



## DETERMINATION DE LA TENEUR EN H<sub>2</sub>O<sub>2</sub> DES SOLUTIONS DE DESINFECTION DES MAINS

Test enzymatique sur bandelettes pour le dosage semi-quantitatif de l'H<sub>2</sub>O<sub>2</sub>

### 1 Références

The analytical procedure was provided by the Quality control laboratory of the Pharmacy of the University Hospitals of Geneva, Switzerland

### 2 Equipment and reagents

#### 2.1 Equipment

- Peroxide test strips, Quantofix, Macherey-Nagel, 50-1000mg/L, conservation 4-30°C
- Graduated pipette 1 mL and 10 mL
- Pipettor
- Volumetric flasks 10 mL

#### 2.2 Reagent

- Distilled water

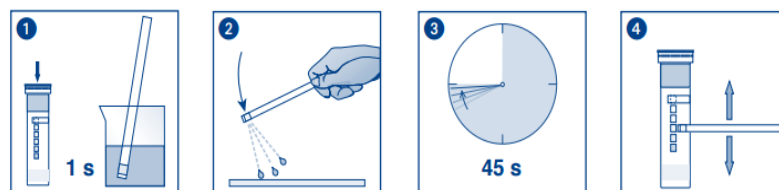
### 3 Mode opératoire

- **Dilute 10x** the alcohol-based handrub with distilled water

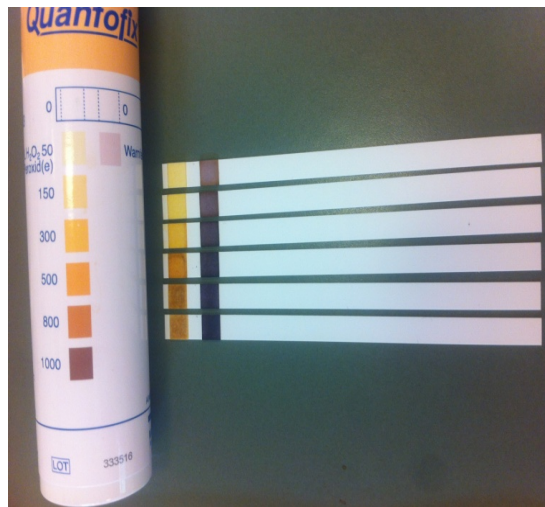
Dilution example:

Place **1mL** of alcohol-based handrub solution in a **10mL** volumetric flask, and fill it up with distilled water. **Shake**.

- **Dip the test strip** with both fields into the diluted solution **during 1 sec** and **shake off excess liquid** for **1-2 seconds**
- **Wait 45 seconds**. (according to the manufacturer's instructions)
- Note the **colours** that appear, depending on concentration of H<sub>2</sub>O<sub>2</sub> on the test strip



Source : Macherey-nagel GmbH & Co



If the warning field just above turns blue/purple during the reaction time of 45 seconds, the hydrogen peroxide concentration is greater than 2000mg/L (outside the measuring range of the test)

Any colouring that appears after the reaction time has elapsed should not be taken into account for the measurement. (On this photo, the blue colour occurred after 4 to 5 minutes, but was not present at the time of the reading).

Calculs :

H<sub>2</sub>O<sub>2</sub> concentration in the stock solution (in mg/L): **C= value read x 10**

H<sub>2</sub>O<sub>2</sub> concentration in the stock solution in %: **C= value read x 0.125 /180**

#### 4 Limites et acceptabilité

This semi-quantitative test does not allow accurate measurements of H<sub>2</sub>O<sub>2</sub> concentration in the solution, but it can be used to **detect major concentration errors** (under or overdosing).

% H <sub>2</sub> O <sub>2</sub>	Quantofix [mg/L]	Meant concentration [mg/L]	Chloride reaction
0.125%	150-300	180	-

Obtaining a **yellow colour similar to the colour corresponding to 150 or 300 mg/L** (and a lack of chloride reaction) does not suggest a major error in the concentration of hydrogen peroxide in the final solution.

#### VII. Résultats

Register the results on the **analysis report** and enclose it with the production report