

# WILCLEAR®

## LACTATE CONCENTRATE

### PROVEN ELECTRON DONOR EFFICIENCY AND DECHLORINATION KINETICS AT A LOW COST

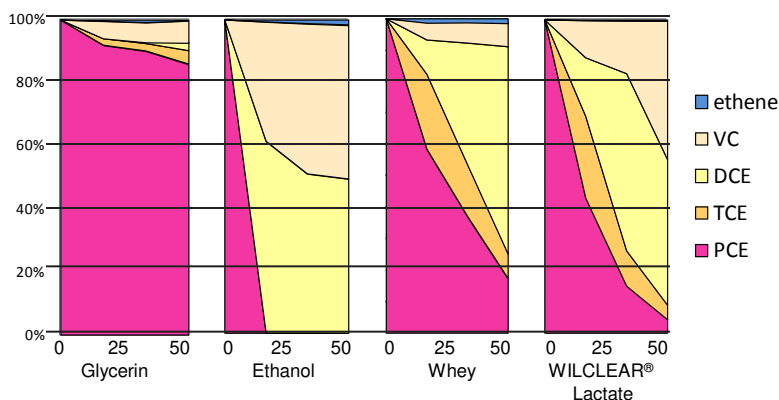
WILCLEAR® is a food grade 60% sodium or potassium lactate solution that has been deployed at U.S. Department of Energy sites and military installations, Superfund sites, mining sites, Brownfields, industrial sites, private chemical plants, and dry cleaners across North America and Europe. To date, WILCLEAR® has been used on over 250 projects in nearly every state in the US, including Hawaii and Alaska.

#### BENEFITS OF WILCLEAR®

- Provides carbon for rapid establishment of anaerobic conditions needed for reduction of nitrate, hexavalent chromium, perchlorate, and RDX.
- Miscibility in water and low viscosity allow for advective transport with groundwater; enhancing subsurface distribution and minimizing the number of injection points.
- Effective for both dissolved phase and DNAPL source area treatment.

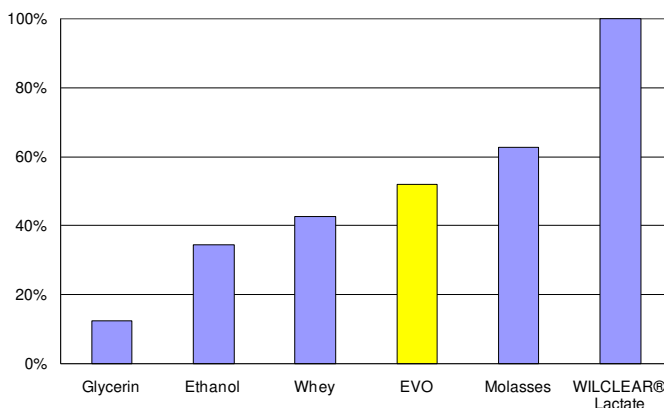
#### RAPID DECHLORINATION KINETICS

Microcosm studies comparing WILCLEAR® to other soluble donors show that while all four donors stimulate complete dechlorination of PCE to ethene, WILCLEAR® and ethanol have the fastest dechlorination kinetics.



#### GREATER DONOR EFFICIENCY

Efficiency (amount of contaminant remediated per unit donor added) should be considered when determining donor cost performance. Of the three donors that show both complete dechlorination and reasonable remediation rates, lactate has the best efficiency.



#### TYPICAL PROPERTIES

- WILCLEAR® sodium lactate (% wt/wt): 60 ± 1.2
- pH: 7 ± 1.0
- Viscosity: 110cP at 20°C
- Specific gravity: 1.32 – 1.35
- Soluble in water
- Color: clear to light straw



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