TM 931 - GLUCOSE STARCH AGAR (as per AOAC)

INTENDED USE
For sterility testing of canned foods.

PRODUCT SUMMARY AND EXPLANATION
Clostridial species are one of the major causes of food poisoning/ gastro-intestinal illnesses. They are gram-positive, spore-forming rods that occur naturally in the soil. Among the family are: *Clostridium botulinum*, which produces one of the most potent toxins in existence; Clostridium tetani, causative agent of tetanus; and *Clostridium perfringens*, commonly found in wound infections and diarrhoea cases. The use of toxins to damage the host is a method deployed by many bacterial pathogens. The major virulence factor of *C.perfringens* is the CPE enterotoxin, which is secreted upon invasion of the host gut, and contributes to food poisoning and other gastrointestinal illnesses. Glucose Starch Agar is used as a basal medium, which with the addition of raffinose, salicin and phenol red indicator is used for detecting *C. perfringens*. This medium is also recommended by APHA.

COMPOSITION

Ingredients	Gms / Ltr
Proteose peptone	15.000
Dextrose (Glucose)	10.000
Starch, soluble	5.000
Sodium chloride	5.000
Disodium hydrogen phosphate	3.000
Gelatin	20.000
Agar	10.000

PRINCIPLE
The medium consists of proteose peptone, which supplies the nitrogenous nutrients for *C.perfringens*. Dextrose is the fermentable carbohydrate source and is fermented by most Clostridia. However, raffinose and salicin are fermented with acid and gas production by only some strains of *C.perfringens*. Dispense the medium in different tubes and add a few drops of phenol red, the pH indicator, which turns yellow at acidic pH. Gas production is indicated by bubble formation. Gelatin is liquefied by *C. perfringens* within 48 hours. Sodium chloride maintains the osmotic balance of the medium.

INSTRUCTION FOR USE
- Dissolve 68.0 grams in warm 1000 ml purified/distilled water.
- Heat to boiling to dissolve the medium completely.
- Dispense in tubes and sterilize by autoclaving at 15 psi pressure (121°C) for 30 minutes.
- Allow the tubed medium to cool in an upright position.

QUALITY CONTROL SPECIFICATIONS
Appearance of Powder : Cream to beige homogeneous free flowing powder.
Appearance of prepared medium : Light amber coloured, clear to slightly opalescent gel forms in tubes as butts.
pH (at 25°C) : 7.2±0.2

INTERPRETATION
Cultural characteristics observe after incubation. Dextrose fermentation is detected using phenol red indicator.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Raffinose (72 hours)	Salicin (24 hours)	Incubation Temperature	Incubation Period
Clostridium perfringens	12924	50-100	Luxuriant	Acid production, yellow colour	Negative reaction, no colour change or red	35-37°C	24-72 Hours
Clostridium paraperfringens	-	50-100	Luxuriant	Negative reaction, no colour change or red	Acid and gas production, yellow colour and bubble formation	35-37°C	24-72 Hours
Escherichia coli	25922	50-100	Luxuriant	Negative reaction, no colour change or red	Negative reaction, no colour change or red	35-37°C	24-72 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
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5. Salfinger Y., and Tortorello M.L., 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
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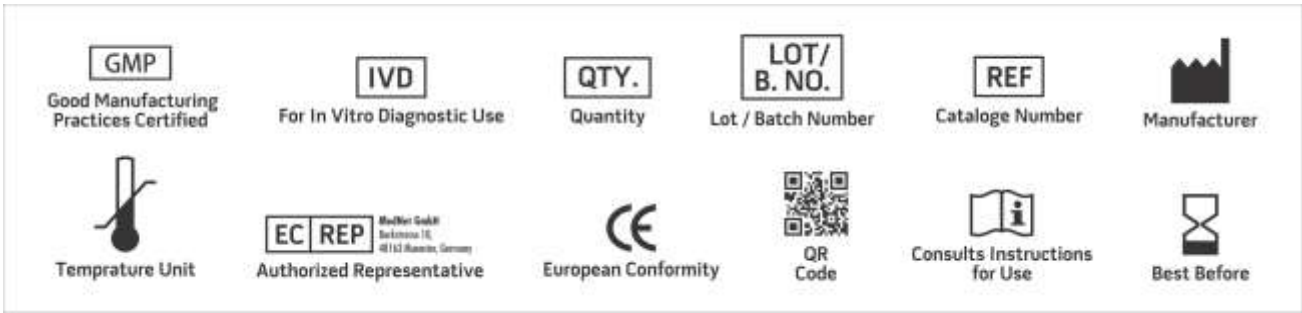

NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

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