

# Nature's own biocide.

**UNIVERSAL**  
**BACTERIA**   
SPECIALIST



## A safer biocide for the oilfield

Bacteria contamination during hydraulic fracturing or squeeze treatments can cause costly problems for oil and gas producers – impeding production, slowing operations and increasing risk. But traditional disinfection chemicals can be expensive, toxic and hazardous to transport and store.

ENVIROLYTE anolyte biocide from Universal Bacteria Specialist changes all that – giving producers a safe, biodegradable and highly effective way to control bacteria in a range of oilfield applications.



Sulphate-reducing bacteria in injection water can produce  $H_2S$ , which is highly corrosive to pipelines, reduces the market value of oil, and can be a health hazard to personnel.

### Bacteria:

#### What harm can they do?

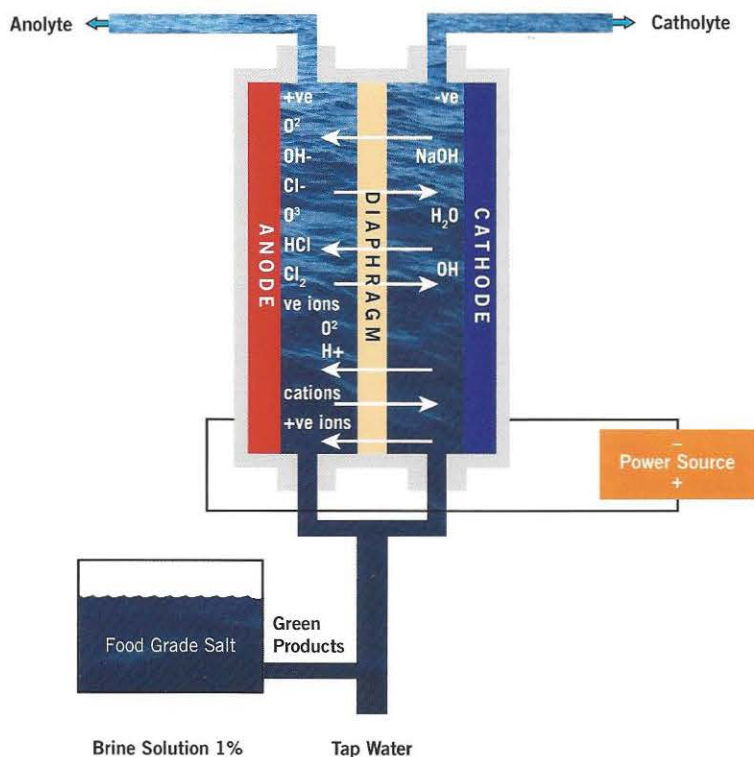
- Form  $H_2S$  and biofilm, causing corrosion and safety issues
- Cause reservoir souring, fouling and permeability damage
- Degrade frac gel and impede stimulation activities
- Cause catastrophic failure of wellbores and production facilities
- Foul and corrode water disposal and waterflood system
- Corrode surface pipelines, process equipment and storage tanks

### Ideal for

- Hydraulic fracturing
- Storage tank sterilization
- Controlling  $H_2S$  in sour production wells
- Waterflood injection water
- Protecting production equipment
- Disposal wells

# Start a smarter, greener biocide program now.

Learn more at:  
[www.universalbacteria.com](http://www.universalbacteria.com)



## ENVIROLYTE manufacturing process

Our ENVIROLYTE process uses a patented cell membrane to convert H<sub>2</sub>O and NaCl into anolyte and catholyte components.

The resulting hypochlorous acid anolyte biocide is 100% biodegradable, reverting to harmless salt and water.

## The cleaner, simpler answer

- Non-toxic and 100% biodegradable, ENVIROLYTE leaves no ecological damage to well sites or water tables
- Chemical residue free
- No special handling requirements – it's transported to site in totes
- Powerful and fast-acting
- Commercially competitive
- Six-month shelf life eliminates on-site biocide manufacturing – saving space and time
- EPA registration number 87636-2
- 1,450 ppm of free available chlorine and neutral 6.5 pH

## Enhance production and performance

- Clears wells of downhole microorganisms, killing the bacteria and removing the restrictive biomass
- Manages bacteria in frac water, protecting fracturing fluids and gels
- Reduces scale and slime build-up from pipes, and cooling water systems can be kept free of biomass, improving heat exchange values and eliminating microbial-induced corrosion
- Produced water may be treated before being reused in stimulation fluids or waterfloods

## Safe for people. Good for production.

Based on a patented process, the active ingredient in ENVIROLYTE is Hypochlorous Acid (HOCl), the same chemical produced by infection-fighting white blood cells in the human body.