benedict's solution

B0205NN **Gold Line**

Typical analysis

25ml = 0.05g Glucose (dextrose)

Packaging

100ml amber glass bottle

500ml clear plastic bottle

Physical properties, composition and data

Chemical composition	A solution of copper sulphate, sodium carbonate, sodium citrate: Quantitative formula
Weight per litre	1.19kg
Appearance	Blue, aqueous liquid
Miscibility	Miscible with water and ethanol
Melting point	>0°C
Density (g/ml)	1.26
Other information	25ml = 0.05g glucose (dextrose)

Laboratory preparation, applications and practices

Laboratory preparation	A modified Fehling's solution
Usage	The blue colour changes to red, orange or yellow precipitate or suspension in the presence of a reducing sugar such as glucose and is therefore used in testing such materials, especially for urinalysis in the treatment of diabetes
Filter paper	Filtech no: 0222, 0225, 1839

Storage and handling information

Disposal methods	16

Transport regulations

Tariff code	3822.00.00

To test for the presence of reducing sugars in food, the food sample is dissolved in water and a small amount of Benedict's reagent is added. The mixture is heated in a boiling water bath and any precipitate formed is recorded as a positive result for the presence of reducing sugars in the food. Sucrose is a non-reducing sugar and thus does not react with Benedict's reagent. Sucrose can produce a positive result with Benedict's reagent if heated with dilute hydrochloric acid prior to the test. The acidic conditions and heat break the glycosidic bond in sucrose through hydrolysis. The products of sucrose decomposition are glucose and fructose, which can be detected by Benedict's reagent as is recorded as a positive result for the presence of reducing sugars in presence of glucose in urine. Glucose found to be present in urine is an indication of diabetes. Once a reducing sugar is detected in urine, further tests have to be undergone in order to ascertain which sugar is present. Only glucose is indicative of diabetes.