

SULFIX PPA-resistant H₂S scavenger program for asphalt

Mitigate hydrogen sulfide regeneration during production and blending

The chemical binders used in asphalt manufacturing are often modified using a variety of techniques to improve their properties and performance, enabling terminal operators to enhance the value of asphalt products. In North America particularly, binders such as polyphosphoric acid (PPA) have been used for many years. During asphalt refining, hydrogen sulfide (H₂S) levels can be a serious HSE concern, requiring a H₂S scavenger program to help mitigate the risk. However, mixing a PPA modifier into the scavenged asphalt product can pose an additional threat as it can trigger the regeneration of H₂S. The resulting reaction can significantly increase HSE hazards and operational risks if not properly treated.

This issue has become a growing concern for asphalt terminal operators, as current treatment programs are unable to prevent PPA-based H₂S regeneration at economical dosage rates. To help find a safer solution, Baker Hughes developed the **SULFIX™ PPA-resistant hydrogen sulfide scavenger program**. This program helps mitigate H₂S released from asphalt and bitumen products while

resisting H₂S reversion caused by PPA modification. The SULFIX PPA-resistant H₂S hydrogen sulfide scavenger can be injected during the asphalt modification process at the terminal or, alternatively, can be added to asphalt during the production process. The reaction of the SULFIX PPA-resistant scavenger with H₂S is fast and irreversible under standard asphalt manufacturing conditions and resistant to H₂S regeneration under PPA-modified conditions.

The scavenger is an ideal treatment for applications that require immediate H₂S reduction or where retreatment of asphalt after PPA modification is not economical. Treating the asphalt with the SULFIX PPA-resistant scavenger program helps minimize your safety risks while also protecting downstream transportation and storage equipment from H₂S-induced corrosion, offering you additional economic benefits.

Contact your Baker Hughes representative to learn how a SULFIX PPA-resistant scavenger program can help you reduce HSE and operational concerns when blending asphalt with polyphosphoric acid.

Applications

- Asphalt terminals
- Asphalt production modification facilities

Benefits

- Reduce employee safety risks, comply with environmental regulations, and minimizes related CAPEX with properly chemical treatment and application
- Lessen mitigation logistics and cost with a single treatment solution
- Decrease emissions, odor, and corrosion caused by H₂S
- Stabilizes asphalt quality due to metal-based scavenger technology program