



Effect of the Positive Ion nature On the Carbonate Dissolution Efficiency

INTRODUCTION

We analyse the efficiency of carbonate dissolution in water as a function of the nature of the positive ion (potassium K^+ , sodium Na^+ , calcium Ca^{2+}) associated with the carbonate.

Application

All domains

Objective

Study the effect of the nature of the electrolyte on carbonate dissolution efficiency

Device

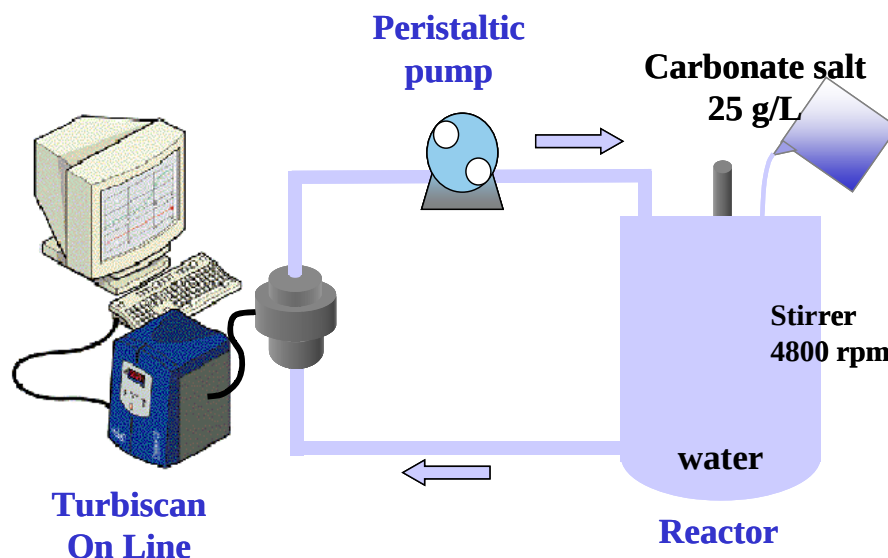
TURBISCAN® ONLINE

METHOD

The concentration for each of them is 25 g/l.

Three experiments were made by introducing the carbonate salt powder in water and by stirring the product with a dissolver disk at 4800 rpm.

The time T_0 corresponds to the moment when we introduced the carbonate powder in the reactor.



The Turbiscan ONLINE monitors the evolution of the transmission light intensity in real time, it is displayed on the indicator and can be analysed (zoom, treatments ...) with the software.

RESULTS

Turbiscan ONLINE measures a transmission increase as a function of time, which corresponds to the clarification of the system (dissolution). On Figure 1, we can compare the solubility of sodium, potassium and calcium carbonate in water.

It allows to draw the λ measurements as a function of time (Figure 2) : the mean path length of photons in the dispersion is increasing (characteristic of particle size decrease: Figure 4).