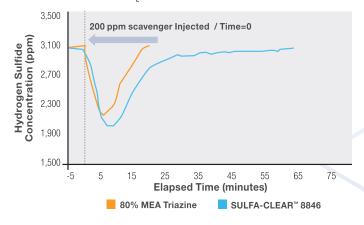


High Performing, Low Nitrogen Content H,S Scavenger

Hydrogen sulfide (H_2S) is a toxic, corrosive gas that's encountered in the oil and gas industry. H_2S is soluble in both water and hydrocarbon and thus an optimal scavenger needs to scavenge H_2S from both. Operators are faced with several major issues when producing oil and gas containing H_2S including HSE and regulatory concerns, along with multiple operational issues. A variety of products are available for the removal of H_2S from gas and crude oil streams, the most common being triazine based H_2S scavengers.

Lubrizol's SULFA-CLEAR™ 8846 hydrogen sulfide scavenger offers our customers a fast acting, higher efficiency alternative to conventional triazine. SULFA-CLEAR 8846 reduces many process issues associated with conventional triazine, increases crude value by minimizing nitrogen contamination, decreases transportation cost with lower dosage rates and exhibits a better environmental profile.

Laboratory Bubble Test Results Figure 1: H₂S Scavenger Capacity Testing Plot



The Lubrizol Corporation www.lubrizol.com

Lubrizol

Features and Benefits

- SULFA-CLEAR 8846 is more efficient than traditional triazine products
- > SULFA-CLEAR 8846 reaction kinetics are comparable to triazine products
- > SULFA-CLEAR 8846 has a low nitrogen content, limiting crude contamination
- > H₂S reaction products are water soluble with no precipitation observed by oversaturation
- > Limited to no precipitation of calcium scale has been observed with SULFA-CLEAR 8846 due to the oil soluble nature of the product
- > SULFA-CLEAR 8846 can be applied without dilution

Laboratory Bubble Test Results Figure 2: H,S Scavenger Capacity Testing Table

H ₂ S Scavenger	Maximum H ₂ S Reduction (ppm)	Total H ₂ S Consumption (ppm-cc)
80% MEA Triazine	922	705,600
SULFA-CLEAR™ 8846	1,054	1,259,175

Experiments performed at ambient pressure and 25 °C with a target flow rate of 75 cc/minute and scavenger concentration of 200 ppm.