Plate Count Agar/Standard Methods Agar (Tryptone Glucose Yeast Agar)

**Intended Use**
Plate Count Agar and Standard Methods Agar (Plate Count Agar; Tryptone Glucose Yeast Agar) are used for obtaining microbial plate counts from milk and dairy products, foods, water and other materials of sanitary importance.

**Summary and Explanation**
Plate Count Agar and Standard Methods Agar are made according to the American Public Health Association (APHA) formulation. They are recommended for obtaining plate counts for milk and other dairy products and may also be used to determine the sanitary quality of foods, water and other materials.

Each lot of dehydrated medium base is subjected to the APHA quality control test and has met the APHA requirements. Appropriate references should be consulted for standard plate count procedures recommended by the APHA and other agencies.

The Hycheck™ hygiene contact slide is a double-sided paddle containing two agar surfaces for immersing into fluids or sampling surfaces. There are two slides with Plate Count Agar: one contains Plate Count Agar on one side of the slide and the medium with triphenyltetrazolium chloride (TTC) on the other side; the second slide contains Plate Count Agar with TTC on both sides.

**Principles of the Procedure**
Enzymatic digest of casein provides the amino acids and other complex nitrogenous substances necessary to support bacterial growth. Yeast extract primarily supplies the B-complex vitamins, and dextrose is an energy source. TTC is reduced to the insoluble formazan inside the bacterial cell producing red-colored colonies.

**Formula**
Difco™ Plate Count Agar or BBL™ Standard Methods Agar
Approximate Formula* Per Liter
Pancreatic Digest of Casein ........................................ 5.0 g
Yeast Extract ......................................................... 2.5 g
Dextrose ................................................................. 1.0 g
Agar ................................................................. 15.0 g

*Adjusted and/or supplemented as required to meet performance criteria.

**Directions for Preparation from Dehydrated Product**
1. Suspend 23.5 g of the powder in 1 L of purified water. Mix thoroughly.
2. Heat with frequent agitation and boil for 1 minute to completely dissolve the powder.
3. Autoclave at 121°C for 15 minutes.
4. Test samples of the finished product for performance using stable, typical control cultures.

**Procedure**
Consult appropriate references for information regarding the processing and inoculation of food, water samples and other materials.

Liquefy the medium in pour tubes and bottles by heating in boiling water. Cool to 45-50°C.

Usually 1 mL samples of appropriate dilutions of the test sample are pipetted into sterile Petri dishes and molten, cooled medium is added followed by gently mixing to distribute the sample dilution throughout the agar. Incubate hardened plates for 48 ± 3 hours at 32 ± 1°C (dairy products) or 35 ± 0.5°C (foods) in an aerobic atmosphere.

**Expected Results**
Follow recommended procedures for the counting of colonies and the reporting of results.

**References**
**User Quality Control**

NOTE: Differences in the Identity Specifications and Cultural Response testing for media offered as both Difco™ and BBL™ brands may reflect differences in the development and testing of media for industrial and clinical applications, per the referenced publications.

### Identity Specifications

#### Difco™ Plate Count Agar
- **Dehydrated Appearance:** Light beige, free-flowing, homogeneous.
- **Solution:** 2.35% solution, soluble in purified water upon boiling. Solution is light amber, slightly opalescent.
- **Prepared Appearance:** Light amber, slightly opalescent.
- **Reaction of 2.35% Solution at 25°C:** pH 7.0 ± 0.2

#### BBL™ Standard Methods Agar
- **Dehydrated Appearance:** Fine to medium fine, may contain small tan and white flecks, homogeneous, free of extraneous material.
- **Solution:** 2.35% solution, soluble in purified water upon boiling. Solution is light to medium, yellow to tan, clear to slightly opalescent.
- **Prepared Appearance:** Light to medium, yellow to tan, clear to slightly opalescent.
- **Reaction of 2.35% Solution at 25°C:** pH 7.0 ± 0.2

### Cultural Response

#### Difco™ Plate Count Agar
Prepare the medium per label directions. Inoculate using the pour plate method and incubate at 35 ± 2°C for 18-48 hours.

<table>
<thead>
<tr>
<th>ORGANISM</th>
<th>ATCC*</th>
<th>INOCULUM CFU</th>
<th>RECOVERY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lactobacillus johnsonii</td>
<td>11506</td>
<td>30-300</td>
<td>Good</td>
</tr>
<tr>
<td>Staphylococcus aureus</td>
<td>25923</td>
<td>30-300</td>
<td>Good</td>
</tr>
</tbody>
</table>

#### BBL™ Standard Methods Agar
Prepare the medium per label directions. Inoculate using the pour plate method and incubate Bacillus stearothermophilus at 55-60°C and 35 ± 2°C for all other organisms for 18-48 hours.

<table>
<thead>
<tr>
<th>ORGANISM</th>
<th>ATCC*</th>
<th>INOCULUM CFU</th>
<th>RECOVERY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacillus subtilis</td>
<td>6633</td>
<td>30-300</td>
<td>Good</td>
</tr>
<tr>
<td>Bacillus stearothermophilus</td>
<td>7953</td>
<td>30-300</td>
<td>Good</td>
</tr>
<tr>
<td>Enterococcus hirae</td>
<td>10541</td>
<td>30-300</td>
<td>Good</td>
</tr>
<tr>
<td>Escherichia coli</td>
<td>25922</td>
<td>30-300</td>
<td>Good</td>
</tr>
<tr>
<td>Lactobacillus rhamnosus</td>
<td>7469</td>
<td>30-300</td>
<td>Good</td>
</tr>
<tr>
<td>Lactobacillus delbruecki subsp. lactis</td>
<td>12315</td>
<td>30-300</td>
<td>Good</td>
</tr>
</tbody>
</table>

### Availability

#### Difco™ Plate Count Agar
- **AOAC**
  - Cat. No. 247930 Dehydrated – 100 g
  - 247940 Dehydrated – 500 g
  - 247910 Dehydrated – 2 kg
  - 247920 Dehydrated – 10 kg
- **BAM**
  - Cat. No. 290005 Plate Count Agar || Plate Count Agar with TTC – Pkg. of 10 slides*
  - 290004 Plate Count Agar || Plate Count Agar with TTC – Pkg. of 10 slides*
- **CCAM**
- **COMPF**
- **EPA**
- **ISO**
- **SMD**
- **SMWW**
- **USDA**

#### BBL™ Standard Methods Agar
- **AOAC**
  - Cat. No. 212455 Dehydrated – 100 g
  - 211638 Dehydrated – 500 g
  - 211641 Dehydrated – 5 lb (2.3 kg)
- **BAM**
- **CCAM**
- **COMPF**
- **EPA**
- **ISO**
- **SMD**
- **SMWW**
- **USDA**

**Europe**
- Cat. No. 254483 Prepared Plates – Pkg. of 20*

**Japan**
- Cat. No. 251536 Prepared Plates – Pkg. of 20*
  - 251543 Prepared Plates – Ctn. of 100*
  - 251546 Prepared Plates (150 × 15 mm-style) – Pkg. of 24*
  - 251506 Prepared RODAC™ Plates – Pkg. of 30*

**Mexico**
- Cat. No. 252634 Prepared Bottles, 140 mL – Pkg. of 12
  *Store at 2-8°C*