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Urea Solution

DM228S

Intended use

A liquid supplement for the detection of urease producing organisms.

FOR IN VITRO DIAGNOSTIC USE ONLY

Contents

10 x 10mL vials.

Formulation*

Material:	Concentration in medium:
Urea	400 g
Water	1000 mL

Storage and shelf life

All containers should be kept tightly closed and stored in a dry place at 25°C or below until the expiry date shown on the pack label. Certain media may require storage at 2 to 8°C, refer to pack label.

Precautions

For *in vitro* diagnostic use only. Observe approved hazard precautions and aseptic techniques. To be used only by adequately trained and qualified laboratory personnel. Sterilise all biohazard waste before disposal. Refer to Product Safety Data sheet (available on request or via MAST® website).

Materials required but not provided

Standard microbiological supplies and equipment such as loops, MAST® selective supplements, swabs, applicator sticks, incinerators and incubators, etc., as well as serological and biochemical reagents and additives such as blood.

Procedure

1. Refer to pack label for quantities and volumes required and prepare MAST® Urea Agar Base (DM228D) by suspending the powder in distilled or deionised water.
2. Autoclave at 121°C (15 p.s.i.) for 15 minutes.
3. Cool to 50 to 55°C and add, aseptically, 10ml of MAST® 40% w/v Urea Solution (DM228S) to each 190ml of basal medium. Do not reheat the medium once urea has been added.
4. Mix well and distribute into sterile final containers (e.g. tubes or bottles).
5. Allow to set in a slanted position to form a slope and butt.
6. Prepared medium may be used immediately or stored in sealed plastic bags at 2 to 8°C for up to one week before use.
7. Heavily inoculate the surface of the medium with a pure culture of the organism to be tested by streaking with a straight wire. Do not stab the butt.
8. Incubate aerobically for 3 to 5 hours at 35 to 37°C, then for a further 12 to 18 hours.

Interpretation of results

After incubation record colour development in the medium. A positive reaction (urea hydrolysis) changes the colour of the medium to red (alkaline reaction). The uninoculated butt can be used as a colour comparison. For a negative (no urea hydrolysis) the colour of the medium remains unchanged.

Quality control

Check for signs of deterioration. Quality control must be performed with at least one organism to demonstrate expected performance. Do not use the product if the result with the control organism is incorrect. The list below illustrates a range of performance control strains which the end user can easily obtain.

Test Organisms	Result
<i>Escherichia coli</i> ATCC® 25922	Negative
<i>Salmonella typhimurium</i> ATCC® 14028	Negative
<i>Proteus mirabilis</i> ATCC® 29906	Positive (4 to 6 hours)
<i>Klebsiella pneumoniae</i> ATCC® 13883	Positive (18 to 24 hours)

Limitations

Colour diffusion into the butt, particularly from the rapid urease activity of *Proteus* spp., limits its use as a negative control.

After prolonged incubation non-specific alkaline reactions due to peptone utilisation may cause false positive colour change in the medium.

References

Bibliography available on request.