

PRACTICAL INSTRUCTIONS

During this activity you will test the pH of three potential new cosmetics and use this data to determine if they are safe for human use.

Hazards and risk minimisation:

- Solutions may cause irritation if contact with skin or eyes occurs. Take care not to touch the solutions and wear safety goggles. If contact with skin or eyes does occur, rinse with water and tell an adult.
- To minimise risk of glassware breakages and/or spillages, please leave the beakers in the centre of the table.

Method:

1. Get into groups of 2 or 3.
2. Place an indicator strip into one of the substances.
3. Hold the indicator strip next to the chart to determine the pH.
4. Make a note of the colour and pH value in the results table below.
5. Repeat for the other two substances.
6. Using the “essential background information” below the table, decide if each of these substances would be suitable for rats, dogs and humans and make a note of this in the table below.

SUBSTANCE	COLOUR OF INDICATOR	pH	SUITABLE FOR RATS?	SUITABLE FOR DOGS?	SUITABLE FOR HUMANS?
A					
B					
C					

Essential background information:

The optimal pH range for products applied to human skin is around pH4 to pH6.

Dog skin is slightly alkaline at pH 7.5 so they require their own dog shampoo within the range of pH7 to pH8.

Rat skin is close to neutral at around pH 6.5, with a suitable range of pH5 to pH7.

If you were to test these substances on dogs or rats, would the results be relevant to humans? Explain your answer.
