

## TM 1122 - GELATIN IRON AGAR

### INTENDED USE

For detection of gelatin liquefaction and H<sub>2</sub>S production.

### PRODUCT SUMMARY AND EXPLANATION

Gelatin liquefaction along with the production of hydrogen sulphide is one of the characteristics used in the classification of bacteria. Hydrogen sulphide can be produced in small amounts from sulphur containing amino acids by a large number of bacteria. Methods to detect hydrogen sulphide production by suspending strips of paper impregnated with lead acetate above cultures are of variable sensitivity and are of limited value. The hydrogen sulphide production test combined with gelatin liquefaction test is useful for group differentiation within the *Enterobacteriaceae* species. Few Clostridia exhibit gelatinase activity as well as H<sub>2</sub>S production. *Escherichia coli* grow well on this medium but show neither gelatinase activity nor H<sub>2</sub>S production.

### COMPOSITION

Ingredients	Gms / Ltr
Peptone	25.000
Meat extract	7.500
Sodium chloride	5.000
Gelatin	120.000
Ferrous chloride	0.500
Agar	1.000

### PRINCIPLE

The medium consists of peptone, Meat extract and gelatin, which provide nitrogen compounds and also the carbon compounds for the growing organisms. Gelatin acts as solidifying agent and is the substrate for the organisms producing gelatinase enzyme. Ferrous chloride aids in the detection of hydrogen sulphide indicated by black precipitate. Gelatin is usually liquefied by *Clostridium perfringens* within 24 to 48 hours.

### INSTRUCTION FOR USE

- Dissolve 15.9 grams in 100 ml warm purified/distilled water.
- Heat to boiling to dissolve the medium completely.
- Dispense in test tubes as desired.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes.

### QUALITY CONTROL SPECIFICATIONS

- Appearance of Powder** : Cream to yellow homogeneous free flowing powder.  
**Appearance of prepared medium** : Light yellow coloured, clear to slightly opalescent gel forms in tubes as butts.  
**pH (at 25°C)** : 7.0±0.2

### INTERPRETATION

Cultural characteristics observed after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Gelatinase reaction	H2S production	Incubation Temperature	Incubation Period
<i>Bacillus subtilis subsp. spizizenii</i>	6633	50-100	Luxuriant	Positive reaction	Negative, no blackening of medium	35 - 37°C	24-48 Hours
<i>Clostridium perfringens</i>	12924	50-100	Luxuriant	Positive reaction	Positive, blackening of medium	35 - 37°C	24-48 Hours
<i>Escherichia coli</i>	25922	50-100	Luxuriant	Negative reaction	Negative, no blackening of medium	35 - 37°C	24-48 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.

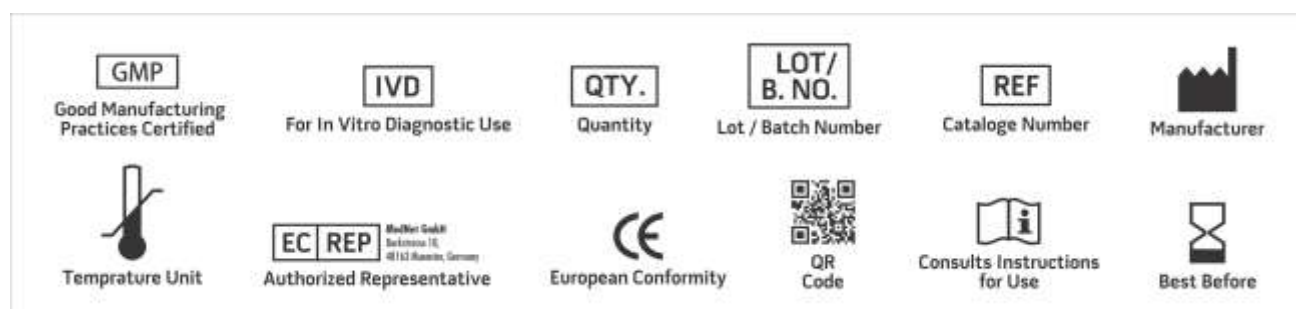
**Product Deterioration:** Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

#### DISPOSAL

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

#### REFERENCES

- American Public Health Association, Standard Methods for the Examination of Dairy Products, 1978, 14th Ed., Washington D.C.
- Baird R.B., Eaton A.D., and Rice E.W., (Eds.), 2015, Standard Methods for the Examination of Water and Wastewater, 23rd ed., APHA, Washington, D.C.
- Collee J. G., Fraser A. G., Marmion B. P., Simmons A., (Eds.), Mackie and McCartney, Practical Medical Microbiology, 1996, 14th Edition, Churchill Livingstone
- Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
- 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.
- Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, 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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