Nutrient Gelatin (Twin Pack)

Intended Use
Nutrient Gelatin (Twin Pack) is recommended for detection of gelatin liquefaction by proteolytic microorganisms.

Summary
Nutrient Gelatin (Twin Pack) is prepared as per the formulation formerly used in the examination of water, sewage and other materials of sanitary importance. Gelatin liquefaction is one of the essential tests for the differentiation of enteric bacilli. This medium can also be used for the microbial plate counts of water.

Principle
Peptic digest of animal tissue and beef extract supply nutrients for the growth of non-fastidious organisms. Gelatin is the substrate for the determination of the ability of an organism to produce gelatinase, a proteolytic enzyme active in the liquefaction of gelatin.

Formula*

Ingredients	**g/L**
Part A	
Peptic Digest of Animal Tissue	5.0
Beef Extract	3.0
Part B	
Gelatin	120.0
Final pH (at 25°C)	6.8 ± 0.2

*Adjusted to suit performance parameters.

Storage and Stability
Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2°C-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Type of specimen
Water and Waste Water samples

Specimen Collection and Handling
Ensure that all samples are properly labelled. Follow appropriate techniques for handling samples as per established guidelines. Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure. The samples must be stored and tested within the permissible time duration. After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions
1. Suspend 8.00 g of Part A and 120.00 g of Part B powder in 1000 mL of warm (50°C) purified / distilled water, mix well.
2. Heat to boiling to dissolve the powder completely.
3. Dispense into tubes.
4. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.
5. Allow the tubed medium to cool below 20°C or leave to set in a refrigerator in an upright position.

Quality Control
Dehydrated Appearance: Part A: Cream to yellow coloured, homogenous, free flowing powder.
Part B: Yellowish brown free flowing crystals.
Prepared Appearance: Light amber coloured clear to slightly opalescent gel forms in tubes as butts (After cooling it to below 20°C in refrigerator).
Cultural response: Cultural characteristics observed after an incubation at 35°C-37°C for 1-7 days, (Incubated anaerobically for *Cl. perfringens*). (For gelatinase test, cool below 20°C).

Organism (ATCC)	Growth	Gelatinase
Clostridium perfringens (12924)	Good	Positive reaction
Bacillus spizizenii (6633)	Good	Positive reaction
Proteus hauseri (13315)	Good	Positive reaction
Staphylococcus aureus subsp. *aureus* (25923)	Good	Positive reaction
Escherichia coli (25922)	Good	Negative reaction

Interpretation of Results

1. Gelatin liquefies at about 28°C, so incubation is carried out at 35°C but kept in a refrigerator for about 2 hours before interpretation of the results.
2. At various intervals during the incubation process, examine the tubes for growth and liquefaction.
3. At each interval, tighten the caps and transfer the tubes to refrigerator for sufficient time period to determine whether liquefaction has occurred or not.
4. For plate counts of water, the incubation is carried out at 20°C-22°C for upto 30 days.

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Precautions / Limitations

1. Liquefaction of gelatin occurs on the surface layer, so care should be taken not to shake the tubes.
2. Control is run along with every testing as gelling ability of gelatin varies and also the gelatin concentration should not exceed 12% as it may inhibit growth.
3. Nutrient Gelatin Medium is not recommended for determination of gelatin liquefaction by fastidious species and obligate anaerobes.

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. American Public Health Association, 1975, Standard Methods for the Examination of Water and Wastewater, 14th Ed., APHA, Washington, D.C.
2. Ewing, 1986, Edwards and Ewings Identification of *Enterobacteriaceae*, 4th Ed., Elsevier Science Publishing Co., Inc. New York.
3. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201140440500	Dehydrated Culture Media	500 g