of M044 in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. If desired, Blood Agar can be prepared by the addition of 5% v/v sterile, defibrinated sheep blood into sterile Dextrose Agar, cooled to 50 C. Mix well and dispense as desired.**

Quality Control	Organism(ATCC)	Growth (Plain)	Growth w/blood
	Bordetella pertussis (8467)	good-luxuriant	luxuriant
	Neisseria meningitidis (13090)	good-luxuriant	luxuriant
	Neisseria gonorrhoeae (19424)	good-luxuriant	luxuriant
	Streptococcus pyogenes (19615)	good-luxuriant	luxuriant
	Clostridium perfringens (12919)	fair – good	luxuriant

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Dextrose Salt Agar/ Broth

Dextrose Agar / Broth is used for cultivation of yeasts and moulds in butter and other dairy products.

Compositions (Gr/Lit): Dextrose 10.00 , 10.00 Yeast extract 1.00 , 1.00 Ammonium nitrate 1.00, 1.00 Ammonium sulphate 1.00, 1.00 Disodium phosphate 4.00, 4.00 Monopotassium phosphate 2.00 , 2.00 Sodium chloride 1.00 , 1.00 Agar 15.00 pHat 25C 6.6± 0.2

Directions: **Suspend 35grams of M102 or 20 grams of M980 in 1000 ml distilled water. Boil to dissolve the medium completely. Sterilize by autoclaving at 10 lbs pressure (115C) for 15 minutes. Cool to 45C and add 57 ml of sterile 10% aqueous citric acid. Mix well before pouring into sterile Petri plates. Do not reheat after addition of citric acid.**

Quality Control	Organism(ATCC)	Growth (Plain)
	Aspergillus niger (16404)	good-luxuriant
	Candida albicans (10231)	good-luxuriant
	Saccharomyces cerevisiae (9763)	good-luxuriant

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Differential Reinforced Clostridial Broth

Differential Reinforced Clostridial Medium is used for the cultivation of Clostridia from water.

Compositions (Gr/Lit): Peptic digest of animal tissue 10.00 Tryptose - Beef extract 10.00 Meat extract - Yeast extract 1.50 Starch 1.00 Sodium acetate , hydrated 5.00 Glucose 1.00 L-Cysteine hydrochloride 0.50 pHat 25C 7.2± 0.2

Directions: **Suspend 29grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 10 lbs pressure (115C) for 15 minutes. Just before use add 0.5 ml filter sterilized solution prepared by mixing equal volumes of 4% w/v solution of sodium sulphite and 7% w/v ferric citrate to 25 ml of single strength medium or 0.4 ml and 2 ml to 10 ml and 50 ml of double strength medium respectively . Mix well .**

Quality Control	Organism(ATCC)	Growth	H2S production
	Clostridium perfringens (13124)	good to luxuriant	+
	Clostridium sporogenes (11437)	good to luxuriant	+
Key: + = blackening of medium			

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

EC Broth

EC Broth is recommended for the selective enumeration of presumptive Escherichia coli by MPN technique.

Compositions (Gr/Lit): Casein enzymic hydrolysate 20.00 Tryptose - Lactose 5.00 Bile salts mixture 1.50 Dipotassium phosphate 4.00 Monopotassium phosphate 1.50 Sodium chloride 5.00 pHat 25C 6.9± 0.2

Directions: **Suspend 37 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Dispense in test tubes containing inverted Durham's tube. Sterilize by autoclaving at 10 lbs pressure (115C) for 15 minutes. Adjust the concentration of medium in accordance with sample size.**

Quality Control	Organism(ATCC)	Growth	Gas
	Escherichia coli (2522)	luxuriant	+
	Klebsiella pneumoniae (13883)	luxuriant	+
	Pseudomonas aeruginosa (6633)	fair to good	-
	Enterobacter aerogenes (13048)	inhibited	-
	Enterococcus faecalis (29212)	inhibited	-
	Bacillus subtilis (6633)	inhibited	-

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Manual Of Dehydrated Culture Media

EMB Agar

EMB Media (Eosin Methylene Blue Agar/ Broth) are recommended for the isolation and differentiation of gram negative enteric bacteria from clinical and nonclinical specimens.

Compositions (Gr/Lit): Peptic digest of animal tissue 10.00 Dipotassium phosphate 2.00 Lactose 5.00 Sucrose 5.00 Eosin – Y0.40 Methylene blue 0.065 Agar 13.50 pHat 25C 7.2± 0.2

Directions: **Suspend 36.0 grams of M317 or 22.5 grams of M503 in 1000 ml distilled water. Heat to dissolve the medium completely.**

Quality Control	Organism(ATCC)	Growth	Colour of colony on M317
	Escherichia coli (25922)	luxuriant	purple with black centre with green metallic sheen
	Proteus mirabilis (25933)	luxuriant	colourless
	Salmonella typhimurium (14028)	luxuriant	pink, without sheen
	Enterobacter aerogenes (13048)	good	pink, mucoid
	Klebsiella pneumoniae (13883)	good	pink, mucoid
	Staphylococcus aureus (25923)	inhibited	-
Key: + = blackening of medium			

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Dispense and Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. AVOID OVERHEATING. Cool to 50C and shake the medium in order to oxidize the methylene blue (i.e. to restore its blue colour) and to suspend the flocculent precipitate. (If EMB Agar is inoculated on the same day, it may be used without autoclave sterilization).

Precaution : Store the medium away from light to avoid photooxidation.

Endo Agar

Endo Agar media are recommended for the detection of coliform and other enteric enteric organisms.

Compositions (Gr/Lit): Peptic digest of animal tissue 10.00 Lactose 10.00 Dipotassium phosphate 3.50 Basic fuchsin 0.50 Agar 15.00 pHat 25C 7.2± 0.2

Directions: **Suspend 41.5 grams of M029 or 38 grams of M1077 or 38.6 grams of M1075 in 1000 ml distilled water. Add 4 ml of 10% Basic Fuchsin (FD059) in M1077. Boil to dissolve the medium completely. . Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. Mix well before pouring into sterile Petri plates.**

Quality Control	Organism(ATCC)	Growth	Colour of colony on M317
	Enterobacter aerogenes (13048)	luxuriant	pink, mucoid
	Escherichia coli (25922)	luxuriant	pink to rose red with metallic sheen
	Salmonella typhi (6539)	luxuriant	colourless to pale pink
	Shigella sonnei (25931)	luxuriant	colourless to pale pink
	Klebsiella pneumoniae (13883)	luxuriant	pink, mucoid
	Proteus vulgaris (13315)	luxuriant	colourless to pale pink
	Pseudomonas aeruginosa (27853)	luxuriant	colourless, irregular
	Enterococcus faecalis (29212)	none-poor	pink, small
	Staphylococcus aureus (25923)	inhibited	-
Key: + = blackening of medium			

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Endo Agar with NaCl

Endo Agar with NaCl is used for detection and isolation of pathogenic enteric bacteria

Compositions (Gr/Lit): Special peptone 8.00 Lactose 10.00 Sodium chloride 3.00 Dipotassium phosphate 2.00 Sodium sulphite 2.50 Basic fuchsin (pararosaniline) 0.20 pHat 25C 7.2± 0.2

Directions: **Suspend 30 grams in 1000 ml distilled water. Boil to dissolve the medium completely. Dispense as desired and Sterilize by autoclaving at 12-15 lbs pressure (118-121C) for 15 minutes. Cool and dry under 85% N₂, 10% H₂ and 5% CO₂ atmosphere.**

Quality Control	Organism(ATCC)	Growth	Colour of colony
	Enterobacter aerogenes (13048)	luxuriant	red
	Escherichia coli (25922)	luxuriant	red w/ metallic sheen
	Salmonella typhimurium (14028)	luxuriant	colourless
	Salmonella enteritidis (13076)	luxuriant	colourless
	Shigella flexneri (12022)	luxuriant	pink, mucoid
	Enterococcus faecalis (29212)	fair	colourless to light pink

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Enriched Thioglycollate Broth

Enriched Thioglycollate Broth is recommended for isolation, cultivation and identification of a wide variety of obligate anaerobic bacteria.

Compositions (Gr/Lit): Casein enzymic hydrolysate 17.00 Papaic digest of soyabean meal 3.00 Dextrose 2.50 Sodium chloride 2.50 Sodium thioglycollate 0.50 L-Cystine 0.25 Sodium sulphite 0.10 Hemin 0.005 Vitamin K1 0.001 Agar 0.70 pHat 25C 7.0 ± 0.2

Directions: **Suspend 41.5 grams of M029 or 38 grams of M1077 or 38.6 grams of M1075 in 1000 ml distilled water. Add 4 ml of 10% Basic Fuchsin (FD059) in M1077. Boil to dissolve the medium completely. . Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. Mix well before pouring into sterile Petri plates.**

Quality Control	Organism(ATCC)	Growth
	Bacteroides vulgatus (8482)	luxuriant
	Clostridium sporogenes (11437)	luxuriant
	Neisseria meningitidis (13090)	luxuriant
	Streptococcus pyogenes (19615)	luxuriant

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Manual Of Dehydrated Culture Media

Esculin Iron Agar

Esculin Iron Agar is used for verification of enterococcal colonies on membrane filters through which water samples have been filtered and which have been incubated on M-Enterococcus Agar, Modified (M1048).

Compositions (Gr/Lit): Esculin 1.00 Ferric ammonium citrate 0.50 Agar 15.00 pHat 25C 7.0 ± 0.2

Directions: **Suspend 16.5 grams in 1000 ml distilled water. Heat to boiling with frequent stirring. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. Cool to 45C and pour into sterile Petri plates to a depth of 4-5 mm.**

Quality Control	Organism(ATCC)	Growth	Esculin hydrolysis
	Enterococcus faecalis (29212)	luxuriant	+
	Escherichia coli(25922)	none-poor	-

Key: + = Brown – black precipitate around colonies

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Fluid Thioglycollate Medium

Fluid Thioglycollate Media are used for sterility testing of biologicals and for cultivation of aerobic and anaerobic organisms.

Compositions (Gr/Lit): Casein enzymic hydrolysate 15.00 Yeast extract 5.00 Dextrose 5.50 Sodium chloride 2.50 L-Cystine 0.50 Sodium thioglycollate 0.50 Resazurin 0.001 Agar 0.75 pHat 25C 7.0 ± 0.2

Directions: **Suspend 29.75 grams of M009 or 34.75 grams of M380 in 1000 ml distilled water. Boil to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. Cool to 25C and store in a cool dark place preferably below 25C.**

Quality Control	Organism(ATCC)	Growth
	Bacillus subtilis (6633)	luxuriant
	Candida albicans (10231)	luxuriant
	Clostridium sporogenes (11437)	luxuriant
	Micrococcus luteus (9341)	luxuriant
	Neisseria meningitidis (13090)	luxuriant
	Streptococcus pyogenes (19615)	luxuriant
	Bacteroides vulgatus (8482)	luxuriant

Shelf Life: Store below 25C and the prepared medium at room temperature and away from light. Use before expiry date on label.

G.C. Agar Base

G.C. Agar Base, with added blood, haemoglobin or other supplements is recommended for selective isolation and cultivation of Gonococci.

Compositions (Gr/Lit): Peptone, special 15.00 Corn starch 1.00 Dipotassium phosphate 4.00 Monopotassium phosphate 1.00 Sodium chloride 10.00 Agar 10.00 pHat 25C 7.2 ± 0.2

Directions: **Suspend 7.2 grams in 1000 ml distilled water, to make a double strength base. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. Cool to 50C and aseptically add separately**

prepared Haemoglobin (FD021) (100ml steril 2% solution) and GC Supplement (FD021). Mix well and pour into sterile Petri plates. TO INCREASE THE SELECTIVITY OF MEDIUM ANTIBIOTIC SUPPLEMENTS MAY BE ADDED AS vcn Supplement (FD023), VCNT Supplement (FD028). For Chocolate Blood Agar, prepare single strength medium using 3.6 grams in 100 ml of distilled water. Sterilize, add 5% v/v defibrinated blood and after mixing, heat at 80C for 10 minutes.

Quality Control	Organism(ATCC)	Growth	Esculin hydrolysis
	Haemophilus influenzae (19418)	luxuriant	
	Neisseria meningitidis (13090)	luxuriant	
	Neisseria gonorrhoeae (19424)	luxuriant	
	Streptococcus pneumoniae (6303)	luxuriant	
	Streptococcus pyogenes (19615)	luxuriant	

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Gelatin Agar

Gelatin Agar is recommended for cultivation and characterization of Vibrio species.

Compositions (Gr/Lit): Gelatin 30.00 Casein enzymic hydrolysate 10.00 Sodium chloride 10.00 Agar 15.00 pHat 25C 7.2 ± 0.2

Directions: **Suspend 65 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes.**

Quality Control	Organism(ATCC)	Growth	Gelatin liquefaction
	Vibrio cholerae (15748)	luxuriant	+
	Vibrio parahaemolyticus (11344)	luxuriant	+

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Gelatin Iron Agar

Gelatin Iron Agar is used for detecting gelatin liquefaction and hydrogen sulphide production.

Compositions (Gr/Lit): Peptic digest of animal tissue 25.00 Meat extract 7.50 Sodium chloride 5.00 Gelatin 120.00 Ferrous chloride 1.00 Agar 1.00 pHat 25C 7.0 ± 0.2

Directions: **Suspend 15.9 grams in 100 ml distilled water. Heat to boiling to dissolve the medium completely. Dispense in test tubes as desired. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes.**

Quality Control	Organism(ATCC)	Growth	Gelatin reaction	H2S production
	Clostridium perfringens (12924)	luxuriant	+	+
	Escherichia coli(25922)	luxuriant	-	-
	Bacillus subtilis (6633)	luxuriant	+	-

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Manual Of Dehydrated Culture Media

Glucose Azide Broth

Glucose Azide Broth is used for the enumeration of faecal Streptococci by MPN technique from water and sewage.

Compositions (Gr/Lit): Peptic digest of animal tissue 10.00 Yeast extract 3.00 Sodium chloride 5.00 Dipotassium phosphate 5.00 Monopotassium phosphate 2.00 Dextrose 5.00 Sodium azide 0.25 Bromo cresol purple 0.03 pHat 25C 6.7 ± 0.2

Directions: **Suspend 30.0 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Dispense 5ml amounts in 16*150 mm test tubes and Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. For large inocula of 5 ml or more quantities, prepare double strength medium.**

Quality Control	Organism(ATCC)	Growth
	Streptococcus faecalis(19433)	good-luxuriant
	Escherichia coli(25922)	inhibited
	Staphylococcus aureus (25923)	luxuriant

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Glucose Broth

Glucose Broth is for study of glucose (dextrose) fermentation where a pH indicator is not desired.

Compositions (Gr/Lit): Casein enzymic hydrolysate 10.00 Glucose 5.00 Sodium chloride 5.00 pHat 25C 7.3 ± 0.2

Directions: **Suspend 20 grams in 1000 ml distilled water. Boil to dissolve the medium completely. Dispense in tubes containing inverted Durham's tubes. Sterilize by autoclaving at 12 lbs pressure (118C) for 15 minutes.**

Quality Control	Organism(ATCC)	Growth	Gas
	Escherichia coli(25922)	luxuriant	+
	Salmonella typhi (6539)	luxuriant	-

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Glucose Yeast Extract Agar

Glucose Yeast Extract Agar is used for enumeration of Lactobacilli in pharmaceutical preparations.

Compositions (Gr/Lit): Peptic digest of animal tissue 5.00 Yeast extract 5.00 Glucose 2.00 Monopotassium phosphate 0.50 Dipotassium phosphate 0.30 Magnesium sulphate 0.30 Sodium chloride 0.01

Manganese sulphate 0.01 Zinc sulphate 0.0016 Copper sulphate 0.0016 Cobalt sulphate 15.00 Agar 15.00 pHat 25C 7.3 ± 0.2

Directions: **Suspend 28.4 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 12 lbs pressure (118C) for 15 minutes.**

Quality Control	Organism(ATCC)	Growth
	Lactobacillus casei (9595)	good-luxuriant
	Lactobacillus bulgaricus (11842)	good-luxuriant
	Lactobacillus acidophilus (4356)	good-luxuriant

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

H Broth

H Broth is recommended for the preparation of 'H' antigen used in the identification and differentiation of Salmonellae.

Compositions (Gr/Lit): Casein enzymic hydrolysate 5.00 Peptic digest of animal tissue 5.00 Beef extract 1.00 Dextrose 1.00 Dipotassium phosphate 2.50 Sodium chloride 5.00. Hat 25C 7.2 ± 0.2

Directions: **Suspend 21.5 grams in 1000 ml distilled water. Heat if necessary to ensure complete solution. Dispense in 4 ml amounts in 13*100 mm test tubes and sterilize by autoclaving at 10 lbs pressure (115C) for 15 minutes**

Quality Control	Organism(ATCC)	Growth
	Salmonella typhi (6539)	Luxuriant
	Salmonella typhimurium (14028)	luxuriant
	Salmonella enteritidis (13076)	luxuriant

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Hartley's Digest Broth

Hartley's Digest Broth is recommended as general purpose medium for the cultivation of wide range of microorganisms from blood especially fastidious Streptococci and Corynebacterium diphtheriae.

Compositions (Gr/Lit): Tryptic digest of heart muscle 29.00 7.6 ± 0.2

Directions: **Suspend 29 grams in 1000 ml distilled water. Heat, if necessary to dissolve the medium completely. Dispense as desired and sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes.**

Quality Control	Organism(ATCC)	Growth
	Streptococcus pneumoniae (6303)	luxuriant
	Streptococcus pyogenes (19615)	luxuriant
	Corynebacterium diphtheriae (11913)	luxuriant
	Staphylococcus aureus (25923)	luxuriant

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Heart Infusion Agar/ Broth

Heart Infusion media are used for general laboratory purpose for the cultivation of many pathogenic bacteria. Heart Infusion Agar is used as a base for the preparation of Blood Agar in determining haemolytic reactions.

Compositions (Gr/Lit): Beef heart, infusion from 500.00 , 500.00 Tryptose 10.00 , 10.00 Sodium chloride 5.00 , 5.00 Agar 15.00, - pHat 25C 7.4 ± 0.2

Directions: **Suspend 40 grams of M169 or 25 grams of M170 in 1000 ml distilled water. Boil to dissolve the medium completely. sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. If desired 5% sterile defibrinated blood may be added. Mix well and pour into sterile Petri plates or tubes.**

Quality Control	Organism(ATCC)	Heart Infusion Agar	Heart Infusion Broth	Heart	Heart
	Escherichia coli(25922)	good-luxuriant	luxuriant	luxuriant	Beta
	Neisseria meningitidis (13090)	good-luxuriant	luxuriant	luxuriant	None
	Streptococcus pneumoniae (6303)	good-luxuriant	good-luxuriant	luxuriant	Alpha
	Streptococcus pyogenes (19615)	good-luxuriant	good-luxuriant	luxuriant	Beta

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Manual Of Dehydrated Culture Media

Hektoen Enteric Agar

Hektoen Enteric Agar is a differential selective medium used for the isolation of Shigella and Salmonella species from enteric pathological specimens.

Compositions (Gr/Lit): Proteose peptone 12.00 Yeast extract 3.00 Lactose 12.00 Sucrose 12.00 Bile salt mixture 9.00 Sodium chloride 5.00

Ferric ammonium citrate 1.50 Acid fuchsin 0.10 Bromo thymol blue 0.065 Agar 15.00 pHat 25C 7.5 ± 0.2

Directions: **Suspend 76.67 grams in 1000 ml distilled water. Boil to dissolve the medium completely. DO NOT AUTOCLAVE.**

Quality Control	Organism(ATCC)	Growth	Colour of Colony
	Salmonella enteritidis (13076)	luxuriant	greenish blue*
	Salmonella typhimurium (14028)	luxuriant	greenish blue*
	Shigella flexneri (12022)	luxuriant	greenish blue*
	Enterobacter aerogenes (13048)	fair- good	Salmon-orange
	Escherichia coli(25922)	fair	Orange (may have bile precipitate)
	Enterococcus faecalis (29212)	inhibited	

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Indole Nitrate Medium (Tryptone Nitrate Medium)

Indole Nitrate Medium (Tryptone Nitrate Medium) is used for identification of microorganisms on the basis of nitrate reduction and indole tests.

Compositions (Gr/Lit): Casein enzymic hydrolysate 20.00 Disodium phosphate 2.00 Dextrose 1.00 Potassium nitrate 1.00 Agar 1.00 pHat 25C 7.2 ± 0.2

Directions: **Suspend 25 grams in 1000 ml distilled water. Boil to dissolve the medium completely. Dispense in test tubes Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes.**

Quality Control	Organism(ATCC)	Growth	Indole	Nitrate Reduction
	Clostridium sporogenes (11437)	luxuriant	-	-
	Clostridium perfringens (12924)	luxuriant	-	+
	Clostridium sordellii (9714)	luxuriant	+	-
	Escherichia coli(25922)	luxuriant	not applicable	+
	Staphylococcus aureus (25923)	luxuriant	-	+

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Iron Sulphite Agar

Iron Sulphite Agar is recommended for the detection of thermophilic anaerobic organisms causing sulphide spoilage in food.

Compositions (Gr/Lit): Casein enzymic hydrolysate 10.00 Sodium sulphite 0.50 Iron (III) citrate 0.50 Agar 15.00 pHat 25C 7.2 ± 0.2

Directions: **Suspend 26 grams in 1000 ml distilled water. Boil to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes.**

Quality Control	Organism(ATCC)	Growth	Colour of colonies
	Clostridium sporogenes (19404)	luxuriant	black
	Clostridium botulinum (25763)	luxuriant	black
	Desulfotomaculum nigrificans (19858)	luxuriant	black
	Escherichia coli(25922)	good	no blackening

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

KF Streptococcal Agar

KF Streptococcal Agar is a selective solid medium recommended for enumeration of faecal Streptococci in surface water by direct plating or membrane filter method.

Compositions (Gr/Lit): Peptone , special 10.00 Yeast extract 10.00 Sodium chloride 5.00 Sodium glycerophosphate 10.00 Maltose 20.00 Lactose 1.00 Sodium azide 0.40 Agar 20.00 pHat 25C 7.2 ± 0.2

Directions: **Suspend 76.4 grams in 1000 ml distilled water. Boil to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. Cool to 50C and aseptically add 10 ml of 1% Triphenyl Tetrazolium Chloride (TTC, FD057) to sterile medium. Mix well before pouring into sterile Petri plates.**

Quality Control	Organism(ATCC)	Growth	Colour of colonies
	Enterococcus faecalis (29212)	luxuriant	pink - red
	Enterobacter aerogenes (13048)	luxuriant	-
	Escherichia coli(25922)	luxuriant	-

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

KF Streptococcal Broth

KF Streptococcal Broth is used for detection and enumeration of faecal Streptococci in waters. Also used for examination of faeces and other materials.

Compositions (Gr/Lit): Proptone, special 10.00 Yeast extract 10.00 Sodium chloride 5.00 Sodium glycerophosphate 10.00 Sodium carbonate 0.636 Maltose 20.00 Lactose 1.00 Sodium carbonat 0.636 Maltose 20.00 Lactose 1.00 Sodium azide 0.40 Phenol red 0.018 pHat 25C 7.2 ± 0.2

Directions: **Suspend 57 grams in 1000 ml distilled water. Boil to dissolve the medium completely. Dispense and Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. If desired for use in the membrane filter technique, one ml of 1% Triphenyl Tetrazolium Chloride (TTC-FD057) may be added to each 100 ml of sterile cooled broth.**

Quality Control	Organism(ATCC)	Growth	Colour of colonies
	Enterococcus faecalis (29212)	luxuriant	yellow
	Enterobacter aerogenes (13048)	inhibited	-
	Escherichia coli(25922)	inhibited	-

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Manual Of Dehydrated Culture Media

King's OF Medium Base

King's OF Medium is used for studying oxidation – fermentation of carbohydrates by Campylobacter species.

Compositions (Gr/Lit): Casein enzymic hydrolysate 0.20 Phenol red 0.003 Agar 030 pHat 25C 7.4 ± 0.2

Directions: **Suspend 0.5 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. Cool to 40-50C and aseptically add filter sterilized solution of desired carbohydrate to get a final concentration of 1% and dispense in sterile tubes.**

Quality Control	Organism(ATCC)	Growth	Acid (with Dextrose)
	Campylobacter fetus subsp. Jejuni (29428)	good	+

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Kligler Iron Agar

Kligler Iron Agar is recommended as a differential medium in the study of the gram-negative intestinal microorganisms, on the basis of their fermentative ability for dextrose and lactose and produce hydrogen sulphide.

Compositions (Gr/Lit): Proptone of animal tissue 15.00 Beef extract 3.00 Yeast extract 5.00 Proteose peptone 5.00 Lactose 10.00 Lactose 1.00 Dextrose 1.00 Ferrous sulphate 0.20 Sodium chloride 5.00 sodium thiosulphate 0.30 Phenol red 15.00 Agar 15.00pHat 25C 7.4 ± 0.2

Directions: **Suspend 57.5 grams in 1000 ml distilled water. Boil to dissolve the medium completely. Mix well and distribute into tubes . Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. Cool the tubes to set as slopes with 1 inch butts. Best reactions are obtained on freshly prepared medium Do not use screw-capped tubes or bottles.**

Quality Control	Organism(ATCC)	Growth	slant	Butt	Gas	H ₂ S
	Citrobacter freundii (8090)	luxuriant	A	A	+	+
	Escherichia coli(25922)	luxuriant	A	A	+	-
	Enterobacter aerogenes (13048)	luxuriant	A	A	+	-
	Klebsiella pneumoniae (13883)	luxuriant	A	A	+	-
	Proteus vulgaris (6380)	luxuriant	K	A	-	+
	Salmonella enteritidis (13076)	luxuriant	K	A	+	+
	Salmonella paratyphi A (5006)	luxuriant	K	A	+	-
	Salmonella schottmuelleri	luxuriant	K	A	+	+
	Salmonella typhi (6539)	luxuriant	K	A	-	+
	Shigella flexneri (12022)	luxuriant	K	A	-	-

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Koser Citrate Medium

Koser Citrate Medium is used to differentiate Escherichia coli and Enterobacter aerogenes on the basis of citrate utilization .

Compositions (Gr/Lit): Sodium ammonium phosphate 1.50 Monopotassium phosphate 1.00 Magnesium sulphate 0.20 Sodium citrate pHat 25C 7.4 ± 0.2

Directions: **Suspend 57.5 grams in 1000 ml distilled water. Dispense into tubes and Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes.**

Quality Control	Organism(ATCC)	Growth
	Enterobacter aerogenes (13048)	luxuriant
	Enterobacter cloacae (23355)	luxuriant
	Escherichia coli (2522)	none - poor

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Lactose Broth

Lactose Broth is used for the detection of coliform bacteria in water, foods, dairy products as per Standard Methods.

Compositions (Gr/Lit): Peptic digest of animal tissue 5.00 Beef extract 3.00 Lactose 5.00 pHat 25C 6.96 ± 0.2

Directions: **Suspend 13 grams in 1000 ml distilled water. Heat if necessary to dissolve the medium completely. For larger inocula (10**

ml or more). Concentrated medium may be prepared to account for medium dilution by the inoculum. Dispense in tubes containing inverted fermentation vial (Durham's tube) as desired. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes.

Quality Control	Organism(ATCC)	Growth	Gas
	Enterobacter aerogenes (13048)	luxuriant	+
	Escherichia coli(25922)	luxuriant	+
	Pseudomonas aeruginosa (10145)	luxuriant	-
	Enterococcus faecalis (29212)	luxuriant	-

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Lauryl Tryptose Broth (Lauryl Sulphate Broth)

Lauryl Tryptose Broth (Lauryl Sulphate Broth) is used for the detection of coliform organisms in water, dairy products and other foods.

Compositions (Gr/Lit): Tryptose 20.00 Lactose 5.00 Sodium chloride 5.00 Dipotassium phosphate 2.75 Monopotassium phosphate 2.75 pHat 25C 6.8 ± 0.2

Directions: **Suspend 35.6 grams in 1000 ml distilled water. Distribute into tubes containing inverted Durhams tubes. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes.**

Quality Control	Organism(ATCC)	Growth	Gas
	Enterobacter aerogenes (13048)	luxuriant	+
	Escherichia coli (25922)	luxuriant	+
	Salmonella typhimurium (14028)	luxuriant	-
	Staphylococcus aureus (25923)	luxuriant	-
	Enterococcus faecalis (29212)	luxuriant	-

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Manual Of Dehydrated Culture Media

Listeria Enrichment Broth / Selective Agar (Twin Pack)

Listeria Enrichment Broth and Listeria Selective Agar are used for cultivation and selective isolation of Listeria species from clinical specimens.

Compositions (Gr/Lit): Part A: Casein enzymic hydrolysate 10.00, 10.00 Peptic digest of animal tissue 10.00, 10.00 Dextrose 1.00, 10.00 Sodium chloride 50.00, 5.00 Thiaminium dichloride 0.005, 0.005 Acriflavin

hydrochloride (Trypaflavin) 0.01, 0.01 Nalidixi acid – 0.04 Agar -, 13.00, Prati B: Potassium thiocyanate 37.50 pHat 25C 7.4 ± 0.2

Directions: Suspend 26 grams of Part A (M569) or 39 grams of Part A (M567) and 37.5 grams of Part B in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes.

Quality Control	Organism(ATCC)	Growth
	Listeria monocytogenes (19112)	luxuriant
	Enterococcus faecalis (29212)	none - poor
	Escherichia coli (25922)	inhibited

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Litmus Milk

Litmus Milk is used for maintenance of Lactobacilli and for determining the action of bacteria on milk.

Compositions (Gr/Lit): Skim milk powder 100.00 Litmus 0.50 Sodium sulphite 0.50 pHat 25C 6.8 ± 0.2

Directions: Suspend 101 grams in 1000 ml distilled water, agitation continuously. Dispense 10 ml amounts into 15*150 mm. tubes and Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. AVOID OVERHEATING.

Quality Control	Organism(ATCC)	Growth	
	Clostridium perfringens (13124)	good - luxuriant	acid clot (pink)
	Clostridium perfringens (3524)	good - luxuriant	stormy fermentation (Gas)
	Pseudomonas aeruginosa(27853)	good - luxuriant	peptonization (Clearing)

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Liver Broth

Liver Broth is used for examination of food for saccharolytic, putrefactive, mesophilic and thermophilic anaerobes.

Compositions (Gr/Lit): Liver, infusion from 23.00 Peptic digest of animal tissue 10.00 Liver tissues (extracted) 30.00 Dipotassium phosphate 1.00 pHat 25C 6.8 ± 0.2

Directions: Suspend 64 grams in 1000 ml distilled water, Soak for 15 minutes with occasional stirring. Dispense 18 mm tubes to a depth of 50 mm so that bottom of the tube is filled with liver tissues. Sterilize by autoclaving at 10 lbs pressure (115C) for 20 minutes. Cool, inoculate and seal with a layer of sterile 2% agar solution.

Quality Control	Organism(ATCC)	Growth
	Clostridium thermosaccharolyticum (7956)	luxuriant

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Lowenstein Jensen Medium Base (L.J. Medium Base)

Lowenstein Jensen Medium (L.J. Medium) with the addition of eggs is used for cultivation of Mycobacteria, especially Mycobacterium tuberculosis. Also recommended for routine diagnostic and isolation purpose.

Compositions (Gr/Lit): L-Asparagine 3.60 Monopotassium phosphate 2.40 Magnesium sulphate 0.24 Magnesium citrate 0.60 Potato flour 30.00 Malachite green 0.40

Directions: Suspend 37.24 grams in 600 ml distilled water containing 12 ml glycerol. (for bovine bacteria or other glycerophob

organisms, addition of glycerol is not desirable). Boil to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. Meanwhile prepare 1000 ml of whole egg emulsion collected aseptically. Admixegg and base and Gruft Mycobacterial Supplement (FD053) (if desired) gently to obtain uniform mixture. Distribute in sterile screw capped tubes. Arrange tubes in a slanted position. Coagulate and inspissate the medium in an inspissator water bath or autoclave at 85C for 45 minutes.

Quality Control	Organism(ATCC)	Lowenstein-Jensen Medium	L-J medium
	Mycobacterium tuberculosis (25618)	luxuriant growth, granular, rough, warty, dry, friable colonies	inhibited
	Mycobacterium kansasii (12478)	luxuriant growth, photochromogenic, smooth to rough.	Inhibited
	Mycobacterium gordonae (14470)	luxuriant growth, smooth, yellow, orange colonies.	Inhibited
	Mycobacterium avium (25291)	luxuriant growth, smooth nonpigmented colonies.	Inhibited
	Mycobacterium smegmatis (14468)	luxuriant growth, wrinkled, creamy, white colonies.	Good to luxuriant wrinkled, creamy white colonies

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Lysine Arginine Iron Agar

Lysine Arginine Iron Agar is used for the isolation and presumptive identification of Yersinia species from milk and milk products.

Compositions (Gr/Lit): Peptic digest of animal tissue 5.00 Yeast extract 3.00 L-Arginine 10.00 L-Lysine 10.00 Glucose 1.00 Ferric ammonium citrate 0.50 Sodium thiosulphate 0.04 Bromo cresol purple 0.02 Agar 15.00 pHat 25C 6.8 ± 0.2

Directions: Suspend 44.56 grams in 1000 ml distilled water. Boil to dissolve the medium completely. Dispense in 5 ml amount into screw capped test tubes and sterilize by autoclaving 15 lbs pressure (121C) for 15 minutes. Cool the tubed medium in slanted position.

Quality Control	Organism(ATCC)	Growth	Slant	Butt	Gas	H2S
	Yersinia enterocolitica (27729)	luxuriant	AK	A	-	-
	Klebsiella pneumoniae (13883)	luxuriant	AK	A	+	-

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Manual Of Dehydrated Culture Media

Lysine Decarboxylase Broth / without Peptone

Lysine Decarboxylase Broth are used for distinguishing the Salmonella arizonae from the Bethesda-Ballerup group of Enterobacteriaceae.

Compositions (Gr/Lit): Peptic digest of animal tissue 5.00,- Yeast extract 3.00, 3.00 Dextrose 1.00, 1.00 L-Lysine hydrochloride 5.00, 5.00 Bromo cresol purple 0.02, 0.02 pHat 25C 6.8 ± 0.2

Directions: **Suspend 14 grams of M376 or 9 grams of M376 I in 1000 ml distilled water. Boil to dissolve the medium completely. Dispense in 5 ml amount into screw capped test tubes. Sterilize by autoclaving 15 lbs pressure (121C) for 15 minutes.**

Quality Control	Organism(ATCC)	M376	M376I
	Escherichia coli(25922) (Including late lactose variants Alkalescens.Dispar)	+	+
	Citrobacter freundii (8090) (Including te Bethesda-Ballerup group)	+	-
	Enterobacter aerogenes (13048)	+	+
	Klebsiella pneumoniae (13883)	+	+
	Salmoella paratyphi A	-	-
	Salmonella typhi (6539)	+	+
	Salmonella arizonae	+	+
	Serratia marcescens (8100)	+	+
	Proteus vulgaris (13315)	-	-
	Proteus mirabilis (25933)	-	-
	Shigella dysenteriae (13313)	-	-

Key: + = positive reaction, purple colour.
 - = negative reaction, yellow colour or no change.
 ± = variable.
 ± = it is negative but shows falso positivity.

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Lysine Iron Agar

Lysine Iron Agar is recommended for the differentiation of enteric organisms especially Salmonella and Arizona based on their ability to decarboxylate or deaminate lysine and to form bydrogen sulphide (H₂S).

Compositions (Gr/Lit): Peptic digest of animal tissue 5.00,- Yeast extract 3.00 Dextrose 1.00 L-Lysine 10.00 Ferric ammonium citrate 0.50 Sodium thiosulphate 0.04 Bromo cresol purple 0.02 Agar 15.00

Directions: **Suspend 34.56 grams 1000 ml distilled water. Boil to dissolve the medium completely. Dispense into tubes and sterilize by autoclaving 15 lbs pressure (121C) for 15 minutes. Cool the tubes I slanted position to form slants with deep butts.**

Quality Control	Organism(ATCC)	Growth	Slant	Butt	H2S
	Citrobacter freundii (8090)	luxuriant	A	K	+
	Escherichia coli(25922)	luxuriant	K	K	-
	Proteus mirabilis (25933)	luxuriant	A	R	+
	Salmonella typhimurium (14028)	luxuriant	K	K	+
	Shigella flexneri (12022)	luxuriant	A	K	-
	Salmonella arizonae (13314)	luxuriant	K	K	+

Key: + = blackening of medium.
 - = no blackening of medium.
 R = deep red, lysine deamination.
 A = acidic, yellow colour
 K= alkaline, purple, no colour change

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Lysine Lactose Broth

Lysine Lactose Broth is used for determination of lysinedecarboxylase activity of lactose non-fermenting members of Enterobacteriaceae especially Salmonellae.

Compositions (Gr/Lit): Peptic digest of gelatin 5.00,- Yeast extract 3.00 Dextrose 1.00 L-Lysine 5.00 Lactose 10.00 Bromo cresol purple 0.02 pHat 6.8±0.2

Directions: **Suspend 24 grams 1000 ml distilled water. Heat if necessary to dissolve the medium completely. Dispense in 5 ml amounts and sterilize by autoclaving 15 lbs pressure (121C) for 15 minutes.**

Quality Control	Organism(ATCC)	Colour of medium	Lactose fermentation	Lysine decarboxylation
	Escherichia coli(25922)	yellow	+	-
	Salmonella enteritidis (13076)	blue	-	+
	Salmonella typhimurium (14028)	blue	-	+
	Proteus vulgaris (13315)	green	-	(+)
	Serratia marcescens (8100)	blue	-	+

Key: + = positive reaction .
 - = negative reaction.
 (+) = delayed positive

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Manual Of Dehydrated Culture Media

M17 Agar Base

M 17 Media are used for cultivation of lactic Streptococci and plaque assay of lactic bacteriophages.

Compositions (Gr/Lit): Casein enzymic animal tissue 5.00 soyabean meal 5.00 Yeast extract 2.50 Beef extract 5.00 Ascorbic acid 0.50 Magnesium sulphate 0.25 Lactose 5.00 glycerophosphate Agar 10.00 pHat 6.8±0.2

Directions: Suspend 33.25 grams of M929 or 52.25 grams of M1063 or 42.25 grams of M 1029 IN 1000 ml distilled water. Add 19 grams of

Disodium *b* - Glycerophosphate in M929. Suspend 48.25 grams of M1019 in 950 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving 15 lbs pressure (121C) for 15 minutes. Cool to 45C and aseptically add 50 ml of 10% W/V separately sterilized lactose solution to M1019. Mix well and dispense as desired.

Quality Control	Organism(ATCC)	Growth
	Lactobacillus leichmannii (4797)	good-luxuriant
	Lactobacillus plantarum (8014)	good –luxuriant
	Enterococcus faecalis (2912)	good –luxuriant
	Streptococcus thermophilus (14486)	good- luxuriant
	Lactobacillus bulgaricus (11842)	none-poor

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

MR VP Medium

MR-VP Medium (Glucose Phosphate Broth) is recommended for the performance of the Methyl Red and Voges – Proskauer tests in differentiation of the coliaerogenes group.

Compositions (Gr/Lit): Buffered peptone 7.00 Dextrose 5.00 Dipotassium phosphate 5.00 pHat 6.9±0.2

Directions: Suspend 17 grams in 1000 ml distilled water. Distribute in test tubes in 10 ml amounts and sterilize by autoclaving 15 lbs pressure (121C) for 15 minutes

Quality Control	Organism(ATCC)	Growth		
	Enterobacter aerogenes (13048)	luxuriant	- (yellow)	+ (red)
	Escherichia coli(25922)	luxuriant	+(red)	- (no change)
	Klebsiella pneumoniae (23357)	luxuriant	-(yellow)	+(red)

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

MRS Agar / Broth

Modified MRS Agar is recommended for the isolation and cultivation of Lactobacillus species from salad dressings.

Compositions (Gr/Lit): Dextrose 20.00, 20.00 Proteose peptone 10.00 , 10.00 Yeast extract 5.00 , 5.00 Sodium acetate 5.00 , 5.00 2-Phenylethyl alcohol 3.00, 3.00 Ammonium citrate 2.00 , 2.00 Dipotassium phosphate 2.00, 2.00 Magnesium sulphate 0.10, 0.10 Manganese sulphate 0.05, 0.05 Bromo cresol green 0.04 , 0.04 Cycloheximide 0.004, 0.004 Agar 15.00, - pHat 5.5±0.2 4.3 ±0.2

Directions: Suspend 62.2 grams of M1163 or 47.2 grams of M1164 in 1000 ml distilled water containing 1 ml polysorbate 80. Mix thoroughly. Sterilize by autoclaving 15 lbs pressure (121C) for 15 minutes. If necessary adjust the pH with glacial acetic acid after sterilization.

Warning : Cycloheximide is very toxic. Avoid skin contact or aerosol formation and inhalation.

Quality Control	Organism(ATCC)	Growth
	Lactobacillus plantarum (8014)	luxuriant
	Lactobacillus fermentum (9338)	luxuriant
	Lactobacillus acidophilus (4356)	luxuriant

Shelf Life: Store below 8C and the prepared medium at 2-8C. Use before expiry date on label.

Malachite Green Broth

Malachite Green Broth is used for selective enrichment of Pseudomonas aeruginosa.

Compositions (Gr/Lit): Peptic digest of animal tissue 15.00 Meat extract 9.00 Dipotassium hydrogen phosphate 1.10 Malachite green 0.03 pHat 25C 5.5±0.2

Directions: Suspend 25.13 in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Dispense in to tubes. Sterilize by autoclaving 15 lbs pressure (121C) for 15 minutes.

Quality Control	Organism(ATCC)	Growth
	Pseudomonas aeruginosa(27853)	luxuriant
	Escherichia coli(25922)	luxuriant

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Malachite Broth

Malonate Broth is recommended for the differentiation of Enterobacter and Escherichia.

Compositions (Gr/Lit): Ammonium sulphate 2.00 Dipotassium phosphate 0.60 Monopotassium phosphate 0.40 Sodium chloride 2.00 Sodium malonate 3.00 Bromo thymol blue 0.025 pHat 25C 5.5±0.2

Directions: Dissolve 8 grams of M382 or 9.28 grams of M779 in 1000 ml distilled water. Dispense and Sterilize by autoclaving 15 lbs pressure (121C) for 15 minutes. Avoid the addition of carbon and nitrogen from other sources.

Quality Control	Organism(ATCC)	Growth		
	Enterobacter aerogenes (13048)	luxuriant	luxuriant	+
	Klebsiella pneumoniae (13883)	luxuriant	luxuriant	+
	Salmonella arizonae (13314)	luxuriant	luxuriant	+
	Salmonella typhimurium (14028)	fair to good	luxuriant	-
	Escherichia coli(25922)	poor to fair	luxuriant	-

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Manual Of Dehydrated Culture Media

Mannitol Lysine Agar

Mannitol Lysine Agar is used for selective isolation of Salmonella species other than Salmonella typhi and Salmonella paratyphi A.

Compositions (Gr/Lit): Peptic digest of animal tissue 10.00 Yeast extract 5.00 Beef extract 2.00 Sodium chloride 4.00 Mannitol 3.00 L-Lysine hydrochloride 5.00 Sodium thiosulphate 4.00 Ferric ammonium

citrate 1.00 Brilliant green 0.0125 Crystal violet 0.01 Agar 15.00 pHat 25C 6.8±0.2

Directions: Suspend 49 grams in 1000 ml distilled water. Boil to dissolve the medium completely. DO NOT AUTOCLAVE. Dispense as desired.

Quality Control	Organism(ATCC)	Growth	
	Salmonella enteritidis (13076)	luxuriant	black centred
	Salmonella paratyphi B	luxuriant	black centred
	Salmonella typhi (6539)	luxuriant	black centred
	Salmonella typhimurium (14028)	luxuriant	black centred
	Escherichia coli (25922)	inhibited	-
	Staphylococcus aureus (25923)	inhibited	-

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Mannitol Salt Agar / Broth

Mannitol Salt media are used as a selective media for the isolation of pathogenic Staphylococci.

Compositions (Gr/Lit): Proteose peptone 10.00 , 10.00 Beef extract 1.00 , 1.00 Sodium chloride 75.00 , 75.00 D-Mannitol 10.00 , 10.00 Phenol red 0.025 , 0.025 Agar 15.00 , - pHat 25C 7.4±0.2

Directions: Suspend 111 grams of M118 or 96 grams of M383 in 1000 ml distilled water. Boil to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. If desired, add 5% V/V Egg Yolk Emulsion (FD045) to M118. Mix well and dispense as desired.

Quality Control	Organism(ATCC)	Growth	Colour of colony on M118
	Staphylococcus aureus (25923)	good to luxuriant	yellow
	Staphylococcus epidermidis (12228)	fair to good	red
	Escherichia coli (25922)	inhibited	-

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Meat Infusion Agar

Meat Infusion Agar is a nutritive medium used for masscultivation of organisms for vaccine or toxin production.

Compositions (Gr/Lit): Peptic digest of animal tissue 10.00 Beef infusion from 500.00 Sodium chloride 5.00 Agar 25.00 pHat 25C 7.5±0.2

Directions: Suspend 50 in 1000 ml distilled water. Boil to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes.

Quality Control	Organism(ATCC)	Growth	
	Escherichia coli (25922)	luxuriant	
	Salmonella typhi (6539)	luxuriant	
	Staphylococcus aureus (25923)	luxuriant	
	Pseudomonas aeruginosa(27853)	luxuriant	

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Milk Agar

Milk Agar (Brown and Scott Modified) is used for the confirmation of Pseudomonas aeruginosa in swimming pool waters.

Compositions (Gr/Lit): Part A: Instant Non-Fat Milk 100.00 Part B: Peptic digest of animal tissue 5.00 Sodium chloride 5.00 Bile salts mixture 1.50 Yeast extract 1.50 Agar 15.00 pHat 25C 7.4±0.2

Directions: Part A: Suspend 100 grams in 500 ml distilled water. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. Cool to 55C . Part B: Suspend 28 grams in 500 ml distilled water and sterilize by autoclaving at 15 lbs pressure (121 C) for 15 minutes. Cool rapidly to 55C . Mix Part A and Part B together and pour into sterile Petri plates.

Quality Control	Organism(ATCC)	Growth	
	Pseudomonas aeruginosa (27853)	luxuriant	yellowish green
	Escherichia coli (25922)	luxuriant	-

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Motility Test Medium (Edwards and Ewing)

Motility Test Medium (Edwards and Ewing) is used for testing motility of enteric bacteria.

Compositions (Gr/Lit): Peptic digest of animal tissue 10.00 Beef extract 3.00 Sodium chloride 5.00 Agar 4.00 pHat 25C 7.4±0.2

Directions: Suspend 22 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Dispense 8 ml amounts in test tubes and sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. Cool the tubed medium in an upright position.

Quality Control	Organism(ATCC)	Growth	Motility
	Escherichia coli (25922)	luxuriant	+
	Enterobacter aerogenes (13048)	luxuriant	+
	Salmonella enteritidis (13076)	luxuriant	+
	Klebsiella pneumoniae (13883)	luxuriant	-
	Staphylococcus aureus (25923)	luxuriant	-

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Manual Of Dehydrated Culture Media

Mueller Hinton Agar/ Broth

Mueller Hinton Agar/ Broth is used for cultivation of Neisseria and for determination of susceptibility of microorganisms to antimicrobial agents.

Compositions (Gr/Lit): Beef, infusion from 300.00 , 300.00 Casein acid hydrolysate 17.50 , 17.50 Starch 1.50 , 1.50 Agar 17.00 , - pHat 25C 7.3±0.2 7.4±0.2

Directions: **Suspend 22 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Dispense 8 ml amounts in test tubes and sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. Cool the tubed medium in an upright position.**

Quality Control	Organism(ATCC)	Growth
	Escherichia coli (25922)	luxuriant
	Neisseria gonorrhoeae (49226)	luxuriant
	Enterobacter aerogenes (13048)	luxuriant
	Pseudomonas aeruginosa (77853)	luxuriant
	Staphylococcus aureus (25923)	luxuriant
	Streptococcus faecalis (19433)	luxuriant
	Haemophilus influenzae (49247)	good-luxuriant (on chocolate agar)

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Mueller Hinton Agar No.2

Mueller Hinton Agar No.2 is used for testing susceptibility of common and rapidly growing bacteria using antimicrobial discs by the Bauer – Kirby method. Manufactured to contain low levels of thymine, thymidine, calcium and magnesium.

Compositions (Gr/Lit): Casein acid hydrolysate 17.50 Beef heart infusion 2.00, Starch, soluble 1.50 Agar 17.00 pHat 25C 7.3±0.2

Directions: **Suspend 38 grams in 1000 ml distilled water. Mix well and heat to boiling to dissolve the medium completely.**

Quality Control	Organism(ATCC)	Growth
	Escherichia coli (25922)	good - luxuriant
	Staphylococcus aureus (25923)	good - luxuriant
	Pseudomonas aeruginosa(27853)	good – luxuriant
	Streptococcus pneumoniae (6305)	good – luxuriant
	Haemophilus influenzae (10211)	good- luxuriant

Key: * = growth on Mueller Hinton Blood Agar
** = growth on Mueller Hinton Chocolate Agar

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Nitrate Agar / Broth

Nitrate Agar / Broth is recommended for detection of nitrate reduction by bacteria.

Compositions (Gr/Lit): Peptic digest of animal tissue 5.00 , 5.00 Beef extract 3.00 , 3.00 Potassium nitrate 1.00, 1.00 Agar 12.00 - pHat 25C 6.8±0.2

Directions: **Suspend 21 grams of M072 or 9 grams of M439 in 1000 ml distilled water. Boil to dissolve the medium completely. Dispense in tubes and sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. Allow to cool the tubes of M072 in slanted position**

Quality Control	Organism(ATCC)	Growth
	Acinetobacter calcoaceticus (19606)	luxuriant -
	Enterobacter aerogenes (13048)	luxuriant +
	Escherichia coli(25922)	luxuriant +
	Salmonella typhimurium (14028)	luxuriant

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Nutrient Agar / Broth

Nutrient Agar / Broth is used as a general culture medium which may be used as enrichment medium by incorporating 10% blood or other biological fluids.

Compositions (Gr/Lit): Peptic digest of animal tissue 5.00 , 5.00 Beef extract 1.50, 1.50 Yeast extract 1.50 , 1.50 Sodium chloride 5.00, 5.00 Agar 15.00 - pHat 25C 7.4±0.2

Directions: **Suspend 28 grams of M001 or 13 grams of M002 in 1000 ml distilled water. Boil to dissolve the medium completely. Dispense as desired and sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes.**

Quality Control	Organism(ATCC)	Growth
	Escherichia coli(25922)	good- luxuriant
	Pseudomonas aeruginosa(27853)	good- luxuriant
	Staphylococcus aureus (25923)	good- luxuriant
	Streptococcus pyogenes (19615)	good- luxuriant

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.

Nutrient Agar 1.5%

Nutrient Agar 1.5% is a general purpose nutrient medium which can be used for cultivation of fastidious microorganisms after appropriate enrichment.

Compositions (Gr/Lit): Peptic digest of animal tissue 5.00 , 5.00 Beef extract 3.00 , 3.00 Sodium chloride 8.00, 8.00 Agar 15.00, 15.00 pHat 25C 7.3±0.2

Directions: **Suspend 31 grams of M087 or 28 grams of M087 I in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121C) for 15 minutes. If desired, it can be appropriately enriched with sterile blood. Ascetic fluid or serum after cooling to 45-50C.**

Quality Control	Organism(ATCC)	Growth
	Pseudomonas aeruginosa(27853)	luxuriant
	Staphylococcus aureus (25923)	luxuriant
	Escherichia coli(25922)	luxuriant

Shelf Life: Store below 25C and the prepared medium at 2-8C. Use before expiry date on label.