

Long-Term Crude Storage

EXTENDED STORAGE OF CRUDE OIL IN TANKS PRESENTS DESTABILIZATION, MICROBIAL, AND CORROSION CHALLENGES THAT CAN BE MITIGATED WITH SPECIALTY CHEMICALS AND APPLICATION EXPERTISE

OVERVIEW

When demand for crude oil is low and there is an excess of production in the market, Multi-Chem, a Halliburton Service, can help producers evaluate and prepare for the risks of long-term storage in tanks.

There are several considerations factoring into the decision to store oil for extended periods. This includes, among other risks, preventing oil souring, solids accumulation, and interface/surface solidification, while preventing cost challenges when production systems restart.

CHALLENGES AND SOLUTIONS

Extended storage of crude oil, condensate, and crude-water mixtures can present substantial challenges that vary in severity from basin to basin, length of storage time, and type of storage tank. Challenges include:

- » Crude oil destabilization
 - » Loss of volatile light ends can destabilize high molecular weight hydrocarbons such as paraffin (wax) and asphaltenes, which can result in pumping and meeting sales specifications
- » Microbial growth
 - » Even in presumably dry oil, entrained water provides a sufficient environment for bacterial activity, as does condensation of environmental humidity
 - » Microbe metabolites can lead to serious issues with solids, H₂S generation, corrosion, and emulsion formation
- » Corrosion in tanks and lines
 - » Uncoated, lined, and coated tanks are susceptible to failure due to corrosion

Contact Multi-Chem for a specialty chemicals program that maximizes the value of your assets.

Risk Potential	Chemical Consideration	Purpose
Destabilization of paraffinic crudes	Paraffin Dispersants	<ul style="list-style-type: none"> » Help maintain stability of oil by keeping the paraffinic hydrocarbons dispersed throughout the oil phase » Reduce sludge accumulation due to deposition of solid agglomerated paraffin
Destabilization of asphaltenes in asphaltic crudes	Asphaltene Dispersants	<ul style="list-style-type: none"> » Help maintain stability of oil by keeping the larger asphaltic hydrocarbons dispersed throughout the oil phase » Reduce sludge accumulation due to deposition of solid agglomerated asphaltenes
Microbial growth in water phase and entrained water	Biocides	<ul style="list-style-type: none"> » Minimize the growth of bacterial populations in water » Reduce potential of H₂S production and oil fouling » Reduce potential of biofilm formation/deposition in tank bottoms
Corrosion or degradation of unlined and lined storage vessels	Corrosion Inhibitors	<ul style="list-style-type: none"> » Provide protection against the potential corrosion of at-risk assets in storage facilities » Reduce the risk of environmental releases due to asset failure

For a specialty chemicals treatment program characterized by superior service and chemical application expertise that maximizes the value of your assets, contact us at multichem@halliburton.com

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