

CASE STUDY

REDUCTION OF MERCAPTANS IN CRUDE OIL BLENDS & FEEDSTOCKS USING NON AMINE MERCAPTAN SCAVENGER PRO-M

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-M series of non-amine Mercaptan scavengers. The Pro-M series is the *next generation* of scavengers replacing MEA-Triazine in liquid hydrocarbon streams.

The Pro-M 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 mercaptan removal performance compared to that of MEA-Triazine.

CHALLENGES

- A 50,000 bpd condensate splitter was facing fouling issues from MEA-Triazine.
- High volumes of MEA-Triazine failed to reach crude oil mercaptan specification.
- The terminal was required to blend down various types of crude oil from different storage tanks to achieve a mercaptan specification ranging from 2-5 ppm.

SOLUTION

- Pro-M was recommended to meet mercaptan specifications at the terminal, reduce amount of blending required and reduce fouling and corrosion problems at neighboring condensate splitters.
- Extensive laboratory testing with different blends of EFL/EFR/WTI indicated that the Pro-M could meet required mercaptan specification of a variety of condensate blends.
- A dual pump on-site injection system and chemical bulk storage with 24/7 support staff allowed for treatment of large volumes of crude oil on demand.

RESULTS

Pre-Treatment Mercaptan level: 10 - 30 ppm per UOP-163/D-3227
Post-Treatment Mercaptan level: <2 ppm

- Condensate splitter feedstock of up to 1.5 millions barrels per month was treated to reduce mercaptan levels and meet specification.

TAKE-AWAYS:

- Pro-M chemistry allowed customer to meet mercaptan specifications that MEA-Triazine was unable to reach.