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AAPS PHYSICAL PHARMACY  
AND BIOPHARMACEUTICS  
SECTION

# ***Solubility and Solubilization of Drug Substances***

Conducted by Samuel Yalkowsky, Ph.D., Professor of Pharmaceutics, University of Arizona  
Moderated by Ping Gao, Ph.D., Abbott Labs

**Tuesday, March 3, 2009 from 12:30 pm to 2:00 pm EST**

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## **About the Webinar:**

The aim of this course is to provide a working knowledge of the various means of controlling the solubility and dissolution rate of a drug or other solute in an aqueous medium. While solubility and solubilization will be approached from both a conceptual and a practical point of view, emphasis will be placed upon the latter. Developing an understanding of the factors that govern solubility and the enhancement of solubility and dissolution rate using pH buffers, cosolvents, surfactants, and complexing agents.

Each section is designed to provide the participants with a practical "how to" knowledge of the improvement of aqueous solubility. We will also cover the use of combinations of solubilizing agents. Several case studies will be used to illustrate the interrelationships among the various means of solubilization.

## **The goals and objectives of this PPB-sponsored webinar are:**

1. To educate the audience with the principles of solubilization of poorly water soluble drugs and its impact on drug product development.
2. To collaborate with and support other AAPS sections, focus groups, and other professional/scientific organizations.

## **About the Presenter:**



Samuel Yalkowsky received his BS in pharmacy from Columbia University in 1965, and his PhD in pharmaceutical chemistry from the University of Michigan in 1969. He was associated with The Upjohn Company from 1969 until 1982 when he joined the faculty of the University of Arizona.

Dr. Yalkowsky is currently involved in basic research on the relationships between chemical structure and physical phenomena such as solubility, partitioning, and melting. He has developed the state of the art algorithm for the estimation

of the aqueous solubility of organic compounds. He has also made great progress in the development of an algorithm for the estimation of the melting points of organic compounds.

He is also involved in the alteration of solubility by physical means. This includes the development of formulations for insoluble drugs and the improved dissolution of environmentally important solutes from the soil. The formulation work was extended to include the development of novel dosage forms and the pharmaceutical evaluation of parenteral formulations. This has led to the development of novel methods for screening for hemolysis and for phlebitis.

His work has led to over two hundred scientific publications and patents and three books. His most recent book "Solubility and Solubilization in Aqueous Media" ACS-Oxford, was published in 1999. He is editor in chief of the [AQUASOL dATABASE](#) of aqueous solubility data for organic compounds.

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