

## R/2/6 Chromatography of food dyes

### Apparatus (per group)

- 250ml beaker
- Glass rod
- Chromatography paper (~12cm)
- Capillary tubes

### Chemicals

- 0.1% w/v sodium chloride solution
- Selection of food dye solutions (all 0.1% w/v in water):
  - A = Tartrazine E102
  - B = Sunset Yellow E110
  - C = Patent Blue E131
  - D = Carmoisine E122
  - E = C + D
  - F = A + D

### Waste disposal

- Liquids: waste water
- Paper: solid waste
- Capillary tubes: broken glass

Chromatograms should be allowed to elute for at least 10 min

## Chromatography of food dyes

1. Draw a line in pencil 1cm from the end of your piece of chromatography paper. Mark six spots on the line, equal distances apart.
2. Carefully wrap the other end of the paper around a glass rod. Rest the rod on the top of a 250ml beaker and wind the paper around the rod so that the bottom of the paper sits just above the base of the beaker (see diagram below).
3. Dip a capillary tube into the solution of dye A. Touch the tube on to the left hand spot on your paper to transfer some dye.
4. Repeat for the other dyes and the other spots.
5. Pour a small amount of 0.1% sodium chloride solution into your beaker. It should be no more than 0.5cm deep.
6. Rest the glass rod on top of the beaker with the bottom of the paper dipping into the solution. The spots should be above the level of the liquid.
7. Let the water rise up the paper.
8. When your teacher tells you, lift the paper out of the beaker.
9. Record your results.



# Experiment Hazard Assessment

**Experiment: Chromatography of food dyes**

**Reference: R/2/6**

## Chemical hazards

Sodium chloride solution (0.1% w/v)	No hazard at this concentration	CLEAPSS Hazcard 47B Recipe Book 82
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Food dyes (0.1% w/v)	No hazard at this concentration May temporarily stain fingers or clothing	CLEAPSS Hazcard 32
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## Other hazards / precautions for teachers and technicians

Capillary tubes are fragile and may produce sharp edges if snapped. They should be put into the broken glass bin as soon as possible after use.