# BIURET TEST

Qualitative or quantitative test for protein

Background

Biuret reagent reacts with peptide bonds, turning from blue to purple. Unlike the Bradford test it will give equally good results with any protein, but it is unable to detect the low concentrations that can be achieved with the Bradford test
A qualitative test can be performed simply by adding equal quantities of 1% sodium (or potassium) hydroxide and a 1% solution of copper sulphate to the sample. If the solution turns purple it means that protein is present.
The method described here uses quantitative Biuret solution which will give a good estimate of protein concentrations in the range 0.1-10 mg/cm$^3$.

**SAFETY**

Biuret reagent contains 0.75M sodium hydroxide.
THE USE OF EYE PROTECTION MUST BE STRICTLY ENFORCED
In the event of eye contact flood the eye gently with running water for ten minutes and seek medical attention

Solution 1

| | |
|---|---|
| Copper sulphate.5$H_2O$ | 0.75g |
| Sodium potassium tartrate | 0.3g |
| Dissolve in 250cm$^3$ $H_2O$ | |

Solution 2

| | |
|---|---|
| Sodium hydroxide | 15g |
| Dissolve in 150cm$^3$ $H_2O$ | |

Add 2 to 1 mixing thoroughly and make up to 500cm$^3$.
If a precipitate forms 0.5g potassium iodide can be added

Method

- To perform the quantitative test add 2 cm$^3$ of Biuret reagent to 0.5 cm$^3$ of sample.
- Allow the mixture to stand for 10 minutes then read absorbance in green light.

More details and sample results can be viewed on the *Mystrica* website, www.mystrica.com