TM 1350 - HS MEDIUM

INTENDED USE

For cultivation of aerobic as well as anaerobic bacteria and sterility testing.

PRODUCT SUMMARY AND EXPLANATION

Anaerobic bacteria are widespread in soil, marshes, lake and river sediments, oceans, sewage, foods and animals. In humans, anaerobic bacteria normally are prevalent in the oral cavity around the teeth, in the gastrointestinal tract, especially in the colon. Most of these anaerobic habitats have both a low oxygen tension and reduced Eh, resulting from the metabolic activity of microorganisms that consume oxygen through respiration. If the oxygen is not replaced, anaerobic conditions are maintained in the environment. The media used for recovering anaerobes from specimen should include non-selective, selective and enrichment types.

HS Medium was described by Bonnel and Raby for use in sterility testing. It is similar to Fluid Thioglycollate Medium where sodium hydrosulphite is substituted for sodium thioglycollate, in the latter, nto obtain oxidized and reduced conditions which are appropriate for the growth of aerobes as well as anaerobes. HSmedium can be used for the sterility testing of biological and pharmaceutical products. Bonnel and Raby used HS Medium for control tests on blood products and for isolation of *Corynebacterium*, Streptococci, Staphylococci, enteric bacilli, *Neisseria*, Clostridia etc.

COMPOSITION

Ingredients	Gms / Ltr
Tryptone	15.000
Yeast extract	5.000
Sodium dithionite (Sodium hydrosulfite)	0.500
Sodium chloride	2.500
Dextrose (Glucose)	5.500
Resazurin	0.001
Agar	1.000

PRINCIPLE

Tryptone and yeast extract in the medium supply essential nutrients such as amino acids, carbon, sulphur and minerals. Sodium hydrosulphite helps to create anaerobic atmosphere, as it is an oxygen scavenger. Dextrose is the fermentable carbohydrate and resazurin is the redox indicator dye. Sodium chloride helps to maintain the osmotic equilibrium of the medium.

INSTRUCTION FOR USE

- Dissolve 29.5 grams in 1000 ml purified/distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.

Note: If more than the upper one-third of the medium has acquired a pink colour, the medium may be restored once by heating in a water bath or in free flowing steam until the pink colour disappears.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : Cream to yellow homogeneous free flowing powder.
Appearance of prepared medium : Light straw coloured, clear to slightly opalescent solution with upper 10% or less medium having pinkish tinge on standing.
pH (at 25°C) : 7.1±0.2

INTERPRETATION

Cultural characteristics observed after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Incubation Temperature	Incubation Period
Clostridium perfringens	12924	50-100	Good-luxuriant	>=50%	35-37°C	18-24 Hours
Corynebacterium diphtheriae	11913	50-100	Good-luxuriant	>=50%	35-37°C	18-24 Hours
Klebsiella aerogenes	13048	50-100	Good-luxuriant	>=50%	35-37°C	18-24 Hours
Staphylococcus subsp. *aureus*	25923	50-100	Good-luxuriant	>=50%	35-37°C	18-24 Hours
Streptococcus pyogenes	19615	50-100	Good-luxuriant	>=50%	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.

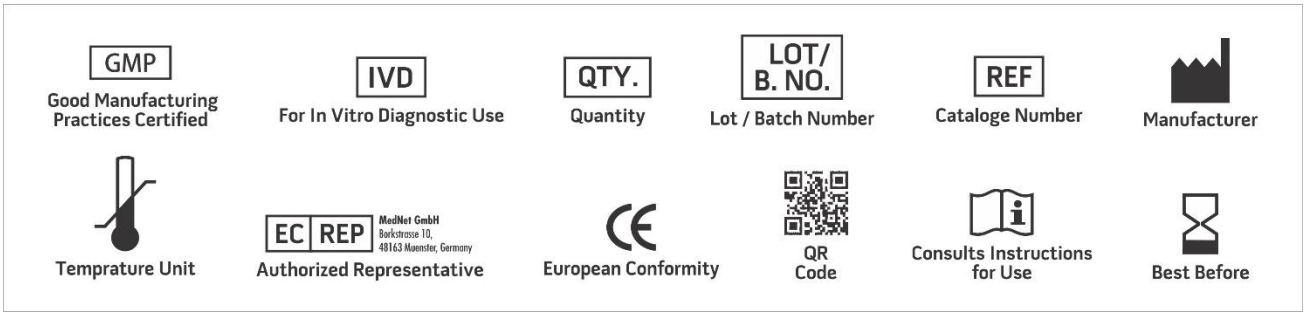
DISPOSAL

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

REFERENCES

1. Bonnel and Raby, 1958, Proc. 7th Cong. Int. Soc. Blood Transfusion,317, Rome.

2. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2nd Edition.
3. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1
4. WHO, 1960, Technical Report Series No. 200, WHO, Geneva P.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

Revision: 08 Nov., 2019