

### Determine pH of milk

Exposure to sunlight, warmth and air can cause the breakdown of milk fats to volatile fatty acids. These fatty acids give sour milk an off flavour and smell. The presence of these acids reduces the pH of the milk. A low pH may also be caused by bacterial contamination (poor hygiene). Even before the milk begins to smell or taste off, a change in pH can be measured. Milk may be rejected if **the pH is less than 6.60**. (7 is neutral. Less than 7 is acidic).

**Aim:** To test the pH of milk.

#### Equipment:

- Water
- A sample of fresh milk
- A sample of spoiled milk (leave a milk sample out of the refrigerator)
- Universal indicator and pH colour chart (find this in a pH testing kit)
- Saucer or watch glass.

**Note: Universal indicator** is a solution containing a mixture of indicators that can be added to any substance to determine its pH. At low pH, it appears red, and at high pH, it appears blue or violet. At neutral pH, it appears green



#### Procedure:

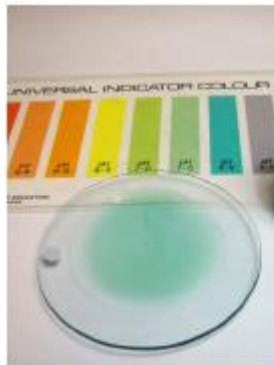
Find the pH of each of the three liquid samples by:

1. Placing a sample of the liquid in the saucer

## Milk hygiene/ Practical

2. Adding a few drops of universal indicator to the sample
3. Comparing the colour of the sample to the colour chart to indicate the pH of the sample
4. Recording the results.

### Results:



Water



Fresh milk



Spoiled milk

### Reference:

[http://lrrpublic.cli.det.nsw.edu.au/lrrSecure/Sites/Web/hsc\\_agriculture/lo/6944/applets/Experiment/Experiment\\_01.htm](http://lrrpublic.cli.det.nsw.edu.au/lrrSecure/Sites/Web/hsc_agriculture/lo/6944/applets/Experiment/Experiment_01.htm)