

Case Study

SulfaGuard 3569P H₂S Scavenger



Coastal Chemical's client increased production from 70 MMCF to 500 MMCF over a period of 60 days into their system. H₂S raw increased from 26 ppm to 200 ppm at gathering facilities with individual well ranges from 6 ppm to 800 ppm. As H₂S scavenger costs increased, UltraFab units became the most economical solution. After starting the second of four UltraFabs, due to solids forming using a standard Triazine scavenger, it was determined that a new chemistry would need to be applied.



PROBLEM IDENTITY

These issues were attributed to two factors:

- Temperature: Low temperature caused scavenger to gel
- Condensate carry over into the UltraFab: Condensate would mix with scavenger, when the dump would open, and depressurized scavenger precipitated solids.



SOLUTION

It was decided to utilize SulfaGuard 3659P to address the following issues:

- Prevent solid formation in disposal tank
- Reduce downtime and maintenance costs
- Improve efficiency and decrease scavenger costs



BENEFITS

- Solids no longer formed in the disposal tank and associated piping cutting out downtime and maintenance for that unit.
- Rates decreased by 100 GPD on both units.
- Scavenger costs decreased due to increased efficiency of the UltraFab up to 25%, allowing us to cut usage at gathering facilities up to 50%.

25%

**COST
SAVINGS**

50%

**REDUCTION
IN USAGE**

ZERO

**SOLIDS
FORMED**

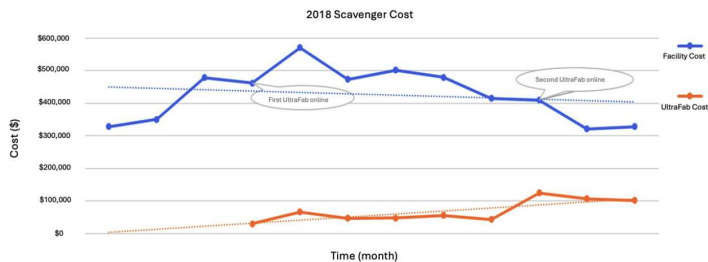
COASTAL CHEMICAL SOLUTION

LAB TESTING

1. Product is measured and placed in the testing container.
2. Nitrogen carrying H_2S is bubbled through the product being tested.
3. Treatment is continued until H_2S is no longer consumed by the product and H_2S is carried over to the indicator container.
4. Reagents consumed are measured.
5. H_2S uptake of the product is calculated out to reported values.

FIELD TRIAL

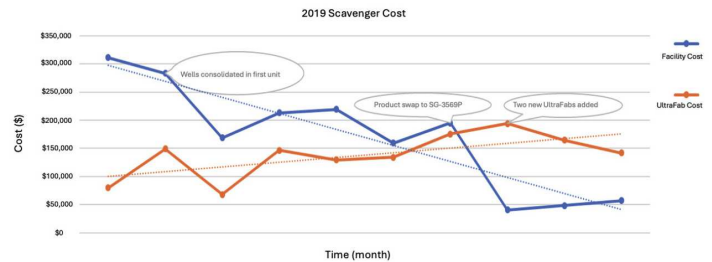
- SulfaGuard 3569P was selected and applied in two locations, after cleaning out the UltraFab units.
- Solids no longer formed in the disposal tank and associated piping, cutting out downtime and maintenance for that unit.
- Rates decreased by 100 GPD on both units.
- Scavenger costs decreased due to increased efficiency of the UltraFab up to 25%, allowing us to cut usage at gathering facilities up to 50%.



LAB RESULTS

Product	H ₂ S Scavenged (mol/gal)	H ₂ S Scavenged (lbs/gal)	Solid Formation at H ₂ S Scavenged (mol/gal)	Solid Formation at H ₂ S Scavenged (lbs./gal)	Notes on Solid Formation
SG-3569P	36.3	2.73	101.57	7.63	Light haziness settling at an interface of two layers

Testing shows the SG-3569P to be highly effective in the removal of H_2S . Product shows a resistance to solid formation, with nearly double the H_2S being sparged into the product that was required for breakthrough before turbidity was seen. On cooling after reaching the turbidity endpoint, which often identifies when adverse reactions such as solid formation, two layers broke out of the sample. At the interface of the layer was a soft haziness which was assumed to be slight precipitate from formation of solids. These solids/haziness flow well and are easily dispersed with mild agitation. It would not be expected to see issues from solids, as the perceived haziness are soft and not likely to settle significantly due to agitation.



CONCLUSION

SulfaGuard 3569P is part of Coastal Chemical's patented products. It gives us the ability to treat sour gas without the worry of building solids in equipment and piping, which reduces downtime, raises efficiencies, thus lowering cost. These non-solids forming products are of a suite designed for contact towers as well as direct injection.



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