

CASE STUDY

REPLACEMENT OF MEA-TRIAZINE AT AN EAGLE FORD COLLECTION TERMINAL USING NON-AMINE H₂S SCAVENGER PRO-3

Additive Direct Services and Q2 Technologies; a former subsidiary of Quaker Chemical which developed the MEA-Triazine scavengers used world-wide today, have brought to the market the Pro-3 series of non-amine H₂S scavengers. The Pro-3 series is the *next generation* of scavengers replacing MEA-Triazine in liquid hydrocarbon streams.

The Pro-3 series is the result of a need to reduce fouling created by amine based scavengers in refineries, production streams and crude oil terminals while improving H₂S removal performance compared to that of MEA-Triazine.

CHALLENGES

- Two 100,000 barrel inland collection crude oil storage tanks were being injected with up to 500 GPD of 40% MEA-Triazine.
- Approximately 150 trucks unloaded daily at the terminal with H₂S levels ranging from 30 ppmv to 25,000 ppmv.
- A high level of H₂S in collection tanks was still observed after triazine injection and required the customer to have expensive independent H₂S monitoring done followed up with additional treatment and delays.

TAKE-AWAYS:

- >\$35k per month chemical savings
- Deliveries cut by 75%
- Chemical use cut by 80%

SOLUTION

- Pro-3 was recommended to substitute 40% MEA-Triazine scavenger and to reduce chemical cost and logistics.
- An injection system consisting of a single 6,000 gallon ISO tank with automated pumps replaced a system of 5 individual tote tanks being used to inject 40% MEA-Triazine.

RESULTS:

Storage Tank H₂S level using MEA-Triazine: >10 ppmv
 Storage Tank H₂S level using Pro-3: <1 ppmv

- Approximately 3 million barrels of EFL/EFR/WTI are treated monthly with the Pro-3 series.
- Chemical consumption was cut by 80% compared to the 40% MEA-triazine resulting in:
 - Deliveries cut by 75% translating into increased personnel productivity
 - \$35,000 per month reduction in chemical cost ^{*will vary on application requirements}
- The need for H₂S monitoring personnel was eliminated resulting in additional savings. Spot checks and daily electronic monitoring are now sufficient to maintain a safe environment.
- On-site bulk storage of chemical resulted in reduced logistics and freight costs.