

FULLSWEET mixed production hydrogen sulfide scavenger

Eliminate H₂S downhole and topside without solids, emulsion, or scale

Applications

- Sour mixed production environments
- Sour wet oil

Features and Benefits

- Decreases CAPEX by eliminating the need for a sweetening tower
- Lowers OPEX by minimizing secondary effects
 - Produces no solid deposits or scale
 - Removes downstream impacts and crude penalties
 - Creates no emulsification
 - Reduces corrosion
- Lessens the amount of chemical consumption
 - Simplifies logistics
- Features low pour point
 - Tolerates cold weather conditions
- Improves reliability

Baker Hughes has produced a first-of-its-kind mixed production hydrogen sulfide (H₂S) scavenger, capable of eliminating H₂S from mixed production environments without scale, corrosion, solid reaction product, or emulsion. It is less harmful, more economical, and more efficient than current offerings.

H₂S is dangerous, toxic, and corrosive, and occurs naturally in crude oil. To comply with environmental and safety regulatory policies, it must be removed prior to transporting from drilling sites to storage tanks. The need for an effective H₂S scavenger in mixed production is essential because H₂S-related issues are increasing globally.

Efficient and Economical

FULLSWEET™ mixed production H₂S scavenger is effective in mixed production systems that are difficult to treat, systems with low or high system temperatures, and systems with a high percentage of water. It reliably removes H₂S downhole and topside by surface treatment at the wellhead. There is no need for the extra step of fluid separation for this single-phase treatment, thereby eliminating the need for a tower, reducing CAPEX.

FULLSWEET H₂S scavenger minimizes the following secondary effects:

- Solid deposits
- Emulsification
- Scaling
- Corrosion

FULLSWEET H₂S scavenger creates no solid reaction products, eliminating the need for a coinjection of demulsifier, removing the effect of solid reaction product with H₂S. Effective in high TDS-brine systems, FULLSWEET H₂S scavenger does not have a high pH like triazines; therefore, FULLSWEET does not produce scale and is partitioning in water and oil, but it will not rehydrate dry oil and gas systems because it does not contain water. FULLSWEET H₂S scavenger virtually eliminates sour corrosion, which ultimately results in the use of less-expensive, corrosion-resistant alloys. FULLSWEET H₂S scavenger does not produce reaction products, which results in increased corrosion in refinery processes.

Typical properties

Appearance	Clear to light yellow liquid
pH	8.8
Flash point, closed cup (SFCC)	194°F (90°C)
Specific gravity at 60°F (15.6°C)	1.1279
Typical density at 60°F (15.6°C)	9.3954 lbm/US gal (1,126 kg/m ³)
Viscosity at 60°F (15.6°C)	69 cP
Pour point	<-45°F (<-42.778°C)

There is a limited time for a scavenger to react with H₂S, so faster reaction kinetics is key toward efficiency. The FULLSWEET product has higher H₂S removal capacity, thereby requiring a smaller amount of scavenger to deliver in-spec oil and gas. FULLSWEET scavenger's performance is not significantly impacted in systems ranging from high produced water to 100% oil.

FULLSWEET is gas lift as well as capillary-approved to 350°F (177°C).

Typical product consumption is 0.8 to 1 gal/lb (7 to 9 L/kg) of H₂S to be removed, depending on system conditions.

Materials compatibility

Suitable

Metals: Admiralty brass (product may turn blue upon contact), aluminum, mild steel, 304 stainless steel, 316 stainless steel

Plastics: HD polyethylene, HD polypropylene, TEFLON®, PVC

Elastomers: Buna N, VITON®

Not suitable

Metals: Copper

Plastics: Linear polyethylene

Elastomers: Neoprene, CSM, EPDM

Materials suitability is based on analysis of test results obtained under specified laboratory conditions. All materials selection should be based on actual application. Testing results for materials will be made available on request.

Compliant

Downstream and health, safety, and environmental impacts are lessened. High levels of H₂S can result in hazardous and operational concerns; therefore, proper and swift treatment of H₂S will improve safety, environmental compliance, quality, and efficiency. By eliminating H₂S from the sour crude downhole before H₂S reaches the surface, government and safety regulations are met and liability concerns are eradicated.

Contact your local representative today to learn more about how FULLSWEET H₂S scavenger can eliminate H₂S from mixed production environments, produce faster run times, and help you provide a safer, reliable, and cost-effective H₂S management solution.

