



Application Note

USD 3050

The Effect of Mixing Speed on Pall® Wand Mixer Efficiency at Small Scale

Mixing system: Pall Wand Mixer

Mixing biocontainer: 75 L Mixer biocontainer

Application mixing type: Powder-liquid

The Pall Wand Mixer is a compact and non-invasive single-use mixing system. The heart of this system is a mixing biocontainer incorporating an innovative top-mounted impeller capable of providing efficient mixing for powder-liquid and liquid-liquid mixing applications. The impeller comprises a rotating wand inside an inert polymer sleeve, and is designed to ensure low particle shedding and total containment while serving effectively in a wide variety of mixing tasks.

Introduction

Powder-liquid mixing is a common requirement in biopharmaceutical processing. In order to optimize mixing efficiency for powder-liquid applications, the Pall Wand Mixer is available with a large, diagonally-mounted helical mixing wand.

In this experiment, a Wand Mixer was used to prepare 15 L of a concentrated salt solution.

Experimental

A 15 L Wand Mixer mixing biocontainer was filled with water, and impeller speed was set to 150 rpm. A quantity of sodium chloride (NaCl) powder was added to the mixing biocontainer, and the solution homogeneity was monitored via real-time conductivity readings.

The entire experiment was repeated using impeller speeds of 200 rpm and 250 rpm.

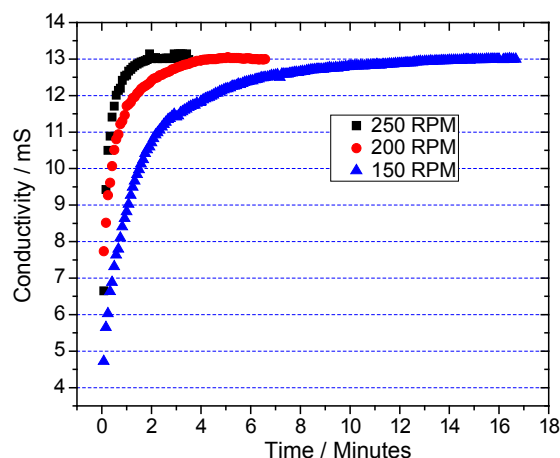


Results

Figure 1 shows solution homogeneity in the biocontainer during mixing; the plateau areas indicate steady state. Impeller speed had a measurable impact on mixing times, which ranged from 2 minutes at 250 rpm up to 15 minutes at 150 rpm.

Figure 1

Shows solution homogeneity in the biocontainer during mixing



Conclusions

The Pall Wand Mixer is well suited to preparation of concentrated salt solutions. A powder-liquid mixing biocontainer, which includes a top-mounted wand impeller, is a good choice for such applications.



Life Sciences

Corporate Headquarters

Port Washington, NY, USA
+1.800.717.7255 toll free (USA)
+1.516.484.5400 phone
biopharm@pall.com e-mail

European Headquarters

Fribourg, Switzerland
+41 (0)26 350 53 00 phone
LifeSciences.EU@pall.com e-mail

Asia-Pacific Headquarters

Singapore
+65 6389 6500 phone
sgcustomerservice@pall.com e-mail

Filtration. Separation. Solution.SM

Visit us on the Web at www.pall.com/mixing

E-mail us at allegro@pall.com

International Offices

Pall Corporation has offices and plants throughout the world in locations such as: Argentina, Australia, Austria, Belgium, Brazil, Canada, China, France, Germany, India, Indonesia, Ireland, Italy, Japan, Korea, Malaysia, Mexico, the Netherlands, New Zealand, Norway, Poland, Puerto Rico, Russia, Singapore, South Africa, Spain, Sweden, Switzerland, Taiwan, Thailand, the United Kingdom, the United States, and Venezuela. Distributors in all major industrial areas of the world. To locate the Pall office or distributor nearest you, visit www.pall.com/contact.

The information provided in this literature was reviewed for accuracy at the time of publication. Product data may be subject to change without notice. For current information consult your local Pall distributor or contact Pall directly.

© 2015, Pall Corporation. Pall and are trademarks of Pall Corporation. ® indicates a trademark registered in the USA and TM indicates a common law trademark. *Filtration.Separation.Solution.* is a service mark of Pall Corporation.

7/15, PDF, GN15.6213

USD3050