



3E-098

Benedict's reagent, qualitative, on glucose
In-vitro diagnostic agent

Description

The product 3E-098 is a ready-to-use solution for professional users in cytology. It is an aqueous solution of sodium citrate, sodium carbonate and copper sulphate pentahydrate. The product comes in 3 pack sizes: 3E-098.00100 (100ml bottle), 3E-098.00250 (250ml bottle) and 3E-098.01000 (1l bottle)

Main components

Sodium carbonate (CAS no. 497-19-8)	100.0 g/l
Sodium citrate (CAS no. 6132-04-3)	142.5 g/l
Copper sulphate pentahydrate (CAS 7758-99-8)	17.3g/l

Purpose

"Benedict's reagent" is used to detect glucose in a person's urine. The procedure is used, for example, when diabetes is suspected.

Sample material and sample preparation

All samples must be clearly labelled. The procedure should only be carried out by qualified personnel. Sample material: Fresh morning urine

Test principle

The addition of Benedict's reagent to the urine sample creates a redox reaction, whereby copper(II) ions are reduced and the reducing sugar is oxidised. In the event of a positive glucose reaction, the sample turns red-brown. Further tests are required to quantify the glucose content.

Implementation

First, 5 ml of Benedict's reagent is added to the tube, followed by the addition of 0.5 ml of urine. The mixture is heated on the flame for 2-3 minutes or in a hot water bath for 5 minutes and then cooled. The result can be read from the staining.

Result

Negative reaction	light blue (the colour of the reagent has not changed)
Traces of glucose	green
Weak positive reaction	yellow
Moderately positive reaction	orange
Strong positive reaction	red-brown



Precautionary measures

When removing the product, care must be taken to avoid contamination of the storage vessel. Once the solution has been removed, it must not be returned to the canister. If turbidity or solids appear, discard the product. The product is intended for single use and must not be reused

Storage and shelf life

Store the unopened containers in a dry place at 15 to 25 °C, avoiding direct sunlight. The shelf life is 2 years. See also the best-before date (BBD) on the label. Once the containers have been opened, the shelf life corresponds to the best-before date, as long as the storage conditions are observed and the solution is handled properly.

Safety notice

If any serious incidents occur in connection with the product, please report them to the manufacturer and the national authority.

Literature

L. Hallmann, Klinische Chemie und Mikroskopie, 1980, Georg Thieme Verlag Stuttgart New York, 11th edition
S.R. Benedict "A reagent for the detection of reducing 2ugars" J.Biol.Chem. 5(6): 485–487