

20 years of Experience Using Persulfate in Remediating Soil and Groundwater – Do's and Don'ts

Jean Pare, CHEMCO

This presentation revisits 20 years of learning and optimizing the use of persulfate for the chemical oxidation of organic contamination in both soil and GW. We will cover the different evolution that the technology has gone through to make it more effective and applicable in a broader range of soil and GW remediation application.

In the first part of the presentation, we will revise how to select the proper activation mechanism and touch how to apply the persulfate in Na and high SAR (Sodium Adsorption Ratio) aquifer.

The presentation will then cover evolution of the technology and its use in

- Combining In situ soil stabilization with In situ chemical oxidation
- Low solubility Oxidant used as Permeable Reactive Barrier (PRB) Media
- Combining In Situ Chemical Oxidation and Bioremediation

Each of these evolution will be illustrated by complete case studies to help determine the application range for the type of contaminant and geology they can be used in.

Conclusions in the form of Do's and Don'ts will close the presentation and guide the potential user to understand technology limitations in specific site conditions.

Jean Pare

Jean Pare, P.Eng., has a degree in Chemical Engineering from Laval University. He has been involved for the last 28 years in the evaluation, development, design, and promotion of both conventional and innovative environmental technologies. As Vice President with Chemco Inc., his responsibilities include the remediation design, techno-economical analysis and technology supply for chemical oxidation and reduction, soil washing, and enhanced bioremediation. Last year, he worked with over 400 sites applying his expertise to various types of organic and inorganic contaminants in soil and groundwater. He is also involved with many environmental organizations such as CLRA, CBN, ESAA, BCEIA and Réseau-Environnement where he is an active technical committee member and regular technical speaker.