B1408	UREA AGAR BASE (CHRISTENSEN)
Formula	
Ingredients:	**gms/lit.**
Peptone	1.00
Glucose	1.00
Sodium chloride	5.00
Potassium dihydrogen phosphate	2.00
Phenol red	0.012
Agar	15.00
Final pH (at 25°C) : 6.8 ± 0.2	

Directions :

Suspend 24.01 grams in 950 ml purified / distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 10 lbs pressure (115°C) for 20 minutes. Cool to 45-50°C and aseptically add 50 ml of sterile 40% Urea Solution (BF048) and mix well. Dispense into sterile tubes and allow to set in a slanting position. Do not overheat or reheat the medium as urea decomposes very easily.

Principle :

Peptone provides carbon and nitrogen required for good growth of a wide variety of organisms. Glucose is included as an energy source. Sodium Chloride maintains the osmotic balance of the medium.Urea provides a source of nitrogen for those organisms producing urease. This is indicated by a colour change of the pH indicator, Phenol red, from yellow (pH 6.8) to red to pink – red (pH 8.1). Agar is the solidifying agent.

QC Tests – (I)Dehydrated Medium		
	Colour :	Light yellow to light pink
	Appearance :	Homogeneous Free Flowing powder
(II)Rehydrated medium		
	pH (post autoclaving/heating) :	6.8 ± 0.2
	Colour (post autoclaving/heating) :	Yellowish orange
	Clarity (post autoclaving/heating) :	Clear to slightly opalescent
(III)Q.C. Test Microbiological		
	Cultural characteristics observed on addition of 40% urea solution (BF048), after 18 – 24 hrs. at 35-37°C.	

	MICROORGANISM (ATCC)	GROWTH	UREASE	
	Enterobacter aerogenes (13048)	Luxuriant	-	
	Escherichia coli (25922)	Luxuriant	-	
	Proteus vulgaris (13315)	Luxuriant	+	
	Salmonella typhimurium (14028)	Luxuriant	-	
	Klebsiella pneumoniae (13883)	Luxuriant	+	
	Proteus mirabilis (25933)	Luxuriant	+	
	+ = Positive reaction, cerise colour.			

Precautions :	1. For Laboratory Use.
	2. Follow proper, established laboratory procedures in handling and disposing of infectious materials.

Refer disclaimer Overleaf

Limitations :	1. Since the nutritional requirements of organisms vary, some strains may be encountered that fail to grow or grow poorly on this medium.				
	2. The alkaline reaction produced in this medium after prolonged incubation may not be caused by urease activity. False positive reactions may occur due to the utilization of peptones (especially in slant agar by Pseudomonas aeruginosa. For example) or other proteins which raise the pH due to protein hydrolysis and the relese of excessive amino acid residues. To eliminate possible protein hydrolysis, perform a control test with the same test medium without urea.				
	3. Do not heat or reheat the medium because urea decomposes very easily.				
	4. Urea Agar detects rapid urease activity of only the urease – positive Proteus species. For results to be valid for the detection of Proteus, the results must be read within the first 2 to 6 hours after incubation. Urease – positive Enterobacter, Citrobacter or Klebsiella, in contrast, hydrolyze urea much more slowly, showing only slight penetration of the alkaline reaction into the butt of the medium in 6 hours and requiring 3 to 5 days to change the reaction of the entire butt.				
Use :	Urea agar base with addition of urea is recommended for detection of urease production, particularly of Proteus spp.It is recommended by ISO committee as per specification ISO 6579:1993.				
Storage :	Dehydrated medium- below 30 ° C Prepared mediums– Between 2 to 8°C.				
Packing :	500 gm. Bottle				
Product profile:	Reconstitution	Quantity on Preparation (500g)	pH (25°C)	Supplement	Sterilization
B1408	24.01g/l	20.824L	6.8 $\pm$ 0.2	40% Urea Solution	115^{0}C / 20 minutes

Rev: May 2021