

FEHLING'S REAGENT

Principle

Fehling's reagent is used for the detection of reducing substances, particularly reducing sugars. It is based on the reducing power of the carbonyl group of an aldehyde that goes to acid by reducing the copper (II) salt, in alkaline medium, to copper (I) oxide. This forms a red precipitate. An important aspect of this reaction is that the aldehyde form can be readily detected even if it exists in very small amounts. If a sugar reduces Fehling's liquor to red copper (I) oxide, it is said to be a reducing sugar.

Reagents

Code	Description
251563	Fehling's A Reagent for clinical diagnosis
251564	Fehling's B Reagent for clinical diagnosis
131505	Potassium Hexacyanoferrate(II) 3-hydrate (Reag. Ph. Eur.) for analysis, ACS, ISO

Preparation of solutions

- Solution Potassium Ferrocyanide 5% w/v:
Potassium Hexacyanoferrate(II) 3-hydrate: 6 g.
Water up to 100 ml

Procedure

- For determination of Reducing Sugars:
 1. Mix 10 ml of Fehling A Reagent, 10 ml of Fehling B Reagent and 25 ml of water. This is the reagent to be used for the titration.
 2. Heat the reagent to boiling.
 3. Add the drop of urine sample drop by drop until the blue color of the solution disappears. The volume of urine used up to that time contains 0.06g of reducing sugars (such as glucose).
- To determine Glucose in urine (Causse-Bonnans):
 1. Mix 10 ml of Fehling A Reagent, 10 ml of Fehling B Reagent, 5 ml of 5% potassium Ferrocyanide Solution and 25 ml of water. This is the reagent to be used for the titration.
 2. Heat the reagent to boiling.
 3. Add drop by drop the defecated urine sample to a dark brown color. The volume of urine used up to that time contains 0.05 g of reducing sugars (such as glucose).

Results

When reacted with monosaccharides, it turns greenish; If it does with disaccharide, it turns to red-brick color.

Technical note

Mix the Fehling A Reagent and Fehling B in the same amount at the time of the test.

Preparation of sample

All samples should be treated according to the state of the technology. All samples must be unambiguously labeled.

Diagnostics

Diagnosis should be established only by authorized and qualified persons. Each application should involve appropriate controls to rule out erroneous results.

Storage

The product should be stored at room temperature.

Expiration

The product stored at the indicated temperature and in a tightly closed container is usable until the expiration date indicated on the package.

Notes on use

In order to avoid errors, the staining must be carried out by specialized personnel. For professional use only. The national directives on safety at work and quality assurance must be complied with.

Advise on disposal of waste

Solutions used and expired solutions should be disposed of as hazardous waste and local waste disposal regulations must be observed. If further questions are asked about disposal, they may be processed through E-Mail: info.es@itwreagents.com. Inside the EU are valid the requirements based on Council Directive 67/548/EEC on the approximation of the laws, regulations and laws, regulations and administrative provisions relating to the classification, packaging and labeling of dangerous substances in the relevant version.

Classification of hazardous substances

Observe the classification of dangerous substances on the label and the information on the safety data sheet.

Manufacturer

Panreac Química S.L.U.

an ITW Company

C/Garraf, 2 – Polígono Pla de la Bruguera

E-08211 Castellar del Vallès

(Barcelona) España

Tel. (+34) 937 489 400

Fax (+34) 937 489 401

(*) Sanitary product for In Vitro Diagnostics

