

# NEATH PORT TALBOT COLLEGE COLEG CASTELL NEDD PORT TALBOT

## School of Maths & Science Science Practical

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### Toxicological Analysis of Crime Scene Samples

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#### ◆ Aim

The toxicological analysis of suspect samples found at a crime scene using presumptive colour testing.

#### ◆ Introduction

Colour tests involve the use of chemical reagents that change characteristic colours when combined with a specific drug. These are usually performed using spot plates. Two or three drops of the reagent are placed into one well of the spot plate followed by the addition of the sample. The mixture is observed for a colour change. The reagent is placed into the well first to avoid splashing the sample out into other wells causing false positives as a result of contamination.

#### ◆ Safety

##### Control Measures

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

◆ **Procedure**

1. Obtain the Gross weight using the balance. The Gross weight is the weight of the evidence bag and its contents before it is opened. Open the bag, avoiding the original seal and initial and date the opening.
2. Obtain a Net weight, which is the weight of the powder by itself

Exhibit No:-----

1. **Gross Weight**-----

2. **Net Weight:** Weight of original container and sample-----

Weight of empty container-----

Weight of sample-----

3. Presumptive colour test:

1. Into the first three wells of the drop plate, add a few drops each of the three colour indicators.
2. Add Reagent 1 to well number 1, reagent 2 to well number 2 and reagent 3 to well number 3.
3. To each of these well add a small amount of sample using a spatula.
4. Ensure that the sample is added after the reagent to prevent splashing and causing contamination of neighbouring wells.
5. Observe any colour change that occurs and make a note of it.
6. Repeat this procedure for all of the drug standards and observe and note any colour change.
7. Repeat this test on the unknown sample you have weighed.
8. Check the results and see if there is a match with any of the drug standards.

Standard	Name	Reagent result colour		
		1	2	3
<b>A</b>	<b>Fentanyl</b>			
<b>B</b>	<b>Betamethadol</b>			
<b>C</b>	<b>Codeine</b>			
<b>D</b>	<b>Mehadone</b>			
<b>E</b>	<b>Cocaine</b>			
<b>F</b>	<b>Diazepam</b>			
<b>G</b>	<b>Heroin</b>			
<b>Unknown</b>				

4. After all analysis has been carried out, re-weigh the sample to give a Reserve weight after analysis.

**Reserve Weight**-----

5. The evidence is then sealed in its original container inside a sealed secondary container. The whole package is then re-weighed to give a Gross Weight after Analysis.

**Gross Weight after Analysis**-----

Based on the analysis by Presumptive testing, Provide an assessment of what you think the substance might be and why.

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