

**Practical work N°05: Direct acid-base dosage**  
**Determination of lactic acid present in milk by colorimetry**

**Introduction:**

Milk contains an alcohol called lactose. In the presence of certain bacteria, part of the lactose is degraded, among other things, in lactic acid, if the quantity of lactic acid, of formula ( $\text{CH}_3\text{-CHOH-COOH}$ ) present in milk is too large; it turns and becomes unfit for consumption.

In industry, the acidity of milk is given in degree Dornic, It is considered that milk is fresh, if its acidity is less than 18 D, that is if the quantity of lactic acid is less than 1,8g per liter of milk.

(1 degree Dornic corresponds to 0.1g of lactic acid per liter of milk)

**Aim of practical work:**

- Know how to carry out and use a calorimetric acid-base dosage.
- Check the freshness of milk (Determine the Dornic degree of milk).

**Principle of manipulation:**

This involves determining, by carrying out an acid –base dosage, the concentration of milk in lactic acid.

The acidity of milk increases by lactic fermentation in the event of poor storage.

This dosage therefore makes it possible to assess the state of conservation of the milk.

We carry out the dosage of pasteurized or sterilized milk with a solution of soda (or sodium hydroxide NaOH) in the presence of phenolphthalein.

**Carrying out the titration:**

Materials and product:

Pasteurized or raw milk, Penolphthalein, Soda solution (NaOH) 0.05 mol/l, Erlenmeyer flask, Graduated burette, Beaker, volumetric pipette 20 ml, Magnetic agitator.