DNSA REAGENT

Quantitative test for reducing sugars

Background

On boiling with reducing sugars 3,5 dinitrosalycylic acid (DNSA) reagent changes from yellow to red. Small volumes of the reagent and test sample are boiled for 5-10 minutes, then diluted with water and the colour read using a colorimeter. Concentrations of reducing sugar down to below 0.5mM, (90µg of glucose/cm^3), can be detected using this test. There is no need to filter after boiling and small volumes of test solutions can be used, (typically 0.3cm^3 for a standard cuvette).

SAFETY

WEAR EYE PROTECTION
TAKE CARE WITH BOILING WATER

DNSA reagent
contains 0.4M NaOH

To prepare 100cm^3 of reagent

- dissolve 1g of 3,5-dinitrosalicylic acid in 50cm^3 of water.
- slowly add 30g sodium potassium tartrate tetrahydrate, ($KNaC_4H_4O_6{\cdot}4H_2O$)
- add 20cm^3 of 2N NaOH. 
- dilute to a final volume of 100cm^3 with water.
- label the stock solution 'IRRITANT' 

Method

- Add 0.3cm^3 of the sample to be tested to 0.3cm^3 of DNSA reagent in a test tube.
- Stand the test tube in boiling water for 5 -10 minutes.
- Add 3cm^3 of water and read absorbance with green light (525nm).

More details and sample results can be viewed on the *Mystrica* website, www.mystrica.com/Experiment.aspx?PageId=16