



## Food & Beverage

### ■ A - 1 Medium (7601)

#### Formula / Liter

Enzymatic Digest of Casein	20 g
Lactose	5 g
Sodium Chloride	5 g
Salicin	0.5 g
Triton X-100	1 g
Final pH: 6.9 ± 0.2 at 25°C	

#### Directions

1. Dissolve 31.5 g of the medium in one liter of purified water.
2. Heat with frequent agitation to completely dissolve the medium.
3. Distribute into test tubes containing Durham tubes and autoclave at 121°C for 10 minutes.
4. Autoclave at 121°C for 10 minutes.

### ■ APT Agar (7302)

#### Formula / Liter

Enzymatic Digest of Casein	10 g
Yeast Extract	7.5 g
Sodium Chloride	5 g
Potassium Phosphate	5 g
Sodium Citrate	5 g
Dextrose	10 g
Polysorbate 80	0.2 g
Magnesium Sulfate	0.8 g
Manganese Chloride	0.14 g
Ferrous Sulfate	0.04 g
Sodium Carbonate	1.25 g
Agar	13.5 g
Final pH: 6.7 ± 0.2 at 25°C	

#### Directions

1. Suspend 58 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 118 - 121 C for 15 minutes.

### ■ Bacillus Cereus Agar Base (7442)

#### Formula / Liter

Enzymatic Digest of Casein	1 g
Mannitol	10 g
Sodium Chloride	2 g
Magnesium Sulfate	0.1 g
Disodium Phosphate	2.5 g
Monopotassium Phosphate	0.25 g
Bromthymol Blue	0.10 g
Sodium Pyruvate	10 g
Agar	15 g
Final pH: 7.2 ± 0.2 at 25°C	

#### Directions

1. Suspend 41 g of the medium in 950 mL of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.
4. Cool to 45 - 50°C. Aseptically add 50 mL of Egg Yolk Emulsion (# 7982) and 10 mL of Polymyxin B (# 7997, 2 x 5mL vials).

### ■ Baird Parker Agar (7112)

#### Formula / Liter

Enzymatic Digest of Casein	10 g
Beef Extract	5 g
Yeast Extract	1 g
Lithium Chloride	5 g
Glycine	12 g
Sodium Pyruvate	10 g
Agar	*17 g
*15 - 20 g according to gel strength	
Final pH: 7.0 ± 0.2 at 25°C	

#### Directions

1. Suspend 60 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.
4. After cooling to 45 - 50°C, add 50 mL of Egg Yolk Tellurite Supplement (# 7983). Alternatively, add 50 mL of Egg Yolk Emulsion (# 7982) and 10 mL of Tellurite Supplement (1%), (# 7989).
5. Mix thoroughly before dispensing.

### ■ Bile Esculin Agar (7249)

#### Formula / Liter

Beef Extract	11 g
Enzymatic Digest of Gelatin	34.5 g
Esculin	1 g
Ox bile	2 g
Ferric Ammonium Citrate	0.5 g
Agar	15 g
Final pH: 6.6 ± 0.2 at 25°C	

#### Directions

1. Suspend 64 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

### ■ Bismuth Sulfite Agar (7113)

#### Formula / Liter

Enzymatic Digest of Casein	5 g
Enzymatic Digest of Animal Tissue	5 g
Beef Extract	5 g
Dextrose	5 g
Disodium Phosphate	4 g
Ferrous Sulfate	0.3 g
Bismuth Sulfite Indicator	8 g
Brilliant Green	0.025 g
Agar	20 g
Final pH: 7.5 ± 0.2 at 25°C	

#### Directions

1. Suspend 52 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute.
3. Mix thoroughly to obtain a uniform suspension prior to dispensing.
4. Freshly prepared Bismuth Sulfite Agar is very , therefore suitable for heavily contaminated samples. However, it is not recommended to store prepared Bismuth Sulfite Agar at 4°C for longer than 2 days; after 3 days of storage the medium may change to a green color with a reduction in selectivity of competing microorganisms and an increased potential for the inhibition of Salmonella colonies.

### ■ Brilliant Green Agar (7117)

#### Formula / Liter

Yeast Extract	3 g
Enzymatic Digest of	5 g
Enzymatic Digest of Animal Tissue	5 g
Sodium Chloride	5 g
Lactose	10 g
Sucrose	10 g
Brilliant Green	0.0125 g
Phenol Red	0.08 g
Agar	20 g
Final pH: 6.9 ± 0.2 at 25°C	

#### Directions

1. Suspend 58 g of the medium in one liter of purified water.
2. Mix thoroughly.
3. Autoclave at 121°C for 15 minutes.

### ■ Brilliant Green Agar with Sulfadiazine (7310)

#### Formula / Liter

Yeast Extract	3 g
Enzymatic Digest of Casein	5 g
Enzymatic Digest of Animal Tissue	5 g
Sodium Chloride	5 g
Lactose	10 g
Sucrose	10 g
Brilliant Green	0.0125 g
Phenol Red	0.08 g
Sulfadiazine	0.08 g
Agar	20 g
Final pH: 6.9 ± 0.2 at 25°C	

#### Directions

1. Suspend 58 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

### ■ Brilliant Green Agar with Sulfapyridine (7299)

#### Formula / Liter

Yeast Extract	3 g
Enzymatic Digest of Casein	5 g
Enzymatic Digest of Animal Tissue	5 g
Sodium Chloride	5 g
Lactose	10 g
Sucrose	10 g
Brilliant Green	0.0125 g
Phenol Red	0.08 g
Sodium Sulfapyridine	1 g
Agar	20 g
Final pH: 6.9 ± 0.2 at 25°C	

#### Directions

1. Suspend 59 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes. Avoid overheating.

■ **Brilliant Green Bile Broth 2% (7119)**

**Formula / Liter**

Enzymatic Digest of Gelatin ..... 10 g  
Lactose ..... 10 g  
Ox bile ..... 20 g  
Brilliant Green ..... 0.0133 g  
Final pH: 7.2 ± 0.2 at 25°C

Directions

1. Dissolve 40 g of the medium in one liter of purified water until evenly dispersed.
2. Heat with frequent agitation to completely dissolve the medium.
3. Distribute into fermentation tubes.
4. Autoclave at 121°C for no longer than 15 minutes. To avoid entrapment of bubbles in the fermentation tubes, allow the autoclave to cool at least to 75°C before opening.

■ **Brucella Agar (7120)**

**Formula / Liter**

Enzymatic Digest of Casein ..... 10 g  
Enzymatic Digest of Animal Tissue .. 10 g  
Yeast Extract ..... 2 g  
Sodium Chloride ..... 5 g  
Dextrose..... 1 g  
Sodium Bisulfite ..... 0.1 g  
Agar ..... 15 g  
Final pH: 7.0 ± 0.2 at 25°C

Directions

1. Suspend 43 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

■ **Brucella Broth (7121)**

**Formula / Liter**

Enzymatic Digest of Casein ..... 10 g  
Enzymatic Digest of Animal Tissue ... 10 g  
Yeast Extract ..... 2 g  
Sodium Chloride ..... 5 g  
Dextrose ..... 1 g  
Sodium Bisulfite ..... 0.1 g  
Final pH: 7.0 ± 0.2 at 25°C

Directions

1. Dissolve 28 g of the medium in one liter of purified water.
2. Mix thoroughly.
3. Autoclave at 121°C for 15 minutes.

■ **Buffered Listeria Enrichment Broth (7579)**

**Formula / Liter**

Enzymatic Digest of Casein ..... 17 g  
Enzymatic Digest of Soybean Meal ... 3 g  
Yeast Extract ..... 6 g  
Dextrose ..... 2.5 g  
Sodium Chloride ..... 5 g  
Monopotassium Phosphate ..... 1.35 g  
Dipotassium Phosphate ..... 2.5 g  
Disodium Phosphate ..... 9.6 g  
Cycloheximide ..... 0.05 g  
Nalidixic Acid ..... 0.04 g  
Acriflavin ..... 0.015 g  
Final pH: 7.3 ± 0.2 at 25°C

Directions

1. Dissolve 47 g of the medium in one liter of purified water.
2. Mix thoroughly.
3. Autoclave at 121°C for 15 minutes.

■ **Buffered Listeria Enrichment Broth Base (7675)**

**Formula / Liter**

Enzymatic Digest of Casein ..... 17 g  
Enzymatic Digest of Soybean Meal .... 3 g  
Yeast Extract ..... 6 g  
Dextrose ..... 2.5 g  
Sodium Chloride ..... 5 g  
Monopotassium Phosphate ..... 1.35 g  
Dipotassium Phosphate ..... 2.5 g  
Disodium Phosphate ..... 9.6 g  
Final pH: 7.3 ± 0.2 at 25°C

Directions

1. Dissolve 47 g of the medium in 1000 mL of purified water.
2. Mix thoroughly.
3. Autoclave at 121°C for 15 minutes.
4. Aseptically add 11.1 mL of a 10% filter sterilized solution of sodium pyruvate.
5. After four hours of incubation at 30 ± 2°C, aseptically add 2.5 mL Buffered Listeria Enrichment Supplement (FDA) (#7980) to 225 mL of Buffered Listeria Enrichment Broth Base containing 25 grams of the sample. OR, aseptically add 0.455 mL of a 0.5% aqueous solution of acriflavine, 1.8 mL of a 0.5% aqueous solution of nalidixic acid, and 1.15 mL of a 1.0% solution of cycloheximide in 40% ethanol to 225 mL of medium containing 25 g or 25 mL of food to be tested.

■ **Buffered Peptone Water (7418)**

**Formula / Liter**

Peptone..... 10.0 g  
Sodium Chloride ..... 5.0 g  
Disodium Phosphate ..... 3.5 g  
Monopotassium Phosphate ..... 1.5 g  
Final pH: 7.2 ± 0.2 at 25°C

Directions

1. Dissolve 20 g of the medium in one liter of purified water.
2. Mix thoroughly.
3. Autoclave at 121°C for 15 minutes.

■ **Buffered Peptone Water, Modi with Pyruvate (7736)**

**Formula / Liter**

Enzymatic Digest of Casein ..... 10 g  
Lactose ..... 10 g  
Yeast Extract..... 6 g  
Acid Digest of Casein..... 5 g  
Sodium Chloride ..... 5 g  
Sodium Phosphate, dibasic ..... 3.6 g  
Potassium Phosphate, monobasic ... 1.5 g  
Sodium Pyruvate..... 1 g  
Final pH: 7.2 ± 0.2 at 25°C

Directions

1. Dissolve 42.1 g of the medium in one liter of purified water.
2. Heat with frequent agitation to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

■ **Campy Cefex Agar (7718)**

**Formula / Liter**

Enzymatic Digest of Casein .....10 g  
Enzymatic Digest of Animal Tissue ..10 g  
Sodium Chloride .....5 g  
Yeast Extract .....2 g  
Dextrose .....1 g  
Sodium Pyruvate .....0.5 g  
Ferrous Sulfate .....0.5 g  
Sodium Bisulfite ..... 0.3 g  
Cycloheximide .....0.2 g  
Agar.....15 g  
Final pH: 7.0 ± 0.2 at 25°C

Directions

1. Dissolve 44.4 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.
4. Cool medium to 50°C and aseptically add 10 mL of a filtered sterilized solution containing 0.033 g of Cefoperazone and 5% of sterile laked horse blood.
5. Mix well and pour into petri dishes.

■ **Campylobacter Blood Free Selective Medium (7527)**

**Formula / Liter**

Nutrient Broth No. 2 ..... 25 g  
Charcoal ..... 4 g  
Casein Acid Hydrolysate ..... 3 g  
Sodium Desoxycholate ..... 1 g  
Ferrous Sulfate ..... 0.25 g  
Sodium Pyruvate ..... 0.25 g  
Agar ..... 12 g  
Final pH: 7.4 ± 0.2 at 25°C

Directions

1. Suspend 45.5 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.
4. Cool medium to 45 - 50°C and aseptically add 4 mL of a filtered sterilized aqueous solution containing 32 mg of Cefoperazone (7981). (Each Campylobacter Supplement vial supplements 500 mL of medium.)
5. Mix well and pour into petri dishes.



## Food & Beverage

### ■ Campylobacter Enrichment Broth (7526)

#### Formula / Liter

Enzymatic Digest of Animal Tissue ...	10 g
Lactalbumin Hydrolysate .....	5 g
Yeast Extract .....	5 g
Sodium Chloride .....	5 g
Hemin.....	0.01 g
Sodium Pyruvate .....	0.5 g
α-Ketoglutaric Acid.....	1 g
Sodium Metabisulfite .....	0.5 g
Sodium Carbonate.....	0.6 g
Final pH: 7.4 ± 0.2 at 25°C	

#### Directions

1. Dissolve 27.6 g of the medium in one liter of purified water.
2. Allow powder to soak for 10 minutes.
3. Heat with frequent agitation to completely dissolve the medium.
4. Autoclave at 121°C for 15 minutes.
5. Cool medium to 45 - 50°C and aseptically add 50 mL of lysed horse blood and 10 mL of ethanol containing 20 mg of cefoperazone, 50 mg of cycloheximide, 20 mg trimethoprim, and 20 mg vancomycin.

### ■ Campylobacter Selective Agar Base (7443)

#### Formula / Liter

Enzymatic Digest of Animal Tissue ..	10 g
Enzymatic Digest of Casein.....	10 g
Sodium Chloride .....	5 g
Agar .....	12 g
Final pH: 7.5 ± 0.2 at 25°C	

#### Directions

1. Suspend 37 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.
4. Cool medium to 45 - 50°C and aseptically add 5% lysed horse blood and 10 mL of a filtered sterilized aqueous solution containing 5000 IU polymyxin B, 10 mg trimethoprim, 10 mg rifampin, and 100 mg cycloheximide.

### ■ Cetrimide Agar (7222)

#### Formula / Liter

Enzymatic Digest of Gelatin.....	20 g
Magnesium Chloride.....	1.4 g
Potassium Chloride.....	10 g
Cetrimide .....	0.3 g
Agar .....	13.6 g
Final pH: 7.2 ± 0.2 at 25°C	

#### Directions

1. Suspend 45.3 g of the medium and 10 mL of glycerol in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

### ■ Cetrimide Agar (Agar Medium N) (7688)

#### Formula / Liter

Enzymatic Digest of Gelatin .....	20 g
Magnesium Chloride .....	1.4 g
Potassium Sulfate.....	10 g
Cetrimide .....	0.3 g
Agar .....	13.6 g
Final pH 7.2 ± 0.2 at 25°C	

#### Directions

1. Suspend 45.3 g of the medium and 10 mL of glycerol in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

### ■ Clostridium Difficile Agar (7385)

#### Formula / Liter

Enzymatic Digest of Casein .....	15 g
Enzymatic Digest of Animal Tissue ..	15 g
Pork Brain Heart Infusion Solids ..	10 g
Fructose .....	6 g
Disodium Phosphate .....	5 g
Monopotassium Phosphate .....	1 g
Magnesium Sulfate .....	0.1 g
Sodium Chloride .....	2 g
Agar .....	15 g
Final pH: 7.4 ± 0.2 at 25°C	

#### Directions

1. Suspend 69 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.
4. Cool to 45 - 50°C and aseptically add 7% horse blood, Cycloserine (0.5 g/L) and Cefoxitin (0.016 g/L).

### ■ Columbia Agar (7734)

#### Formula / Liter

Pancreatic Digest of Casein .....	10 g
Meat Peptic Digest .....	5 g
Heart Pancreatic Digest .....	3 g
Yeast Extract .....	5 g
Maize Starch .....	1 g
Sodium Chloride .....	5 g
Agar .....	12 g
Final pH: 7.3 ± 0.2 at 25°C	

#### Directions

1. Dissolve 41 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

### ■ Cooked Meat Medium (7110)

#### Formula / Liter

Beef Heart .....	454 g
Enzymatic Digest of Animal Tissue ...	20 g
Dextrose .....	2 g
Sodium Chloride .....	5 g
Final pH: 7.2 ± 0.2 at 25°C	

#### Directions

1. Place 1.25 g of meat granules into a test tube and add 10 mL of purified water.
2. Autoclave at 121°C for 15 minutes.

### ■ Demi-Fraser Broth Base (7656)

#### Formula / Liter

Enzymatic Digest of Casein .....	5 g
Enzymatic Digest of Animal Tissue .....	5 g
Beef Extract .....	5 g
Yeast Extract .....	5 g
Sodium Chloride .....	20 g
Disodium Phosphate .....	9.6 g
Monopotassium Phosphate .....	1.35 g
Esculin .....	1 g
Acridflavin .....	0.012 g
Nalidixic Acid .....	0.010 g
Lithium Chloride .....	3 g
Final pH: 7.2 ± 0.2 at 25°C	

#### Directions

1. Dissolve 55 g of the medium in one liter of purified water. PI 7656, Rev 06, Nov. 2010
2. Mix thoroughly.
3. Autoclave at 121°C for 15 minutes. Cool to room temperature.
4. Aseptically add 10 mL of Fraser Broth Supplement.

### ■ D/E Neutralizing Agar (7375)

#### Formula / Liter

Enzymatic Digest of Casein .....	5 g
Yeast Extract .....	2.5 g
Dextrose.....	10 g
Sodium Thioglycollate .....	1 g
Sodium Thiosulfate .....	6 g
Sodium Bisulfite .....	2.5 g
Polysorbate 80.....	5 g
Lecithin (Soybean) .....	7 g
Bromcresol Purple .....	0.02 g
Agar .....	15 g
Final pH: 7.6 ± 0.2 at 25°C	

#### Directions

1. Suspend 54 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

### ■ D/E Neutralizing Broth (7562)

#### Formula / Liter

Enzymatic Digest of Casein ..... 5 g  
Yeast Extract ..... 2.5 g  
Dextrose ..... 10 g  
Sodium Thioglycollate ..... 1 g  
Sodium Thiosulfate ..... 6 g  
Sodium Bisulfite ..... 2.5 g  
Lecithin ..... 7 g  
Bromcresol Purple ..... 0.02 g  
Final pH: 7.6 ± 0.2 at 25°C

#### Directions

1. Dissolve 34 g of the medium and 5 g of Polysorbate 80 in one liter of purified water.
2. Mix Thoroughly.
3. Autoclave at 121°C for 15 minutes.

### ■ D/E Neutralizing Broth with Tween (7705)

#### Formula / Liter

Dextrose ..... 10 g  
Lecithin ..... 7 g  
Sodium Thiosulfate ..... 6 g  
Polysorbate 80 ..... 5 g  
Enzymatic Digest of Casein ..... 5 g  
Yeast Extract ..... 2.5 g  
Sodium Bisulfite ..... 2.5 g  
Sodium Thioglycollate ..... 1 g  
Bromcresol Purple ..... 0.02 g  
Final pH: 7.6 ± 0.2 at 25°C

#### Directions

1. Suspend 43 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

### ■ Deoxycholate Citrate Agar (7186)

#### Formula / Liter

Pork Infusion Solids ..... 10 g  
Enzymatic Digest of Animal Tissue .. 10 g  
Lactose ..... 10 g  
Sodium Citrate ..... 20 g  
Ferric Citrate ..... 1 g  
Sodium Deoxycholate..... 5 g  
Neutral Red..... 0.02 g  
Agar ..... 17 g  
Final pH: 7.3 ± 0.2 at 25°C

#### Directions

1. Suspend 73 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. AVOID OVERHEATING.

### ■ Dextrose Tryptone Agar (7340)

#### Formula / Liter

Enzymatic Digest of Casein ..... 10 g  
Dextrose ..... 5 g  
Bromcresol Purple ..... 0.04 g  
Agar ..... 15 g  
Final pH: 6.7 ± 0.2 at 25°C

#### Directions

1. Suspend 30 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

### ■ Dextrose Tryptone Broth (7338)

#### Formula / Liter

Enzymatic Digest of Casein ..... 20 g  
Dextrose ..... 10 g  
Bromcresol Purple ..... 0.04 g  
Final pH: 6.7 ± 0.2 at 25°C

#### Directions

1. Dissolve 30 g of the medium in one liter of purified water.
2. Mix thoroughly.
3. Autoclave at 121°C for 15 minutes.

### ■ Dichloran Glycerol Agar Base DG-18 (7592)

#### Formula / Liter

Peptone ..... 5 g  
Glucose ..... 10 g  
Monopotassium Phosphate ..... 1 g  
Magnesium Sulfate ..... 0.5 g  
Zinc Sulfate ..... 0.01 g  
Copper Sulfate ..... 0.005 g  
Dichloran ..... 0.002 g  
Chloramphenicol ..... 0.05 g  
Chlortetracycline ..... 0.05 g  
Agar ..... 15 g  
Final pH: 5.6 ± 0.2 at 25°C

#### Directions

1. Suspend 31.6 g of the medium and 220 g of glycerol in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes. DO NOT OVERHEAT.

### ■ DNase Test Agar (7129)

#### Formula / Liter

Enzymatic Digest of Casein ..... 15 g  
Enzymatic Digest of Animal Tissue .... 5 g  
Sodium Chloride ..... 5 g  
Deoxyribonucleic Acid ..... 2 g  
Agar ..... 15 g  
Final pH: 7.3 ± 0.2 at 25°C

#### Directions

1. Suspend 42 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

### ■ DRBC Agar (7591)

#### Formula / Liter

Enzymatic Digest of Animal Tissue .... 5 g  
Glucose ..... 10 g  
Monopotassium Phosphate ..... 1 g  
Magnesium Sulfate ..... 0.5 g  
Rose Bengal ..... 0.025 g  
Dichloran ..... 0.002 g  
Chloramphenicol ..... 0.1 g  
Agar ..... 15 g  
Final pH: 5.6 ± 0.2 at 25°C

#### Directions

1. Suspend 31.6 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes. DO NOT OVERHEAT.

### ■ EC Medium (7206)

#### Formula / Liter

Enzymatic Digest of Casein ..... 20 g  
Lactose ..... 5 g  
Bile Salts Mixture ..... 1.5 g  
Dipotassium Phosphate ..... 4 g  
Monopotassium Phosphate ..... 1.5 g  
Sodium Chloride ..... 5 g  
Final pH: 6.9 ± 0.2 at 25°C

#### Directions

1. Dissolve 37 g of the medium in one liter of purified water.
2. Mix thoroughly.
3. Distribute into tubes containing inverted fermentation Durham tubes.
4. Autoclave at 121°C for 15 minutes.



## Food & Beverage

### ■ EC Medium with MUG (7361)

#### Formula / Liter

Enzymatic Digest of Casein ..... 20 g  
 Lactose ..... 5 g  
 Bile Salts Mixture ..... 1.5 g  
 Dipotassium Phosphate..... 4 g  
 Monopotassium Phosphate ..... 1.5 g  
 Sodium Chloride ..... 5 g  
 4-Methylumbelliferyl-β-D-Glucuronide .. 0.05 g  
 Final pH: 6.9 ± 0.2 at 25°C

#### Directions

1. Dissolve 37 g of the medium in one liter of purified water.
2. Mix thoroughly.
3. Distribute into tubes containing inverted Durham tubes.
4. Autoclave at 121°C for 15 minutes.

### ■ EC Medium, Modified (7506)

#### Formula / Liter

Enzymatic Digest of Casein ..... 20 g  
 Lactose ..... 5 g  
 Bile Salts Mixture ..... 1.12 g  
 Dipotassium Phosphate..... 4 g  
 Monopotassium Phosphate ..... 1.5 g  
 Sodium Chloride ..... 5 g  
 Final pH: 6.9 ± 0.2 at 25°C

#### Directions

1. Dissolve 36.6 g of the medium in one liter of purified water.
2. Mix thoroughly.
3. Autoclave at 121°C for 15 minutes.
4. Cool to room temperature and add 10 mL of the Novobiocin Supplement (# 7985).
5. Dispense aseptically into sterile tubes containing an inverted fermentation Durham tube.

### ■ EC Medium, Modified with Novobiocin (7700)

#### Formula / Liter

Enzymatic Digest of Casein ..... 20.0 g  
 Lactose ..... 5.0 g  
 Sodium Chloride ..... 5.0 g  
 Dipotassium Phosphate ..... 4.0 g  
 Monopotassium Phosphate ..... 1.5 g  
 Bile Salts ..... 1.12 g  
 Novobiocin ..... 0.020 g  
 Final pH: 6.9 ± 0.2 at 25°C

#### Directions

1. Dissolve 36.7 g of the medium in one liter of purified water.
2. Autoclave at 121°C for 15 minutes.

### ■ EE Broth, Mossel (7603)

#### Formula / Liter

Desiccated Ox Bile ..... 20 g  
 Enzymatic Digest of Gelatin ..... 10 g  
 Sodium Phosphate, Dibasic ..... 8 g  
 Dextrose ..... 5 g  
 Potassium Phosphate, Monobasic ... 2 g  
 Brilliant Green ..... 0.015 g  
 Final pH: 7.2 ± 0.2 at 25°C

#### Directions

1. Suspend 45 g of the medium in one liter of purified water.
2. Heat at 100°C for 30 minutes to completely dissolve the medium.
3. Cool rapidly in cold water.
4. DO NOT AUTOCLAVE.

### ■ Eosin Methylene Blue Agar (7134)

#### Formula / Liter

Enzymatic Digest of Gelatin ..... 10 g  
 Lactose ..... 5 g  
 Sucrose ..... 5 g  
 Dipotassium Phosphate ..... 2 g  
 Eosin Y..... 0.4 g  
 Methylene Blue ..... 0.065 g  
 Agar ..... 13.5 g  
 Final pH: 7.2 ± 0.2 at 25°C

#### Directions

1. Suspend 36 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

### ■ Eosin Methylene Blue Agar, Levine (7103)

#### Formula / Liter

Enzymatic Digest of Gelatin ..... 10 g  
 Lactose ..... 10 g  
 Dipotassium Phosphate ..... 2 g  
 Eosin Y ..... 0.4 g  
 Methylene Blue ..... 0.065 g  
 Agar ..... 15 g  
 Final pH: 7.1 ± 0.2 at 25°C

#### Directions

1. Suspend 37.5 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
4. Autoclave at 121°C for 15 minutes.

### ■ Fluid Thioglycollate Medium (7137)

#### Formula / Liter

Enzymatic Digest of Casein ..... 15 g  
 Yeast Extract ..... 5 g  
 Dextrose ..... 5.5 g  
 L-Cystine ..... 0.5 g  
 Sodium Chloride ..... 2.5 g  
 Sodium Thioglycollate ..... 0.5 g  
 Resazurin ..... 0.001 g  
 Agar ..... 0.75 g  
 Final pH: 7.1 ± 0.2 at 25°C

#### Directions

1. Dissolve 29.8 g of the medium in one liter of purified water.
2. Heat with frequent agitation to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

### ■ Fraser Broth (7626)

#### Formula / Liter

Enzymatic Digest of Casein ..... 5 g  
 Enzymatic Digest of Animal Tissue .... 5 g  
 Beef Extract ..... 5 g  
 Yeast Extract ..... 5 g  
 Sodium Chloride ..... 20 g  
 Disodium Phosphate ..... 12 g  
 Monopotassium Phosphate ..... 1.35 g  
 Esculin ..... 1 g  
 Lithium Chloride ..... 3 g  
 Final pH: 7.2 ± 0.2 at 25°C

#### Directions

1. Dissolve 57.4 g of the medium in one liter of purified water.
2. Stir without heat to obtain solution, if necessary, warm to 50°C. DO NOT OVERHEAT.
3. Autoclave at 121°C for 15 minutes. Cool broth to room temperature.
4. Aseptically add 10 mL of a filter sterilized solution containing 20 mg Nalidixic Acid and 25 mg Acriflavin. Additionally, add 2 x 5 mL Ferric Ammonium Citrate Supplement (7984).

### ■ Fraser Broth Base (7502)

#### Formula / Liter

Enzymatic Digest of Casein ..... 5 g  
 Enzymatic Digest of Animal Tissue .... 5 g  
 Beef Extract ..... 5 g  
 Yeast Extract ..... 5 g  
 Sodium Chloride ..... 20 g  
 Disodium Phosphate ..... 9.6 g  
 Monopotassium Phosphate ..... 1.35 g  
 Esculin ..... 1 g  
 Acriflavin ..... 0.024 g  
 Nalidixic Acid ..... 0.020 g  
 Lithium Chloride ..... 3 g  
 Final pH: 7.2 ± 0.2 at 25°C

#### Directions

1. Dissolve 55 g of the medium in one liter of purified water.
2. Mix thoroughly.
3. Autoclave at 121°C for 15 minutes.
4. Aseptically add 10 mL of Fraser Broth Base Supplement (7984).

### ■ Hektoen Enteric Agar (7138)

#### Formula / Liter

Enzymatic Digest of Animal Tissue	16.5 g
Yeast Extract	3 g
Bile Salts Mixture	4.5 g
Lactose	12 g
Sucrose	12 g
Salicin	2 g
Sodium Chloride	5 g
Sodium Thiosulfate	5 g
Ferric Ammonium Citrate	1.5 g
Bromthymol Blue	0.065 g
Acid Fuchsin	0.1 g
Agar	13.5 g

Final pH: 7.6 ± 0.2 at 25°C

#### Directions

1. Suspend 75 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. DO NOT AUTOCLAVE.

### ■ Lactobacilli MRS Agar (7543)

#### Formula / Liter

Enzymatic Digest of Animal Tissue	10 g
Beef Extract	10 g
Yeast Extract	5 g
Dextrose	20 g
Sodium Acetate	5 g
Polysorbate 80	1 g
Potassium Phosphate	2 g
Ammonium Citrate	2 g
Magnesium Sulfate	0.1 g
Manganese Sulfate	0.05 g
Agar	15 g

Final pH: 6.5 ± 0.2 at 25°C

#### Directions

1. Suspend 70 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

### ■ Lactobacillus Selective Agar Base (7234)

#### Formula / Liter

Enzymatic Digest of Casein	10 g
Yeast Extract	5 g
Monopotassium Phosphate	6 g
Ammonium Citrate	2 g
Dextrose	20 g
Sodium Acetate Hydrate	25 g
Magnesium Sulfate	0.575 g
Manganese Sulfate	0.12 g
Ferrous Sulfate	0.034 g
Polysorbate 80	1 g
Agar	15 g

Final pH: 5.5 ± 0.2 at 25°C

#### Directions

1. Suspend 84 g of the medium in one liter of purified water. Mix thoroughly.
2. Add 1.32 mL of glacial acetic acid.
3. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
4. Avoid overheating. DO NOT AUTOCLAVE.

### ■ Lactobacilli MRS Broth (7406)

#### Formula / Liter

Enzymatic Digest of Animal Tissue	10 g
Beef Extract	10 g
Yeast Extract	5 g
Dextrose	20 g
Sodium Acetate	5 g
Polysorbate 80	1 g
Potassium Phosphate	2 g
Ammonium Citrate	2 g
Magnesium Sulfate	0.1 g
Manganese Sulfate	0.05 g

Final pH: 6.5 ± 0.2 at 25°C

#### Directions

1. Dissolve 55 g of the medium in one liter of purified water.
2. Mix thoroughly.
3. Autoclave at 121°C for 15 minutes.

### ■ Lactose Broth (7141)

#### Formula / Liter

Enzymatic Digest of Gelatin	5 g
Beef Extract	3 g
Lactose	5 g

Final pH: 6.9 ± 0.2 at 25°C

#### Directions

1. Dissolve 13 g of the medium in one liter of purified water.
2. Mix thoroughly.
3. Distribute into test tubes containing Durham tubes.
4. Autoclave at 121°C for 15 minutes.

### ■ Lauryl Sulfate Broth (7142)

#### Formula / Liter

Enzymatic Digest of Casein	20 g
Lactose	5 g
Sodium Chloride	5 g
Monopotassium Phosphate	2.75 g
Disodium Phosphate	2.75 g
Sodium Lauryl Sulfate	0.1 g

Final pH: 6.8 ± 0.2 at 25°C

#### Directions

1. Dissolve 35.6 g of the medium in one liter of purified water.
2. Mix thoroughly.
3. Prepared double strength broth for evaluating 10 mL samples. Distribute into tests containing inverted Durham tubes.
4. Autoclave at 121°C for 15 minutes.

### ■ Lauryl Sulfate Broth with MUG (7300)

#### Formula / Liter

Enzymatic Digest of Casein	20 g
Lactose	5 g
Monopotassium Phosphate	2.75 g
Disodium Phosphate	2.75 g
Sodium Chloride	5 g
Sodium Lauryl Sulfate	0.1 g
4-Methylumbelliferyl-β-D-glucuronide	0.05 g

Final pH: 6.8 ± 0.2 at 25°C

#### Directions

1. Dissolve 35.7 g of the medium in one liter of purified water.
2. Mix thoroughly.
3. Distribute into tubes containing inverted Durham tubes.
4. Autoclave at 121°C for 15 minutes.

### ■ Lauryl Tryptone Broth (7324)

#### Formula / Liter

Tryptose	20 g
Lactose	5 g
Sodium Chloride	5 g
Monopotassium Phosphate	2.75 g
Disodium Phosphate	2.75 g
Sodium Lauryl Sulfate	0.1 g

Final pH: 6.8 ± 0.2 at 25°C

#### Directions

1. Dissolve 35.6 g of the medium in one liter of purified water.
2. Prepare double strength broth for evaluating 10 mL samples.
3. Distribute into tubes containing inverted fermentation Durham tubes.
4. Autoclave at 121°C for 15 minutes.

### ■ Lethen Agar Base (7118)

#### Formula / Liter

Enzymatic Digest of Casein	5 g
Dextrose	1 g
Beef Extract	3 g
Lecithin	1 g
Agar	15 g

Final pH: 7.0 ± 0.2 at 25°C

#### Directions

1. Suspend 25 g of the medium and 7 mL of Tween 80 (Polysorbate 80) in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.



## Food & Beverage

### ■ Lethen Agar Base with Tween (7710)

#### Formula / Liter

Enzymatic Digest of Casein .....	5 g
Dextrose .....	1 g
Beef Extract .....	3 g
Lecithin .....	1 g
Tween 80 (Polysorbate 80).....	7 g
Agar .....	15 g
Final pH: 7.0 ± 0.2 at 25°C	

#### Directions

1. Suspend 32 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

### ■ Lethen Broth Base (7105)

#### Formula / Liter

Enzymatic Digest of Animal Tissue ....	10 g
Beef Extract .....	5 g
Sodium Chloride .....	5 g
Lecithin.....	0.7 g
Final pH: 7.0 ± 0.2 at 25°C	

#### Directions

1. Dissolve 20.7 g of the medium and 5 g of Tween 80 (Polysorbate 80) (# 7992) in one liter of purified water.
2. Heat with frequent agitation to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

### ■ Lethen Broth with Tween, Modified (7712)

#### Formula / Liter

Lethen Broth Base .....	20.7 g
Enzymatic Digest of Casein .....	5 g
Enzymatic Digest of Animal Tissue ...	10 g
Yeast Extract .....	2 g
Sodium Bisulfite .....	0.1 g
Polysorbate 80 .....	5 g
Final pH: 7.2 ± 0.2 at 25°C	

#### Directions

1. Dissolve 42.8 g of the medium in one liter of purified water.
2. Heat with frequent agitation to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

### ■ Listeria Enrichment Broth (7398)

#### Formula / Liter

Enzymatic Digest of Casein .....	17 g
Enzymatic Digest of Soybean Meal .....	3 g
Yeast Extract .....	6 g
Dextrose .....	2.5 g
Sodium Chloride .....	5 g
Dipotassium Phosphate .....	2.5 g
Cyclohexamide .....	0.05 g
Acriflavin .....	0.015 g
Nalidixic Acid.....	0.04 g
Final pH: 7.3 ± 0.2 at 25°C	

#### Directions

1. Dissolve 36.1 g of the medium in one liter of purified water.
2. Mix thoroughly.
3. Autoclave at 121°C for 15 minutes.

### ■ M-Broth (7296)

#### Formula / Liter

Enzymatic Digest of Casein .....	12.5 g
Yeast Extract .....	5 g
D-Mannose .....	2 g
Sodium Citrate .....	5 g
Sodium Chloride .....	5 g
Potassium Phosphate .....	5 g
Manganese Chloride .....	0.14 g
Magnesium Sulfate.....	0.8 g
Ferrous Sulfate .....	0.04 g
Polysorbate 80 .....	0.75 g
Final pH: 7.0 ± 0.2 at 25°C	

#### Directions

1. Dissolve 36.2 g of the medium in one liter of purified water.
2. Mix thoroughly.
3. Autoclave at 121°C for 15 minutes.

### ■ MacConkey Agar (7102)

#### Formula / Liter

Enzymatic Digest of Gelatin .....	17 g
Enzymatic Digest of Casein .....	1.5 g
Enzymatic Digest of Animal Tissue ...	1.5 g
Lactose .....	10 g
Bile Salts Mixture .....	1.5 g
Sodium Chloride .....	5 g
Neutral Red .....	0.03 g
Crystal Violet .....	0.001 g
Agar .....	13.5 g
Final pH: 7.1 ± 0.2 at 25°C	

#### Directions

1. Suspend 50 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

### ■ MacConkey Agar with Sorbitol (7320)

#### Formula / Liter

Enzymatic Digest of Gelatin .....	17 g
Enzymatic Digest of Casein .....	1.5 g
Enzymatic Digest of Animal Tissue ..	1.5 g
Sorbitol .....	10 g
Bile Salts Mixture .....	1.5 g
Sodium Chloride .....	5 g
Neutral Red .....	0.03 g
Crystal Violet .....	0.001 g
Agar .....	13.5 g
Final pH: 7.1 ± 0.2 at 25°C	

#### Directions

1. Suspend 50 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.
4. Cool to 45 - 50°C and dispense into sterile Petri dishes.

### ■ MacConkey Agar, CS (7391)

#### Formula / Liter

Enzymatic Digest of Gelatin .....	17 g
Enzymatic Digest of Casein .....	1.5 g
Enzymatic Digest of Animal Tissue ..	1.5 g
Lactose .....	10 g
Bile Salts .....	1.5 g
Sodium Chloride .....	5 g
Neutral Red .....	0.03 g
Crystal Violet .....	0.001 g
Agar .....	13.5 g
Final pH: 7.1 ± 0.2 at 25°C	

#### Directions

1. Suspend 50 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

### ■ MacConkey Broth (7185)

#### Formula / Liter

Enzymatic Digest of Gelatin .....	20 g
Lactose .....	10 g
Ox bile .....	5 g
Bromcresol Purple .....	0.01 g
Final pH: 7.3 ± 0.2 at 25°C	

#### Directions

1. Dissolve 35 g of the medium in one liter of purified water.
2. Mix thoroughly.
3. Dispense into tubes containing Durham tubes.
4. Autoclave at 121°C for 15 minutes.

### ■ Malt Agar (7456)

#### Formula / Liter

Malt Extract ..... 30 g  
Agar ..... 15 g  
Final pH: 5.5 ± 0.2 at 25°C

#### Directions

1. Suspend 45 g of the medium in one liter of purified water.
2. Heat with frequent agitation to boiling to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

### ■ Mannitol Salt Agar (7143)

#### Formula / Liter

Enzymatic Digest of Casein ..... 5 g  
Enzymatic Digest of Animal Tissue ..... 5 g  
Beef Extract ..... 1 g  
D-Mannitol ..... 10 g  
Sodium Chloride ..... 75 g  
Phenol Red ..... 0.025 g  
Agar ..... 15 g  
Final pH: 7.4 ± 0.2 at 25°C

#### Directions

1. Suspend 111 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

### ■ Milk Plate Count Agar (7703)

#### Formula / Liter

Tryptone ..... 5 g  
Yeast Extract ..... 2.5 g  
Glucose ..... 1 g  
Antibiotic Free Skim Milk ..... 1 g  
Agar ..... 10 g  
Final pH: 6.9 ± 0.2 at 25°C

#### Directions

1. Dissolve 19.5 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

### ■ Motility Test Agar (7247)

#### Formula / Liter

Enzymatic Digest of Gelatin ..... 10 g  
Beef Extract ..... 3 g  
Sodium Chloride ..... 5 g  
Agar ..... 4 g  
Final pH: 7.3 ± 0.2 at 25°C

#### Directions

1. Suspend 22 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

### ■ Mycological Agar (7309)

#### Formula / Liter

Enzymatic Digest of Soybean Meal ... 10 g  
Dextrose ..... 10 g  
Agar ..... 16 g  
Final pH: 7.0 ± 0.2 at 25°C

#### Directions

1. Suspend 36 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

### ■ MYP Agar Base (7741)

#### Formula / Liter

Beef Extract ..... 1 g  
Peptone ..... 10 g  
D-Mannitol ..... 10 g  
Sodium Chloride ..... 10 g  
Phenol Red ..... 25 mg  
Agar ..... 15 g  
Final pH: 7.2 ± 0.2 at 25°C

#### Directions

1. Suspend 23 g of the medium in 450 mL of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.
4. Cool to 45 - 50°C.
5. Aseptically supplement with 25 mL Egg Yolk Emulsion (7982) and 5 mL of a 50,000 IU Polymyxin B solution (7997).

### ■ National Food Laboratory Aseptic Validation Medium (7737)

#### Formula / Liter

Enzymatic Digest of Casein ..... 10 g  
Dextrose ..... 5 g  
Yeast Extract ..... 1 g  
Bromocresol Purple ..... 0.04 g  
Final pH: 6.9 ± 0.2 at 25°C

#### Directions

##### Laboratory Use

1. Dissolve 16 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

### ■ Nutrient Broth (7146)

#### Formula / Liter

Enzymatic Digest of Gelatin ..... 5 g  
Beef Extract ..... 3 g  
Final pH: 6.8 ± 0.2 at 25°C

#### Directions

1. Dissolve 8 g of the medium in one liter of purified water.
2. Mix thoroughly.
3. Autoclave at 121°C for 15 minutes.

### ■ OGYE Agar Base (7655)

#### Formula / Liter

Yeast Extract ..... 5 g  
Dextrose ..... 20 g  
Agar ..... 12 g  
Final pH: 7.0 ± 0.2 at 25°C  
(with Oxytetracycline supplementation)

#### Directions

1. Suspend 37 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.
4. Cool to 45 - 50°C.
5. Aseptically add 10 mL of an aqueous filter sterilized solution containing 100 mg of oxytetracycline.
6. NOTE: pH may need to be further adjusted following supplementation as different manufacturers' oxytetracycline affect pH of media differently.





## Food & Beverage

### Orange Serum Agar (7587)

#### Formula / Liter

Orange Serum .....	200 mL
Yeast Extract .....	3 g
Enzymatic Digest of Casein .....	10 g
Dextrose .....	4 g
Potassium Phosphate .....	2.5 g
Agar .....	17 g
Final pH: 5.5 ± 0.2 at 25°C	

#### Directions

1. Suspend 45.5 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

### Oxford Listeria Agar (7428)

#### Formula / Liter

Columbia Blood Agar Base .....	39 g
Esculin .....	1 g
Ferric Ammonium Citrate .....	0.5 g
Lithium Chloride .....	15 g
Agar .....	2 g
Final pH: 7.0 ± 0.2 at 25°C	

#### Directions

##### Oxford Medium Base

1. Suspend 57.5 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 10–15 minutes. Cool to 45–50°C.

### PALCAM Agar Base (7669)

#### Formula / Liter

Peptone .....	23 g
Starch .....	1 g
Sodium Chloride .....	5 g
Yeast Extract .....	3 g
Mannitol .....	10 g
Ferric Ammonium Citrate .....	0.5 g
Esculin .....	0.8 g
Dextrose .....	0.5 g
Lithium Chloride .....	15 g
Phenol Red .....	0.08 g
Agar .....	13 g
Final pH: 7.2 ± 0.2 at 25°C	

#### Directions

1. Suspend 72 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes. Cool to 45–50°C.
4. Aseptically add 10 mL of PALCAM Supplement (# 7987). One vial will supplement 500 ml of PALCAM Agar Base.
5. Dispense into sterile petri dishes.

### PALCAM Broth (7670)

#### Formula / Liter

Peptone .....	23 g
Yeast Extract .....	5 g
Lithium Chloride .....	10 g
Ferric Ammonium Citrate .....	0.5 g
Esculin .....	0.8 g
Mannitol .....	5 g
Phenol Red .....	0.08 g
Lecithin .....	1.0 g
Polysorbate 80 .....	2 g
Final pH: 7.4 ± 0.2 at 25°C	

#### Directions

1. Suspend 47 g of the medium in one liter of purified water.
2. Heat with frequent agitation to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes. Cool to 45–50°C.
4. Aseptically add 10 mL of PALCAM Supplement (# 7987). One vial of PALCAM Supplement will supplement 500 mL of PALCAM Broth. Dispense into sterile tubes.

### Potato Dextrose Agar (7532)

#### Formula / Liter

Potatoes, Infusion from Solids .....	200 g
Beef Extract .....	5 g
Enzymatic Digest of Animal Tissue ...	10 g
Dextrose .....	10 g
Sodium Chloride .....	5 g
Agar .....	15 g
Final pH: 6.8 ± 0.2 at 25°C	

#### Directions

1. Suspend 49 g of the medium and 20 mL of glycerol in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

### Potato Dextrose Broth (7585)

#### Formula / Liter

Potato Infusion from 200 g .....	4 g*
Dextrose .....	20 g
*4.0 g of potato extract is equivalent to 200 g of infusion from potatoes.	
Final pH: 5.1 ± 0.2 at 25°C	

#### Directions

1. Dissolve 24 g of the medium in one liter of purified water.
2. Mix thoroughly.
3. Autoclave at 121°C for 15 minutes.

### Potato Infusion Agar (7532)

#### Formula / Liter

Potatoes, Infusion from Solids .....	200 g
Beef Extract .....	5 g
Enzymatic Digest of Animal Tissue .....	10 g
Dextrose .....	10 g
Sodium Chloride .....	5 g
Agar .....	15 g
Final pH: 6.8 ± 0.2 at 25°C	

#### Directions

1. Suspend 49 g of the medium and 20 mL of glycerol in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

### Pseudomonas Isolation Agar (7329)

#### Formula / Liter

Enzymatic Digest of Gelatin .....	20 g
Magnesium Chloride .....	1.4 g
Potassium Sulfate .....	10 g
Irgasan .....	0.025 g
Agar .....	13.6 g
Final pH: 7.0 ± 0.2 at 25°C	

#### Directions

1. Suspend 45 g of the medium in one liter of purified water containing 20 mL of glycerol.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

### Rappaport-Vassiliadis, MSR/V (7511)

#### Formula / Liter

Enzymatic Digest of Casein .....	4.59 g
Casein Acid Hydrolysate .....	4.59 g
Sodium Chloride .....	7.34 g
Potassium Dihydrogen Phosphate ..	1.47 g
Magnesium Chloride, Anhydrous ..	10.93 g
Malachite Green Oxalate .....	0.037 g
Agar .....	2.7 g
Final pH: 5.6 ± 0.2 at 25°C	

#### Directions

1. Suspend 31.6 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. DO NOT AUTOCLAVE.
4. Cool medium to 45–50°C and aseptically add 10 mL of Novobiocin Supplement (7985).
5. Mix well and dispense into petri dishes.

■ **Rappaport-Vassiliadis R10 Broth (7512)**

**Formula / Liter**

Enzymatic Digest of Casein ..... 4.54 g  
Sodium Chloride ..... 7.20 g  
Potassium Dihydrogen Phosphate ... 1.45 g  
Magnesium Chloride, Anhydrous .... 13.4 g  
Malachite Green Oxalate ..... 0.036 g  
Final pH: 5.1 ± 0.2 at 25°C

Directions

1. Dissolve 26.6 g of the medium in one liter of purified water.
2. Mix thoroughly.
3. Autoclave at 116°C (10 lb pressure) for 15 minutes.

■ **Rappaport-Vassiliadis Salmonella Enrichment Broth (7730)**

**Formula / Liter**

Soy Peptone ..... 4.50 g  
Sodium Chloride ..... 8.0 g  
Potassium Phosphate, monobasic .. 0.60 g  
Potassium Phosphate, dibasic .... 0.40 g  
Magnesium Chloride, anhydrous\* ... 13.58 g  
Malachite Green ..... 0.036 g  
Final pH: 5.2 ± 0.2 at 25°C

Directions

1. Dissolve 27.2 g of the medium in one liter of purified water.
2. Mix thoroughly.
3. Dispense 10 mL into glass tubes, cap and autoclave at 115°C for 15 minutes.

■ **Reinforced Clostridial Medium (7714)**

**Formula / Liter**

Beef Extract ..... 10 g  
Peptone ..... 10 g  
Sodium Chloride ..... 5 g  
Dextrose ..... 5 g  
Yeast Extract ..... 3 g  
Sodium Acetate ..... 3 g  
Soluble Starch ..... 1 g  
L-Cysteine HCl ..... 0.5 g  
Agar ..... 0.5 g  
Final pH: 6.8 ± 0.2 at 25°C

Directions

1. Suspend 38 g of the medium in one liter of purified water.
2. Heat with frequent agitation to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

■ **Sabouraud Dextrose Agar (7150)**

**Formula / Liter**

Enzymatic Digest of Casein ..... 5 g  
Enzymatic Digest of Animal Tissue ... 5 g  
Dextrose ..... 40 g  
Agar ..... 15 g  
Final pH: 5.6 ± 0.2 at 25°C

Directions

1. Suspend 65 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

■ **Sabouraud Dextrose with Lecithin & Tween 80 (7392)**

**Formula / Liter**

Enzymatic Digest of Casein ..... 5 g  
Enzymatic Digest of Animal Tissue .... 5 g  
Dextrose ..... 40 g  
Lecithin ..... 0.7 g  
Tween 80 ..... 5 g  
Agar ..... 15 g  
Final pH: 5.6 ± 0.2 at 25°C

Directions

1. Suspend 71 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes. DO NOT OVERHEAT.
4. After cooling to 45 - 50°C aseptically pour approximately 17 mL into 65 x 15 mm plates to give a meniscus of agar which extends above the top of the plate.

■ **Sabouraud Dextrose Broth (7617)**

**Formula / Liter**

Enzymatic Digest of Casein ..... 5 g  
Enzymatic Digest of Animal Tissue .... 5 g  
Dextrose ..... 20 g  
Final pH: 5.6 ± 0.2 at 25°C

Directions

1. Dissolve 30 g of the medium in one liter of purified water.
2. Mix thoroughly.
3. Autoclave at 121°C for 15 minutes.

■ **Salmonella Shigella Agar (7152)**

**Formula / Liter**

Beef Extract ..... 5 g  
Enzymatic Digest of Casein ..... 2.5 g  
Enzymatic Digest of Animal Tissue ..... 2.5 g  
Lactose ..... 10 g  
Bile Salts ..... 8.5 g  
Sodium Citrate ..... 8.5 g  
Sodium Thiosulfate ..... 8.5 g  
Ferric Citrate ..... 1 g  
Brilliant Green ..... 0.00033 g  
Neutral Red ..... 0.025 g  
Agar ..... 13.5 g  
Final pH: 7.0 ± 0.2 at 25°C

Directions

1. Suspend 60 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. DO NOT AUTOCLAVE.

■ **Selenite Broth (7155)**

**Formula / Liter**

Enzymatic Digest of Casein ..... 2.5 g  
Enzymatic Digest of Animal Tissue ... 2.5 g  
Lactose ..... 4 g  
Sodium Phosphate ..... 10 g  
Sodium Selenite ..... 4 g  
Final pH: 7.0 ± 0.2 at 25°C

Directions

1. Dissolve 23 g of the medium in one liter of purified water.
2. Heat to boiling. Avoid overheating.
3. DO NOT AUTOCLAVE.

■ **Selenite Cystine Broth (7283)**

**Formula / Liter**

Enzymatic Digest of Casein ..... 2.5 g  
Enzymatic Digest of Animal Tissue ... 2.5 g  
Lactose ..... 4 g  
Sodium Phosphate ..... 10 g  
Sodium Selenite ..... 4 g  
L-Cystine ..... 0.01 g  
Final pH: 7.0 ± 0.2 at 25°C

Directions

1. Dissolve 23 g of the medium in one liter of purified water.
2. Heat to boiling to completely dissolve the medium.
3. DO NOT AUTOCLAVE. Use immediately.



## Food & Beverage

### Standard Methods Agar (7157)

#### Formula / Liter

Enzymatic Digest of Casein ..... 5 g  
 Yeast Extract ..... 2.5 g  
 Dextrose ..... 1 g  
 Agar ..... \*15 g  
 \* 9 – 18 g according to gel strength  
 Final pH: 7.0 ± 0.2 at 25°C

#### Directions

1. Suspend 23.5 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

### TCBS Agar (7210)

#### Formula / Liter

Yeast Extract ..... 5 g  
 Enzymatic Digest of Casein ..... 5 g  
 Enzymatic Digest of Animal Tissue ..... 5 g  
 Sodium Citrate ..... 10 g  
 Sodium Thiosulfate ..... 10 g  
 Oxbile ..... 5 g  
 Sodium Cholate ..... 3 g  
 Sucrose ..... 20 g  
 Sodium Chloride ..... 10 g  
 Ferric Citrate ..... 1 g  
 Bromthymol Blue ..... 0.04 g  
 Thymol Blue ..... 0.04 g  
 Agar ..... \*14 g  
 \*10 - 15 g according to gel strength  
 Final pH: 8.6 ± 0.2 at 25°C

#### Directions

1. Suspend 88 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. DO NOT AUTOCLAVE.

### Tergitol 7 Agar (7187)

#### Formula / Liter

Enzymatic Digest of Casein ..... 2.5 g  
 Enzymatic Digest of Animal Tissue ... 2.5 g  
 Yeast Extract ..... 3 g  
 Lactose ..... 10 g  
 Tergitol 7 ..... 0.1 g  
 Bromthymol Blue ..... 0.025 g  
 Agar ..... 15 g  
 Final pH: 6.9 ± 0.2 at 25°C

#### Directions

1. Suspend 33 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

OPTIONAL: Cool Tergitol 7 Agar to 50°C. Add 4 mL of either TTC Solution 1% or a filter sterilized 1% solution of TTC.

### Terathionate Broth Base (7241)

#### Formula / Liter

Enzymatic Digest of Casein ..... 2.5 g  
 Enzymatic Digest of Animal Tissue .... 2.5 g  
 Bile Salts ..... 1 g  
 Calcium Carbonate ..... 10 g  
 Sodium Thiosulfate ..... 30 g  
 Final pH: 8.4 ± 0.2 at 25°C

#### Directions

1. Dissolve 46 g of the medium in one liter of purified water.
2. Heat with frequent agitation to boiling.
3. Cool to 45°C and add 20 mL of the Iodine-Potassium Iodide Solution (9522) to the prepared Tetrathionate Broth Base. If preparing solution, add 6 grams Iodine + 5 grams Potassium Iodide in 20 mL of purified water.
4. DO NOT REHEAT AFTER ADDING IODINE SOLUTION. Note: Do not add Iodine/Potassium Iodide Solution to tubes until just before inoculation. Chemical Tetrathionate inhibits by oxidation of Thiosulfate through the addition of Iodine just prior to use.

### Tetrathionate Broth Base, Hajna (7740)

#### Formula / Liter

Sodium Thiosulfate ..... 38 g  
 Calcium Carbonate ..... 25 g  
 Casein/Meat Peptone (50:50) ..... 18 g  
 Sodium Chloride ..... 5 g  
 D-Mannitol ..... 2 g  
 Glucose ..... 0.5 g  
 Sodium Deoxycholate ..... 0.5 g  
 Brilliant Green ..... 0.01 g  
 Final pH: 7.6 ± 0.2 at 25°C

#### Directions

1. Suspend 91.5 grams of the medium in 960 milliliters of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. DO NOT AUTOCLAVE. Cool to 40 - 45°C.
4. Just prior to inoculation, add 40 mL of Iodine/Potassium Iodide Solution (9458) to the prepared Tetrathionate Broth Base, Hajna.
5. Distribute into sterile capped containers in 10 ml volumes.

### Tomato Juice Agar (7349)

#### Formula / Liter

Tomato Juice Solids ..... 20 g  
 Enzymatic Digest of Casein ..... 10 g  
 Peptonized Milk ..... 10 g  
 Agar ..... 11 g  
 Final pH: 6.1 ± 0.2 at 25°C

#### Directions

1. Suspend 51 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

### Tryptic Soy Agar (7100)

#### Formula / Liter

Enzymatic Digest of Casein ..... 15 g  
 Enzymatic Digest of Soybean Meal .... 5 g  
 Sodium Chloride ..... 5 g  
 Agar ..... 15 g  
 Final pH 7.3 ± 0.2 at 25°C

#### Directions

1. Suspend 40 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.
4. Optional: Prepare 5 to 10% blood agar by adding appropriate volume of sterile defibrinated blood to melted sterile agar medium, cooled to 45 – 50°C.

### Tryptic Soy Agar with Lecithin & Tween 80 (7163)

#### Formula / Liter

Enzymatic Digest of Casein ..... 15 g  
 Enzymatic Digest of Soybean Meal .... 5 g  
 Sodium Chloride ..... 5 g  
 Lecithin ..... 0.7 g  
 Tween 80 ..... 5 g  
 Agar ..... 20.5 g  
 Final pH: 7.3 ± 0.2 at 25°C

#### Directions

1. Suspend 51.2 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

### Tryptic Soy Broth (7164)

#### Formula / Liter

Enzymatic Digest of Casein ..... 17.0 g  
 Enzymatic Digest of Soybean Meal .. 3.0 g  
 Sodium Chloride ..... 5.0 g  
 Dipotassium Phosphate ..... 2.5 g  
 Dextrose ..... 2.5 g  
 Final pH: 7.3 ± 0.2 at 25°C

#### Directions

1. Dissolve 30 g of the medium in one liter of purified water.
2. Mix thoroughly.
3. Autoclave at 121°C for 15 minutes.

### ■ Tryptic Soy Broth, Modified with Novobiocin (7694)

#### Formula / Liter

Enzymatic Digest of Casein ..... 17.0 g  
Sodium Chloride ..... 5.0 g  
Dipotassium Phosphate ..... 4.0 g  
Enzymatic Digest of Soybean Meal ... 3.0 g  
Dextrose ..... 2.5 g  
Bile Salts No. 3 ..... 1.5 g  
Novobiocin ..... 0.020 g  
Final pH: 7.3 ± 0.2 at 25°C

#### Directions

1. Dissolve 33.0 g of the medium in one liter of purified water.
2. Autoclave at 121°C for 15 minutes.

### ■ Tryptic Soy Broth, Modified with Novobiocin & Acid Digest of Casein (7731)

#### Formula / Liter

Enzymatic Digest of Casein ..... 17.0 g  
Acid Digest of Casein ..... 10.0 g  
Sodium Chloride ..... 5.0 g  
Dipotassium Phosphate ..... 4.0 g  
Enzymatic Digest of Soybean Meal ... 3.0 g  
Dextrose ..... 2.5 g  
Bile Salts No. 3 ..... 1.5 g  
Novobiocin ..... 0.020 g  
Final pH: 7.3 ± 0.2 at 25°C

#### Directions

1. Suspend 43.02 g of the medium in 1000 mL of purified water.
2. Autoclave at 121°C for 15 minutes.

### ■ Tryptic Soy Broth with Ferrous Sulfate (7739)

#### Formula / Liter

Enzymatic Digest of Casein ..... 17.0 g  
Enzymatic Digest of Soybean Meal ... 3.0 g  
Sodium Chloride ..... 5.0 g  
Dipotassium Phosphate ..... 2.5 g  
Dextrose ..... 2.5 g  
Ferrous Sulfate ..... 0.035 g  
Final pH: 7.3 ± 0.2 at 25°C

#### Directions

1. Suspend 30 g of the medium in one liter of purified water.
2. Autoclave at 121°C for 15 minutes.

### ■ Universal Beer Agar (7574)

#### Formula / Liter

Tomato Juice Solids ..... 7 g  
Yeast Extract ..... 10 g  
Dextrose ..... 10 g  
Dipotassium Phosphate ..... 0.5 g  
Monopotassium Phosphate ..... 0.5 g  
Magnesium Sulfate ..... 0.125 g  
Sodium Chloride ..... 0.01 g  
Ferrous Sulfate ..... 0.01 g  
Manganese Sulfate ..... 0.01 g  
Peptonized Milk ..... 15 g  
Agar ..... 12 g  
Final pH: 6.3 ± 0.2 at 25°C

#### Directions

1. Suspend 55 g of the medium in 750 mL of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. While medium is hot, add and mix 250 mL of beer without degassing.
4. Autoclave at 121°C for 10 minutes.

### ■ Universal Pre-Enrichment Broth (7510)

#### Formula / Liter

Enzymatic Digest of Casein ..... 5 g  
Proteose Peptone ..... 5 g  
Potassium Phosphate Monobasic ... 15 g  
Sodium Phosphate Dibasic ..... 7 g  
Sodium Chloride ..... 5 g  
Dextrose ..... 0.5 g  
Magnesium Sulfate ..... 0.25 g  
Ferric Ammonium Citrate ..... 0.1 g  
Sodium Pyruvate ..... 0.2 g  
Final pH: 6.3 ± 0.2 at 25°C

#### Directions

1. Dissolve 38 g of the medium in one liter of purified water.
2. Heat with frequent agitation to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

### ■ UVM Modified Listeria Enrichment Broth (7409)

#### Formula / Liter

Enzymatic Digest of Casein ..... 5 g  
Enzymatic Digest of Animal Tissue .... 5 g  
Beef Extract ..... 5 g  
Yeast Extract ..... 5 g  
Sodium Chloride ..... 20 g  
Disodium Phosphate ..... 9.6 g  
Monopotassium Phosphate ..... 1.35 g  
Esculin ..... 1 g  
Acriflavin ..... 0.012 g  
Nalidixic Acid ..... 0.02 g  
Final pH: 7.2 ± 0.2 at 25°C

#### Directions

1. Dissolve 52 g of the medium in one liter of purified water.
2. Mix thoroughly.
3. Autoclave at 121°C for 15 minutes.

### ■ Violet Red Bile Agar (7165)

#### Formula / Liter

Yeast Extract ..... 3 g  
Enzymatic Digest of Gelatin ..... 7 g  
Bile Salts Mixture ..... 1.5 g  
Lactose ..... 10 g  
Sodium Chloride ..... 5 g  
Neutral Red ..... 0.03 g  
Crystal Violet ..... 0.002 g  
Agar ..... 15 g  
Final pH: 7.4 ± 0.2 at 25°C

#### Directions

1. Suspend 41.5 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for two minutes. DO NOT AUTOCLAVE.
3. Cool the medium to 45 - 46°C and dispense 15 - 20 mL into 100 mm petri dishes containing inoculum.
4. After solidification of the inoculated medium, evenly add a cover layer of 4 mL of the cooled (45 - 46°C) agar medium.

### ■ Violet Red Bile Agar with MUG (7359)

#### Formula / Liter

Enzymatic Digest of Gelatin ..... 7 g  
Yeast Extract ..... 3 g  
Bile Salts Mixture ..... 1.5 g  
Lactose ..... 10 g  
Sodium Chloride ..... 5 g  
Neutral Red ..... 0.03 g  
Crystal Violet ..... 0.002 g  
4-Methylumbelliferyl-β-D-Glucuronide .. 0.1 g  
Agar ..... 15 g  
Final pH: 7.4 ± 0.2 at 25°C

#### Directions

1. Suspend 41.6 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for only two minutes to completely dissolve the medium.
3. Cool the medium to 45 - 46°C and pour plates.

### ■ Violet Red Bile Glucose Agar (7425)

#### Formula / Liter

Enzymatic Digest of Gelatin ..... 7.0 g  
Yeast Extract ..... 3.0 g  
Dextrose ..... 10.0 g  
Bile Salts ..... 1.5 g  
Sodium Chloride ..... 5.0 g  
Neutral Red ..... 0.03 g  
Crystal Violet ..... 0.002 g  
Agar ..... \*13.5 g  
\*10 -15 g according to gel strength  
Final pH: 7.4 ± 0.2 at 25°C

#### Directions

1. Suspend 40 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. DO NOT AUTOCLAVE.
4. Cool to 45 - 50°C and dispense into sterile pour plates.



## Food & Beverage

### ■ Vogel & Johnson Agar (7207)

#### Formula / Liter

Enzymatic Digest of Casein .....	10 g
Yeast Extract .....	5 g
Mannitol .....	10 g
Dipotassium Phosphate .....	5 g
Lithium Chloride .....	5 g
Glycine .....	10 g
Phenol Red .....	0.025 g
Agar .....	15 g

Final pH: 7.2 ± 0.2 at 25°C

#### Directions

1. Suspend 60 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.
4. After cooling to 45 - 50°C add 2 vials (20 mL) of Tellurite Solution (1% Chapman Supplement (7989) or 20 mL of a sterile 1% Potassium Tellurite Solution.
5. Mix thoroughly before dispensing.

### ■ W-L Nutrient Medium (7488)

#### Formula / Liter

Yeast Extract .....	4 g
Enzymatic Digest of Casein .....	5 g
Dextrose .....	50 g
Monopotassium Phosphate .....	0.55 g
Potassium Chloride .....	0.425 g
Calcium Chloride .....	0.125 g
Magnesium Sulfate .....	0.125 g
Ferric Chloride .....	0.0025 g
Manganese Sulfate .....	0.0025 g
Bromocresol Green .....	0.022 g
Agar .....	20 g

Final pH: 5.5 ± 0.2 at 25°C

#### Directions

1. Dissolve 80 g of the medium in one liter of purified water.
2. Heat with frequent agitation to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

### ■ XLD Agar (7166)

#### Formula / Liter

Yeast Extract .....	3 g
Lactose .....	7.5 g
Sucrose .....	7.5 g
Xylose .....	3.5 g
L-Lysine .....	5 g
Ferric Ammonium Citrate .....	0.8 g
Phenol Red .....	0.08 g
Sodium Chloride .....	5 g
Sodium Deoxycholate .....	2.5 g
Sodium Thiosulfate .....	6.8 g
Agar .....	13.5 g

Final pH: 7.4 ± 0.2 at 25°C

#### Directions

1. Suspend 55 g of the medium in one liter of purified water.
2. Heat with frequent agitation until the medium reaches the boiling point.
3. AVOID OVERHEATING. DO NOT AUTOCLAVE.

### ■ XLT4 Agar Base (7517)

#### Formula / Liter

Enzymatic Digest of Animal Tissue ..	4.6 g
Xylose .....	3.75 g
L-Lysine. ....	5 g
Lactose .....	7.5 g
Sucrose .....	7.5 g
Sodium Chloride .....	5 g
Yeast Extract .....	3 g
Phenol Red .....	0.08 g
Ferric Ammonium Citrate .....	0.8 g
Sodium Thiosulfate .....	6.8 g
Agar .....	15 g

Final pH: 7.4 ± 0.2 at 25°C

#### Directions

1. Suspend 59 g of the medium and 4.6 mL of XLT4 Supplement (# 7990) in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. AVOID OVERHEATING. DO NOT AUTOCLAVE.

### ■ YM Agar (7525)

#### Formula / Liter

Enzymatic Digest of Gelatin .....	5 g
Yeast Extract .....	3 g
Malt Extract .....	3 g
Dextrose .....	10 g
Agar .....	20 g

Final pH: 6.2 ± 0.2 at 25°C

#### Directions

1. Suspend 41 g of the medium in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.

### ■ YM Broth (7363)

#### Formula / Liter

Enzymatic Digest of Gelatin .....	5 g
Malt Extract .....	3 g
Dextrose .....	10 g
Yeast Extract .....	3 g

Final pH: 6.2 ± 0.2 at 25°C

#### Directions

1. Dissolve 21 g of the medium in one liter of purified water.
2. Mix thoroughly.
3. Autoclave at 121°C for 15 minutes.

- ◆ 以上培養基配方遵循美國細菌學分析手冊(FDA's Bacteriological Analytical Manual)及TFDA檢驗方法之標準與規範。若有更新或異動，以官方公告之檢驗方法為主。