

NEATH PORT TALBOT COLLEGE COLEG CASTELL NEDD PORT TALBOT

School of Maths & Science Science Practical

Fibre Analysis

◆ Aim

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

1. Examine different fibre types and highlight and sketch any unique features.
2. Analyse the results and assess their value as evidence in court.

◆ Introduction

Fibre transfer has the potential to feature in many types of investigation where a crime has involved clothing to clothing contact, or contact between bedding, car seats, clothing etc.

The fibres with which forensic scientists are concerned are not strands of fabric but, rather, tiny broken fragments of the individual fibres, which tend to be extremely thin (finer than human hair) and often no more than a millimetre in length. This means that they are often not easy to spot.

“Evidentiary Value” is placed on the fibres and it is defined as ‘the value with which a piece of evidence has in associating a suspect to a victim and /or crime.

On the 29th September 2008, Marie Connolly, a two year old girl, disappeared from her mother’s car where she had been left sleeping while her mother bought milk from a local convenience store. Two weeks later a body was found in a nearby wood, DNA confirmed that it was Marie. Fibres found on some of her clothing near the body were collected and sent for analysis.

The report showed the following fibres.

Fibre	Colour	Analysis
1	Royal Blue	Polyester, artificial
2	White	Acrylic, polyester
3	White	Wool
4	White/beige	Cotton, Polyamide, Acrylic
5	Royal Blue	Cotton
6	Pale Blue	Cotton, acrylic

After interviewing witnesses a white van is found nearby, the van is traced to Bill Tonbridge who is taken in for questioning. His van is searched and a large black bag is found containing a mixture of clothing. Bill maintains that he stole the clothing from a

recycling centre thinking he might be able to sell the clothing on ebay. CCTV at the recycling centre gives no evidence of this.

◆ Safety

Control Measures

- The wearing of safety **glasses** and a **laboratory coat** at all **times** will be sufficient to take account of most hazards and significant risks
- All waste is to be placed in the labeled container immediately after use
- You are reminded of the need of good laboratory practice in order to maintain a safe working environment.

Hazards

◆ Procedure

Fibre Examination

1. Remove each item in the bag and provide a full description by visual inspection.
2. Each item should be taped to find any fibres that may have been transferred from the clothing found with the body.
3. Tapings should be made in a systematic way and each taping marked and placed onto a cobex sheet.
4. Finally control samples should be removed from all items for comparison purposes.
5. Once all samples have been taken and properly marked and collected, microscopic analysis should be undertaken in order to establish whether the suspect clothing can be connected to the crime.
6. Comparisons made by microscopic analysis should be sketched and kept for the case file.

◆ Results

Item description:-----

Description of tapings (does this item shed easily? Were other fibres present?)

Description of tapings after microscopic analysis (shape and colour of foreign fibres)

Control sample taken: Y N

Description of control fibres:-----

◆ Conclusions

Can you confirm a match? Y N