

## Production Chemicals

# Well preservation for extended shut-in periods

Mitigate risks and ensure asset integrity with specialty chemicals and application expertise

## Overview

Halliburton Multi-Chem collaborates with customers through all market cycles, including assisting operators in preserving wells during extended shut-in periods when production is not economically viable.

## Challenges

When a well is shut in, conditions shift from flowing to stagnant, leading to dynamic system changes and an increased risk of asset damage. The specific risks faced

by an individual well or facility depend largely on the production conditions. These risks can be exacerbated during the shut-in period. Challenges include:

- Increased corrosion rates
- Proliferation of sulfate-reducing bacteria (SRB) and acid-producing bacteria (APB) in stagnant systems
- Solids precipitation, corrosion byproducts, scale deposition, and microbial activity

RISK POTENTIAL	CHEMICAL CONSIDERATION	PURPOSE
Corrosion/degradation of downhole equipment during shut-in period	Corrosion inhibitors	<ul style="list-style-type: none"><li>▪ Help maintain the value of downhole assets in potentially corrosive environments</li><li>▪ Reduce the risk of problems during Return To Production (RTP) due to corrosion failure</li></ul>
Bacteria growth in fluid column during shut-in period	Biocides	<ul style="list-style-type: none"><li>▪ Minimize the growth of bacterial populations in water</li><li>▪ Reduce the potential for biofilm formation and acid gas creation</li><li>▪ Reduce the potential for microbial induced corrosion (MIC)</li><li>▪ Help reduce the potential for FeS formation and deposition</li></ul>
Water chemistry potentials for scale deposition and sand/solids settling from fluid columns	Scale inhibitors	<ul style="list-style-type: none"><li>▪ Minimize the potential for scale deposition during the shut-in period</li><li>▪ Reduce the risk of problems during RTP due to scale deposition in pumps</li></ul>
Sand/solids settling from fluid columns	Mechanical/well circulation	<ul style="list-style-type: none"><li>▪ Help reduce the risk of problems during RTP due to solids stacking in downhole components</li></ul>

For more information, contact your local Halliburton representative or visit us on the web at [www.halliburton.com](http://www.halliburton.com)

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