

# Risk of illness in stabilized chlorine pools

Richard A Falk

*Member, Chlorine Stabilizers CMAHC Ad-Hoc Committee*



Richard Falk has been deeply engaged in the areas of pool and spa water chemistry for over 16 years. His deep analysis of the chlorine / cyanuric acid relationship has been helping the U.S. Council for the Model Aquatic Health Code (CMAHC) develop scientifically sound principles for regulating Free Chlorine and Cyanuric Acid. He is a member of the Chlorine Stabilizers Ad-Hoc Committee of the CMAHC and the lead author of the committee's peer-reviewed published paper "Assessing the Impact of Cyanuric Acid on Bather's Risk of Gastrointestinal Illness at Swimming Pools".

## **Presentation Abstract**

The use of cyanuric acid (CYA) and stabilized chlorine in swimming pools and its effects on disinfection have been an industry topic for many years, but a comprehensive peer-reviewed paper combining the complex chemistry of the chlorinated cyanurates with effects on disinfection and modelling the risk of illness was only published in 2019. This session will describe the specific effects of cyanuric acid on the hypochlorous acid (HOCl) level, on disinfection rates for various pathogens including SARS-CoV-2, and on the risk of illness from both regular fecal sloughing and from an accidental fecal release (AFR).

You will learn how a simple ratio between measured chlorine and CYA can be used to create regulations limiting risk at a consistent level. Practical limitations to hyperchlorination in the presence of CYA will be discussed. The session will briefly cover the interaction between multiple systems reducing pathogens including filtration/coagulation, secondary disinfection systems, and chlorine.