

## Tryptone Soya Agar with Lecithin and Polysorbate 80 Plate (Triple Layer Pack, Gamma- Irradiated)

### Intended Use

Tryptone Soya Agar with Lecithin and Polysorbate 80 Plate is used for validation of cleanliness on surfaces of containers, equipment surfaces, water miscible cosmetics.

### Summary

Gamma Irradiated Tryptone Soya Agar with Lecithin and Polysorbate 80 Plate is used for the monitoring of microbial contamination in cleanrooms and isolators.

In 1948, Weber and Black reported lecithin, added to an agar medium in sufficient concentration, would effectively neutralize quaternary ammonium compound. In further testing, Brummer combined lecithin and polysorbate 80 in an agar medium and reported it adequately neutralized disinfectants.

Use of contact plate method to control surfaces is recommended in the ISO standards 14698-1, ISO 18598, USP chapter 1116 and in Good Manufacturing practices.

### Principle

The presence of an irradiation indicator enables the rapid and easy visual confirmation by the cleanroom operator that the medium is irradiated. Each pack (media and their wrappings) receives an irradiation dose between 23 to 32 kGy to guarantee that no viable contaminants are present.

55 mm contact plates are designed for the microbiological testing of surfaces and personnel. The convex agar or dome shape allows direct application of culture media plate to the test surface for sampling its microbial burden, such as walls, floors, utensils, or personnel for hygiene monitoring.

After touching the surface to be sampled with the medium, the 55 mm contact plate is covered and incubated at an appropriate temperature. The presence and number of microorganisms is determined by the appearance of colonies on the surface of the agar medium. Collection of samples from the same area before and after cleaning and treatment with a disinfectant permits the evaluation of the efficacy of sanitary procedures.

Casein Enzymic Hydrolysate (Tryptone) and Papaic Digest of Soyabean Meal (Soya Peptone) provides organic nitrogen, particularly amino acids and longer-chained peptides. Lecithin and polysorbate 80 (Tween 80) are neutralizers reported to inactivate residual disinfectants from where the sample is collected. Lecithin neutralizes quaternary ammonium compounds and polysorbate 80 neutralizes phenolic disinfectants, hexachlorophene, formalin and with lecithin ethanol. Sodium chloride maintains osmotic equilibrium. Agar is a solidifying agent.

### Formula\*

Ingredients	g/L
Casein Enzymic Hydrolysate (Tryptone)	15.0
Papaic Digest of Soyabean Meal (Soya Peptone)	5.0
Sodium Chloride	5.0
Polysorbate 80 (Tween 80)	5.0
Lecithin	0.7
Glycerol	1.0 %
Agar	15.0

\*Adjusted to suit performance parameters.

### Additional Material Required

Air Sampler (AccuBas® Ax2) & Bacteriology Incubator

### Instructions for use

1. Open the sterile pack and remove Tryptone Soya Agar with Lecithin and Polysorbate 80 Plate, aseptically.
2. For sampling of surfaces, equipment or personnel, apply the agar directly onto the surface to be tested, ensuring that an even pressure is distributed over the whole plate for 10 seconds.
3. Clean the surface where the sample was taken in order to remove any possible traces of agar.
4. Incubate the plates in inverted position as per standard procedure.

## Reading and interpretation

1. After incubation, observe the microbial growth and count the colonies.
2. Interpretation is assured by user.
3. User is responsible to define the action limits as per standard guidelines and alert limits on the basis of trend analysis & other relevant data.

## Quality Control

**Appearance:** Gel with smooth convex surface, without any cracks, bubbles and drying or shrinking of media.

**Colour of Medium:** Light amber coloured, very slightly opalescent gel in 55 mm plate.

**Quantity of Medium:** 15.5 ± 1 g in 55 mm plate.

**pH at 25°C ± 2°C:** 7.3 ± 0.2

**Gamma Irradiation:** The above said product was Gamma Irradiated between 23KGy - 32KGy.

**Growth Promotion Test:** Growth promotion is carried out in accordance with the harmonized method of USP/EP/JP and growth is observed after an incubation at 30°C-35°C for ≤ 3 days for bacteria and at 30°C-35°C and 20°C-25°C for ≤ 5 days for fungi.

**Growth Promoting Properties:** The test results observed are within the specified temperature and shortest period of time specified in the test, inoculating ≤ 100 cfu of appropriate microorganism.

## Growth Promoting

Organism (ATCC)	Growth	Incubation Temperature	Incubation Period
<i>Escherichia coli</i> (8739)	Good	30°C-35°C	18 Hours
<i>Staphylococcus aureus</i> subsp. <i>aureus</i> (6538)	Good	30°C-35°C	18 Hours
<i>Pseudomonas aeruginosa</i> (9027)	Good	30°C-35°C	18 Hours
<i>Bacillus spizizenii</i> (6633)	Good	30°C-35°C	18 Hours
<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar <i>Abony</i> (NCTC 6017)	Good	30°C-35°C	18 Hours
<i>Salmonella enterica</i> subsp. <i>enterica</i> serovar <i>Typhimurium</i> (14028)	Good	30°C-35°C	18 Hours
<i>Candida albicans</i> 3147 (10231)	Good	30°C-35°C	24 Hours
<i>Candida albicans</i> 3147 (10231)	Good	20°C-25°C	48 Hours
<i>Aspergillus brasiliensis</i> WLRI 034(120) (16404)	Good	30°C-35°C	48 Hours
<i>Aspergillus brasiliensis</i> WLRI 034(120) (16404)	Good	20°C-25°C	72 Hours

**Note:** For Good growth - growth obtained on test media should not differ by a factor greater than 2 from calculated value for a standardized inoculum.

## Neutralization Activity for Quaternary Ammonium Compound

The average number of cfu recovered from the test plates is not less than 70% of that recovered from inoculum control.

Organism (ATCC)	Neutralizing Activity for Quaternary Ammonium Compound	Incubation Temperature	Incubation Period
<i>Staphylococcus aureus</i> subsp. <i>aureus</i> (6538)	Complies	30°C-35°C	18 Hours
<i>Bacillus spizizenii</i> (6633)	Complies	30°C-35°C	18 Hours

## Limitation of the Procedure

The effectiveness of neutralization activity with this medium depends on both the type and concentration of the neutralizers.

## Storage and Shelf Life

1. Store between 15°C-25°C to avoid water condensation. Condensation can be prevented by avoiding quick temperature shifts and mechanical stress.
2. Under optimal conditions, the medium has a shelf life of 6 months. Use before expiry mentioned on the label.

## Reference

1. Brummer, 1976, Appl. Environ. Microbiol., 32:80. Hall and Hartnett, 1964, Public Hlth. Rep., 79:1021.
2. ISO 14698-1 (2003). Cleanrooms and associated controlled environments. Biocontamination control. Part 1: General principles and methods.
3. ISO 18593 (2004). Microbiology of food and animal feeding stuffs - Horizontal methods for sampling techniques from surfaces using contact plates and swabs.
4. USP chapter 1116: microbiological evaluation of cleanrooms and other controlled environments.
5. USP Chapter 61: Microbiological Examination of Nonsterile Products: Microbial enumeration Tests.
6. USP Chapter 62: Microbiological Examination of Nonsterile Products: Tests for Specified Microorganism.
7. USP Chapter 1072: Disinfectants and Antiseptics.
8. Weber, G.R. and L.A. Black. 1948. Soap and Sanit. Chem. 24:134-155.
9. Data on file: Microxpress, a division of Tulip Diagnostics (P) Ltd.

## Product Presentation:

<b>Cat No.</b>	<b>Product</b>	<b>Pack Size</b>
205200540200	Tryptone Soya Agar with Lecithin and Polysorbate 80 Plate	200 Plates

## Disclaimer

Information provided is based on our inhouse technical data on file, it is recommended that user should validate at his end for suitable use of the product.

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