

## TAT BROTH (7219)

### Intended Use

**TAT Broth** is used for the detection of microorganisms in cosmetics and topical drugs.

### Product Summary and Explanation

TAT Broth is prepared according to the formula obtained from the U. S. Food and Drug Administration for use in the examination of cosmetics and topical drugs.<sup>1</sup> TAT Broth, with the addition of Polysorbate 20, is recommended for sterility testing of viscous materials, including salves or ointments. It is especially adapted for sterility testing of cosmetics. Cosmetics and pharmaceutical products are subject to contamination during manufacturing and use by consumers.<sup>2</sup> Preservatives are used in aqueous products to make them self-sterilizing for vegetative bacteria, yeast, and molds.<sup>2</sup>

TAT (Tryptone-Azolectin-Tween) Broth is also referred to as Fluid Casein Digest-Soy Lecithin Polysorbate 20 Medium.

### Principles of the Procedure

The nitrogen, vitamins, and carbon sources are provided by Enzymatic Digest of Casein in TAT Broth. Lecithin and Polysorbate 20 neutralize preservatives in cosmetics or pharmaceutical products, allowing bacteria to grow.

### Formula / Liter

Enzymatic Digest of Casein ..... 20 g  
 Lecithin..... 5 g

Final pH: 7.2 ± 0.2 at 25°C

Formula may be adjusted and/or supplemented as required to meet performance specifications.

### Supplement

Polysorbate 20, 40 mL

### Precaution

1. For Laboratory Use.

### Directions

1. Suspend 25 g of the medium in 960 mL of purified water.
2. Add 40 mL of Polysorbate 20 to the suspended medium.
3. Place the mixture in a 48 - 50°C water bath for 30 minutes. Stir occasionally.
4. Autoclave at 121°C for 15 minutes.

### Quality Control Specifications

**Dehydrated Appearance:** Powder is homogeneous, free flowing, and off-white.

**Prepared Appearance:** Prepared medium is clear to slightly hazy, light yellow, with none to light precipitate.

**Expected Cultural Response:** Cultural response in TAT Broth incubated aerobically at 35 ± 2°C and examined after 18 - 48 hours.

Microorganism	Approx. Inoculum (CFU)	Response
<i>Bacillus subtilis</i> ATCC® 9372	10 - 300	Growth
<i>Candida albicans</i> ATCC® 10231	10 - 300	Growth
<i>Escherichia coli</i> ATCC® 25922	10 - 300	Growth
<i>Pseudomonas aeruginosa</i> ATCC® 27853	10 - 300	Growth
<i>Salmonella typhi</i> ATCC® 19430	10 - 300	Growth
<i>Staphylococcus aureus</i> ATCC® 25923	10 - 300	Growth

The organisms listed are the minimum that should be used for quality control testing.

### **Test Procedure**

1. Add one gram or one mL of an undiluted sample to 40 mL of complete medium and agitate to obtain an even suspension.
2. Incubate tubes at 35 ± 2°C for 18 – 48 hours.

For a complete discussion on sterility testing refer to appropriate procedures in USP.<sup>3</sup>

### **Results**

Tubes or bottles exhibiting growth should be subcultured for identification.

### **Storage**

Store sealed bottle containing the dehydrated medium at 2 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light by keeping container tightly closed.

### **Expiration**

Refer to expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

### **Limitation of the Procedure**

Due to nutritional variation, some strains may be encountered that grow poorly or fail to grow on this medium.

### **Packaging**

TAT Broth	<b>Code No.</b>	<b>7219A</b>	<b>500 g</b>
		<b>7219B</b>	<b>2 kg</b>
		<b>7219C</b>	<b>10 kg</b>

### **References**

1. **Orth, D. S.** 1993. Handbook of cosmetic microbiology. Marcel Dekker, Inc., New York, N.Y.
2. **Food and Drug Administration.** 1969. Procedure for the examination of topical drugs and cosmetics. FDA, Rockville, MD.
3. **The United States Pharmacopeial Convention.** 1995. The United States pharmacopeia, 23<sup>rd</sup> ed. Microbial limits tests, p. 1681-1686. The United States Pharmacopeial Convention Inc., Rockville, MD.

### **Technical Information**

Contact Acumedia Manufacturers, Inc. for Technical Service or questions involving dehydrated culture media preparation or performance at (517)372-9200 or fax us at (517)372-2006.