

# NEATH PORT TALBOT COLLEGE COLEG CASTELL NEDD PORT TALBOT

## School of Maths & Science Science Practical

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### Preparation of Iodoform

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#### ◆ Aim

At the end of the experiment you should be able to:

1. Prepare and isolate a sample of iodoform
2. Purify it by recrystallisation from ethanol
3. Assess its purity by recording the melting point.

#### ◆ Introduction

Iodoform,  $\text{CHI}_3$ , is the heavier iodine analogue of the well known chloroform  $\text{CHCl}_3$ . It can be prepared by the haloform reaction which involves treating a methyl alcohol or a methyl ketone with iodine in the presence of a base. Iodoform is a yellow crystalline solid which has a clinical smell. In former times it was used as an antiseptic.

#### ◆ Safety



##### Control Measures

- The wearing of safety glasses, gloves and a laboratory coat at all times will be sufficient to take account of most hazards and significant risks.
- Keep stoppers on bottles as much as is possible.
- Keep flammable liquids away from flames.
- All waste is to be placed in the labelled container immediately after use.
- You are reminded of the need of good laboratory practise in order to maintain a safe working environment.



##### Hazards

**Harmful/Irritant**      Copper (II) Sulfate Solution  
   Zinc Powder

## ◆ Procedure

### Preparation

1. Place about 2cm<sup>3</sup> of acetone (propanone) in a 250cm<sup>3</sup> conical flask and add 15cm<sup>3</sup> of 2M sodium hydroxide. Swirl the mixture thoroughly.
2. In a measuring cylinder, measure out about 40cm<sup>3</sup> of iodine solution.
3. Pour the iodine solution into the acetone / sodium hydroxide solution carefully and gradually, making sure you swirl the flask continuously.
4. After complete addition, mix the contents thoroughly and then leave the flask to stand for five minutes.

### Isolation

1. Collect the yellow precipitate of iodoform using a suction filtration apparatus. The use of this will be demonstrated to you. Make sure you clamp the Buchner flask which will be top heavy with the funnel in it.
2. Wash the solid with a little cold water and then place the precipitate and filter paper onto a clean watch glass. Dry in the oven for ten minutes.

### Purification

1. Place the solid in a boiling tube and add hot ethanol **dropwise** until the solid **just dissolves**. The ethanol can be pre-heated by placing some in a boiling tube and heating in a hot water bath.
2. Allow the solution to cool. The iodoform should crystallise out as a fine yellow precipitate. You can cool it in ice if the crystallisation is troublesome but be patient. You will get better quality crystals from a slow crystallisation.
3. Filter the solid again, dry in the oven and record a melting point.