

RESERVOIR STIMULATION

CleanSure™ Chlorine Dioxide Service

Eradicates sulfate-reducing bacteria quickly, economically, and with minimal residuals



Weatherford®

Reduce production risks at a lower cost.

Induced bacterial action during fracturing is a major source of post-stimulation production slow-downs. Sulfate-reducing bacteria (SRB)—which cause corrosion, scaling, sour gas, and loss of permeability—are especially harmful.

To get your production back on track, you need an efficient, cost-effective solution. Our CleanSure chlorine dioxide (ClO_2) service kills active and dormant bacteria upon contact with less than 1.0 ppm of residual ClO_2 . Because ClO_2 is more powerful than conventional biocides, it is effective in smaller amounts and lower concentrations. By using fewer chemicals to achieve the desired result, you can reduce both the cost and the pH impact of your stimulation operations.

Mitigate the risks of sour gas and corrosion

ClO_2 oxidizes iron, manganese, phenols, sulfide, and solid-soluble particles to help prevent formation damage. Without sulfides, the risks of sour gas and corrosion are greatly reduced.

Achieve better outcomes in less time

Unlike more traditional biocides, which require greater residence time for full efficacy, ClO_2 works instantly. In addition to quickly destroying aerobic and anaerobic bacteria, our CleanSure ClO_2 service oxidizes damaging contaminants including sulfides, manganese, phenols, and iron. Eliminating these materials increases formation permeability and wettability for the remaining life of your well.

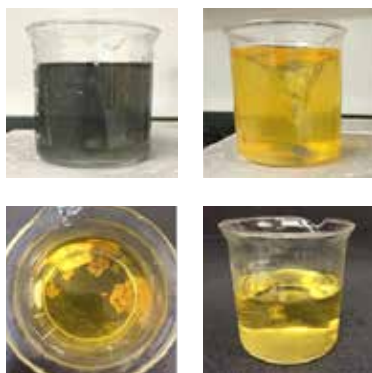
Minimize environmental impact

ClO_2 is recognized as a safe and effective biocide by the U.S. Environmental Protection Agency (EPA). It decomposes to water and salt, does not react to ammonia and most organics, and has minimal impact on the pH of fracturing fluids.



SAVE ~\$40,000 PER OPERATION

by using fewer chemicals
and less equipment,
requiring fewer treatments,
and saving time



The ClO₂ Advantage

- Lower cost per kill compared to conventional biocides
- Limited residuals and minimal pH impact
- Reduced risk of corrosion, souring, and other conditions that threaten production
- Instant and lasting results in diverse well environments

Reliable, integrated services from a trusted provider

Our CleanSure ClO₂ service is just one part of our FracSure® fluid systems portfolio. By using Weatherford for both pressure pumping and ClO₂ services, you gain coordinated treatment, cost savings, and the convenience of working with a single provider.

All of our fluid systems meet rigorous quality-assurance standards, which include pre-job testing and continuous monitoring performed by trained technicians using best-in-class equipment.

Efficiently eliminate damaging bacteria with the Weatherford CleanSure chlorine dioxide (ClO₂) service. For more information about our produced water/flowback fluid systems, contact us at **watersure@weatherford.com** or visit **weatherford.com**



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