University A/Mira - Bejaia
Faculty of Natural and Life Sciences
Department of Physicochemical Biology
Master I Pharmaco-toxicology
TP: Therapeutic Chemistry

TP1 Preparation of solutions and drugs

Production of a physiological water solution

Objectives

Prepare a solution of physiological water, study of the ions inside the solution of saline.

A physiological water is a solution of sterile water and sodium chloride. It is an isotonic fluid in the blood. This solution is used to clean the nose, ears or eyes of babies in particular, but also as injectable rehydration solutions for intravenous infusion for dehydrated patients who cannot drink.

Materials

- Electronic balance 1/10th
- Volumetric flasks 50 mL and 100 mL
- Capsule or watch glass
- Volumetric pipette of 10mL
- Beaker of 100mL
- Spatula
- Distilled water bowl
- Propipette

Chemicals

- NaCl powder (about 2 to 3 g per bench).

Protocol

The sodium chloride mass concentration of this drink is 9.0 $g.L^{-1}$: define the mass concentration Cm (also called mass titer t).

The 9 % physiological water solution corresponds to 9.0 g NaCl per 1000 g of solution. Knowing that the density of the solution is 1.0 $g.mL^{-1}$, check whether the prepared solution is indeed physiological water.