## **PRODUCT DATA SHEET**



# TM 730 – ESCULIN AGAR

### **INTENDED USE**

For cultivation and differentiation of bacteria hydrolysing esculin and producing H<sub>2</sub>S.

### PRODUCT SUMMARY AND EXPLANATION

Esculin is a glycoside incorporated as a differential agent to facilitate the identification of various organisms, including *Enterobacteriaceae*, Enterococci and anaerobes. Esculin Agar is based on the formula recommended, for the cultivation and differentiation of bacteria based on their ability to hydrolyze esculin and produce H<sub>2</sub>S. The unhydrolyzed esculin can be detected using long wave UV light at 360 nm since they will remain unchanged and fluorescence under UV light. Hydrolyzed esculin will not fluoresce and medium turns black.

## COMPOSITION

| Ingredients                  | Gms / Ltr |  |  |
|------------------------------|-----------|--|--|
| Tryptone                     | 13.000    |  |  |
| Sodium chloride              | 5.000     |  |  |
| Yeast extract                | 5.000     |  |  |
| Beef heart infusion (solids) | 2.000     |  |  |
| Esculin                      | 1.000     |  |  |
| Ferric citrate               | 0.500     |  |  |
| Agar                         | 15.000    |  |  |

## PRINCIPLE

The medium consists of Tryptone and Beef heart infusion (solids) which provide amino acids and other nitrogenous substances that support bacterial growth. Esculin is a differentiating agent, which helps in identification of esculin-positive organism. Esculin is hydrolyzed to dextrose and esculetin, which forms a brown black complex in the presence of iron salt (ferric citrate).

#### **INSTRUCTION FOR USE**

- Dissolve 41.50 grams in 1000 ml purified / distilled water.
- Heat to boiling to dissolve the medium completely.
- Distribute into screw-capped tubes in 3 ml volumes or as desired. Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.
- Cool tubes in a slanted position.

# QUALITY CONTROL SPECIFICATIONS

| Appearance of Powder          | : Cream to yellow homogeneous free flowing powder.                           |  |  |
|-------------------------------|--|--|--|
| Appearance of prepared medium | : Amber coloured, clear to slightly opalescent gel forms in tubes as slants. |  |  |
| рН (at 25°С)                  | : 7.3 ± 0.2  |  |  |

## **INTERPRETATION**

Cultural characteristics observed after incubation.

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## **PRODUCT DATA SHEET**



| Microorganism             | ATCC  | Inoculum<br>(CFU/ml) | Growth    | Esculin<br>hydrolysis                            | Incubation<br>Temperature | Incubation<br>Period |
|---------------------------|-------|----------------------|-----------|--|---------------------------|----------------------|
| Enterococcus<br>faecalis  | 29212 | 50-100               | Good      | Positive<br>reaction,<br>blackening of<br>medium | 35-37°C                   | 18-24 Hours          |
| Escherichia coli          | 25922 | 50-100               | Luxuriant | Negative<br>reaction                             | 35-37°C                   | 18-24 Hours          |
| Streptococcus<br>pyogenes | 19615 | 50-100               | Luxuriant | Negative reaction                                | 35-37°C                   | 18-24 Hours          |

## PACKAGING:

In pack size of 500 gm bottles.

## STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

**Product Deterioration:** Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

## DISPOSAL

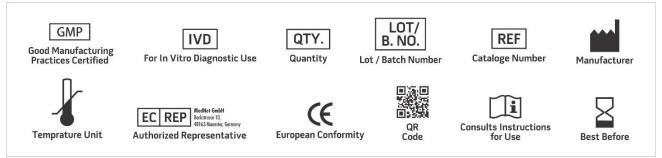
After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

#### REFERENCES

1. Atlas R. M., 1996, Handbook of Microbiological Media, 2nd Ed., CRC Press.

2. Koneman E. W., Allen S. D., Janda W. M., Schreckenberger P. C., Winn W. C. Jr., 1997, Colour Atlas and Textbook of Diagnostic Microbiology, 5th Ed., J. B. Lippinccott- Raven Publishers, Philadelphia, Pa.

3. Shigei, 1992, In Isenberg (Ed.), Clinical Microbiology Procedures Handbook, Vol. 1, American Society for Microbiology, Washington, D.C.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices. \*For Lab Use Only

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