CHEMICAL RECIPE SHEET

Benedict's Reagent

$C_7H_{10}CuNa_2O_{15}S$

PRECAUTIONS:
When preparing solutions always wear appropriate PPE including eye protection and gloves. Always add acid to water (never water to acid). Use a fume cupboard. You should always carry out a risk assessment when using any chemicals. Follow all recommended safety procedures and adhere to the label instructions, hazard warnings and local legislations.

QUALITATIVE BENEDICT'S SOLUTION RECIPE:

(Use Distilled or Deionised Water)

1. Dissolve 170g tri-sodium citrate and 100g anhydrous sodium carbonate (or 250g sodium carbonate decahydrate) in 850ml water.
2. Add 17.4g copper (II) sulphate-5-water and dilute to 1000ml with water. Filter if necessary.

QUANTITATIVE BENEDICT'S SOLUTION RECIPE:

(Use Distilled or Deionised Water)

1. Dissolve 200g tri-sodium citrate, 125g potassium thiocyanate and 75g anhydrous sodium carbonate (or 200g sodium carbonate decahydrate) in 600ml water.
2. Dissolve 18g copper (II) sulphate in 100ml water. Pour this slowly into the first solution and rinse any residue.
3. Add 0.25g potassium hexacyanoferrate (II), then dilute to 1000ml with water.

EXPERIMENTS:

Benedict's Reagent can be used in the following experiments (scan or see website for details):

Cell Metabolism

Benedict's Test

ENVIRONMENTAL HAZARD

IRRITANT

CONVERSIONS:

- 1ml = 1 millilitre = 1cm^3 = 1/1000th Litre
- 1 Litre = 1dm^3 = 1000ml
- 1M = 1mol dm^{-3} = 1 mol 1^{-1} = 1 mole per litre

WATER:

Distilled water should be used unless otherwise stated. Tap water is not suitable as it contains impurities.

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