



Reference : 01-200

Scharlau Microbiology - Technical data sheet

Product :

TRYPTIC SOY AGAR (TSA) (Eur. Pharm.)

### Also known as

Casein Soybean Digest Agar

### Specification

General purpose medium containing animal and plant peptone, according to Pharmacopoeial Harmonized Methods and ISO standards.

### Formula \* in g/L

Casein peptone .....	15.0
Soy peptone .....	5.0
Sodium chloride .....	5.0
Agar .....	15.0

Final pH 7.3 ±0.2 at 25 °C

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

### Directions

Mix 40 g of powder in 1 L of distilled water. Let it soak and bring to the boil to dissolve the agar. Sterilize in the autoclave at 121 °C for 15 minutes.

### 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:

- . The medium provides, with added blood, perfectly defined haemolysis zones, while preventing the lysis of erythrocytes due to its sodium chloride content.
- . It can be used for the preparation of an exceptionally nutrient 'chocolate' agar, thanks to the richness of its peptones. 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.
- . Most streptococci grow in this medium though clear differences can be observed from one species to another.
- . Several tests for the differentiation and identification of staphylococci can be performed on this medium, provided suitable additives are used.
- . Yeast, particularly *Candida* species, can grow in this medium forming very characteristic colonies.
- . Chromogenic pseudomonads frequently produce pigmentation on TSA and are therefore easily recognized.
- . A vast bibliography documents its applications in the food industry.
- . It has been frequently used in the Health industry to produce antigens, toxins, etc...
- . Its simple and inhibitor-free composition makes it suitable for the detection of antimicrobial agents in food and other products.
- . A balanced and high nutrient value together with a lack of fermentable carbohydrates make this medium ideal for maintaining bacterial strains.
- . If it is desired to use as an alternative medium in confirming the presumptive *Legionella* colonies isolated on the BCYE medium, the pH of the TSA must be adjusted so that after sterilization it is 6.8 ± 0.2 at 25 ° C.



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### Quality control

**Incubation temperature:** 30-35 °C/ 37 °C ±1

**Incubation time:** 24-48 h - 5 days

**Inoculum:** Practical range 50-100 CFU (productivity), according to Ph. Eur. and ISO 11133:2014/Amd 1:2018. Spiral Plate Method

### Microorganism

### Growth

### Remarks

*Bacillus subtilis* ATCC® 6633 Productivity > 0.70-

*Staphylococcus aureus* ATCC® 6538 Productivity > 0.70-

*Escherichia coli* ATCC® 8739 Productivity > 0.70-

*Candida albicans* ATCC® 10231 Productivity > 0.70 48 h / 5 d

*Pseudomonas aeruginosa* ATCC® 9027 Productivity > 0.70-

*Aspergillus brasiliensis* ATCC® 16404 Productivity > 0.70 3-5 d (Black sporulation)

*Listeria monocytogenes* ATCC® 13932 Productivity > 0.70-

*Escherichia coli* ATCC® ser 0157:H7 Productivity > 0.70-

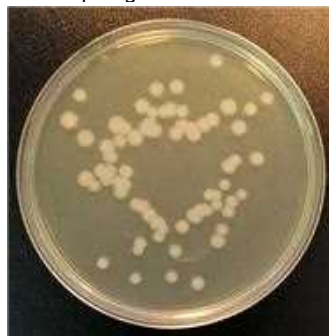
*Bacillus cereus* var. *mycoides* ATCC® 11778 Productivity > 0.70-

*Enterococcus faecalis* ATCC® 29212 Productivity > 0.70-

*Clostridium perfringens* ATCC® 13124 Productivity > 0.70-

*Staphylococcus aureus* ATCC® 25923 Productivity > 0.70-

*Clostridium sporogenes* ATCC® 19404 Productivity > 0.70-



*Bacillus subtilis* ATCC 6633



*Escherichia coli* ATCC 8739



*Staphylococcus aureus* ATCC 6538

### References

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- USP 33 - NF 28 (2011) <62> Microbiological examination of non-sterile products: Test for specified microorganisms. Harmonised Method. USP Corp. Inc. Rockville. MD. USA.



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### Storage

For laboratory use only. Keep tightly closed, away from bright light, in a cool dry place (+4 °C to 30 °C).

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