**Universal Indicator**

**Intended Use:**
Universal indicator is used as pH indicator with wide range from 4-14. It is used determine pH of various solutions, substances.

**Composition**

**Ingredients**
- Thymol blue: 0.026gm
- Methyl red: 0.060gm
- Bromothymol blue: 0.30gm
- Phenolphthalein: 0.50gm
- Ethanol: 500ml

*Note: Add dilute NaOH until solution turns green (neutral pH)*

**Formula adjusted, standardized to suit performance parameters**

**Directions**
Use 0.2ml of indicator for every 10ml of the liquid under examination.

**Principle And Interpretation**
Universal indicator is a mixture of dyes that changes colour gradually over a range of pH from 4-14. The colour is used to indicate pH directly (1). The main components of a Universal indicator, in the form of a solution, are thymol blue, methyl red, bromothymol blue and phenolphthalein. This mixture is important because, each component, loses or gains electrons depending upon the acidity or basicity of the solution being tested. It is beneficial to use this type of a universal indicator in a colourless solution. This will increase the accuracy of indication (2). The indicator is used to determine acidity or alkalinity of various substances such as soil, sewage, sludge, food etc. Solutions and liquids such as water, waste water, etc. Universal indicator is used more than other indicators because it has a wide range of results.

**Warning and Precautions**
In Vitro diagnostic use only. Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling clinical specimens. Safety guidelines may be referred in individual safety data sheets.

**Performance and Evaluation**
Performance of the product is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

**Quality Control**

**Appearance**
Greenish brown coloured solution.

**Clarity**
Clear, without any particles.

**Test**
Add 0.2 ml of indicator in 10ml of liquid having different pH range, and observe colour variation as per standard chart.

**Results**
At various pH levels different colours are seen which are compared with standard indicator chart.

**Storage and Shelf Life**
Store between 10- 30°C in tightly closed container and away from bright light. Use before expiry date on label. On opening, product should be properly stored in dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use.

Please refer disclaimer Overleaf.
Disposal
User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with clinical sample must be decontaminated and disposed of in accordance with current laboratory techniques (3,4).

Reference
1. Jap. Pat. 99,664, Feb21,1933
2. Chemistry infolab reagents and resources ; The preparation of titration indicators; Dhanal De Lloyd,chem.Dept.

In vitro diagnostic medical device
CE Marking
Storage temperature
10°C to 30°C
Do not use if package is damaged

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