



Calculating Product Concentrations

Abstract

To ensure optimal cleaning or disinfection it is important that products are used at the dilution ratio specified on the product label. From time to time Public Health or Infection Control may request that the dilution control systems be tested to confirm the products are being diluted appropriately so it is important to know how to calculate Use Dilution concentration. This document reviews the simple formulation to help you achieve proper dilution to ensure Accelerated Hydrogen Peroxide's® (AHP®) maximum efficacy.

Calculating the Concentration:

Calculating the concentration of a product at Use Dilution is very simple. The same calculation can be used for any product regardless of chemistry. In order to calculate the concentration there are few simple conversion factors that need to be kept in mind. First, a concentrate product generally lists the concentration of the active chemistry as a percentage (i.e. 7%), but the test methods used to confirm that the dilution has been completed properly is measured in parts per million (ppm). Therefore, it is important to know how to convert between these two commonly used units.

NOTE: 1% is equal to 10 000ppm.

EXAMPLE: Using a 0.5% and 5000ppm Use Dilution

To convert from % to ppm:
 $0.5 \times 10,000 = 5,000\text{ppm}$

To convert from ppm to %:
 $5,000 / 10,000 = 0.5\%$

In order to calculate the Use Dilution concentration you need to know the concentration of the product prior to dilution and the dilution rate. To calculate the Use Dilution as a % simply divide the dilution rate into the product concentration.

EXAMPLE: Product concentration = 7%

Dilution Rate = 1:64

Therefore, $7 / 64 = 0.11\%$ or 1100ppm

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