

# TECHNICAL DATA SHEET

Article No. 9692

Tryptone soya agar (TSA)

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## SYNONYMS

Casein Soybean Digest Agar, Caso Agar

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## SPECIFICATION

General purpose solid medium containing animal and plant peptone according to Pharmacopoeial Harmonised Method and ISO Standards.

Colour: Straw-coloured yellow  
pH: 7.3 ± 0.2 at 25 °C

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## COMPOSITION IN G/L

Peptone from casein	15.00
Soy peptone	5.00
Sodium chloride	5.00
Agar	15.00

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## PACKAGING DETAILS

### 9692-10x100ML

Volume 100 ± 3 ml

Bottle size 125 ml

Packaging details 10 bottles

1 box with 10 x 100 ml in 125 ml bottles. Injectable cap: Plastic screw inner cap. For use with syringe needles with a diameter ≤ 0.8 mm.

### 9692-10x200ML

Volume 200 ± 5 ml

Bottle size 250 ml

Packaging unit 10 bottles

1 box with 10 x 200 ml in 250-ml-bottles. Injectable cap: Plastic screw inner cap + protective outer blue cap. For the use of syringe needles with a diameter ≤ 0.8 mm.



#### 9692-10x400ML

Volume	400 ± 5 ml
Bottle size	500 ml
Packaging details	10 bottles

1 box with 10 x 400 ml in 500 ml bottles. Injectable cap: Plastic screw inner cap. For use with syringe needles with a diameter ≤ 0.8 mm.

#### 9692-10x450ML

Volume	450 ± 5 ml
Bottle size	500 ml
Packaging details	10 bottles

1 box with 10 x 450 ml in 500 ml bottles. Injectable cap: Plastic screw inner cap. For use with syringe needles with a diameter ≤ 0.8 mm.

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## **GUIDELINES**

### Description:

TSA is a widely used medium containing two peptones which support the growth of a wide variety of organisms, even that of very fastidious ones such as Neisseria, Listeria, Brucella, etc. It is frequently used for routine diagnostic purposes due to its reliability and its easily reproducible results.

The following list includes some of its most common applications:

1. Sensitivity testing, either by the Kirby-Bauer system or by following the WHO guidelines. Both systems recommend the use of the Mueller-Hinton Agar or verification purposes.
2. The medium provides, with added blood, perfectly defined haemolysis zones, while preventing the lysis of erythrocytes due to its sodium chloride content.
3. It can be used for the preparation of an exceptionally nutrient 'chocolate' agar, thanks to the richness of its peptones.
4. In a reducing environment or with a CO<sub>2</sub> enriched atmosphere, it provides an excellent medium for the isolation of Brucella and Neisseria. It may be made selective by using additives.
5. Most streptococci grow in this medium though clear differences can be observed from one species to another.
6. Tryptic Soy Agar can be used as a selective medium for the count of urine samples although differentiation must be done on selective differential media.
7. Several tests for the differentiation and identification of staphylococci can be performed on this medium, provided suitable additives are used.
8. Yeast, particularly Candida species, can grow in this medium forming very characteristic colonies.
9. Chromogenic pseudomonas frequently produce pigmentation on TSA and are therefore easily recognized.
10. A vast bibliography documents its applications in the food industry.
11. It has been frequently used in the Health industry to produce antigens, toxins, etc...
12. Its simple and inhibitor-free composition makes it suitable for the detection of antimicrobial agents in food and other products.
13. A balanced and high nutrient value together with a lack of fermentable carbohydrates make this medium ideal for maintaining bacterial strains.
14. Classical media for microbiological examination of non-sterile products according to Pharmacopeial Harmonised Methods.

### Technique:

Melt the medium contained in the bottles in a water bath or in a microwave oven, avoiding overheating before pouring into Petri dishes when cooled to room temperature.

Once solidified on a flat surface, Spread the plates by streaking methodology or by spiral method.

The inoculated plates are incubated at 30-35 °C for 24-72 h (bacteria) and 3-5 days for fungi (yeast & molds). Examined daily. Incubation times greater than those mentioned above or different incubation temperatures may be required depending on the sample, on the specifications,... This medium can be inoculated directly or after enrichment broth. After incubation, enumerate all the colonies that have appeared onto the surface of the agar. Each laboratory must evaluate the results according to their specifications. Calculate total microbial count per ml of sample by multiplying the average number of colonies per plate by the inverse dilution factor if streaked a diluted sample. Report results as Colony Forming Unit (CFU's) per ml or g along with incubation time and temperature.

## MICROBIOLOGICAL CONTROL

Melt Medium - Prepare Plates - According to harmonized pharmacopoeial monographs, ISO standards and test methods.

Spiral Spreading: Practical range 50 - 100 CFU (productivity).

Aerobiosis. Incubation at 30-35 °C. Read after 18-24 h to 72 h for bacteria and 3-5 days for fungi.

Microorganism	Growth
<i>Escherichia coli</i> ATCC® 8739, WDCM 00012	Good (≥70 %)
<i>Staphylococcus aureus</i> ATCC® 6538, WDCM 00032	Good (≥70 %)
<i>Bacillus subtilis</i> ATCC® 6633, WDCM 00003	Good (≥70 %)
<i>Candida albicans</i> ATCC® 10231, WDCM 00054	Good (≥70 %)
<i>Pseudomonas aeruginosa</i> ATCC® 9027, WDCM 00026	Good (≥70 %)
<i>Salmonella typhimurium</i> ATCC® 14028, WDCM 00031	Good (≥70 %)
<i>Aspergillus brasiliensis</i> ATCC® 16404, WDCM 00053	Good (≥70 %)
<i>Listeria monocytogenes</i> ATCC® 13932, WDCM 00021	Good (≥70 %)
<i>Clostridium perfringens</i> ATCC® 13124, WDCM 00007 (37 °C)	Good (≥70 %)
<i>Clostridium sporogenes</i> ATCC® 19404, WDCM 00008	Good (≥70 %)

### Sterility control:

Incubation 48 hours at 30-35 °C and 48 hours at 20-25 °C: NO GROWTH.

Check at 7 days after incubation in same conditions.

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## STORAGE

8–25 °C

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## SHELF LIFE

16 months unopened from date of manufacture

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updated: 24.08.2022

