

BIODRILL GREENSCAV FE / FEQ

A sustainable H₂S Scavenger for the oil & gas industry



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Borregaard's GreenScav Fe and GreenScav FeQ are water-soluble Fe complexes used for scavenging H₂S in brine and fresh-water systems.

BioDrill GreenScav Fe and GreenScav FeQ combine Fe(II) with lignosulfonate to provide an efficient H₂S scavenger that also aids in dispersion of solids. GreenScav Fe and GreenScav FeQ are effective over a wide pH range including under acidic conditions and is supplied in a powder form that easily dissolves in water.

APPLICATION

Iron-based scavengers function by reacting with H₂S to form insoluble iron sulfide. When iron is combined with lignosulfonate, the availability of metal to scavenge H₂S is improved, resulting in faster kinetics and higher efficiency compared to standard iron-based products like iron oxide and ferrous gluconate. GreenScav Fe and GreenScav FeQ powder can be used to prepare a 12 wt% to 35 wt% solution in water.

RECOMMENDED DOSAGE

GreenScav Fe: one pound per barrel
(1 lb/bbl or 2.85 kg/m³) for 190 mg/L H₂S

GreenScav FeQ: one pound per barrel
(1 lb/bbl or 2.85 kg/m³) for 160 mg/L H₂S

MAIN BENEFITS

- Water-soluble
- Especially suited in locations where use and disposal of heavy metals like zinc is restricted
- Built-in dispersing and mud thinning capability
- Corrosion protection properties
- Does not cause scaling
- Scavenges more H₂S than Fe(II) gluconate at theoretical required dosage

H₂S SCAVENGING PERFORMANCE

Scavenging tests were conducted in a sealed test vessel containing synthetic brine at pH 6 and 55°C. The scavenging was monitored at regular time intervals using a Garret gas train.

GreenScav Fe has greater scavenging efficiency than ferrous gluconate for the same scavenger dosage (1.5 kg/m³). GreenScav FeQ exhibits rapid kinetics compared to both ferrous gluconate and GreenScav Fe. A higher dosage of GreenScav FeQ (1.8 kg/m³) was used in experiment to account for slightly lower Fe content in the product compared to GreenScav Fe (figure 1)

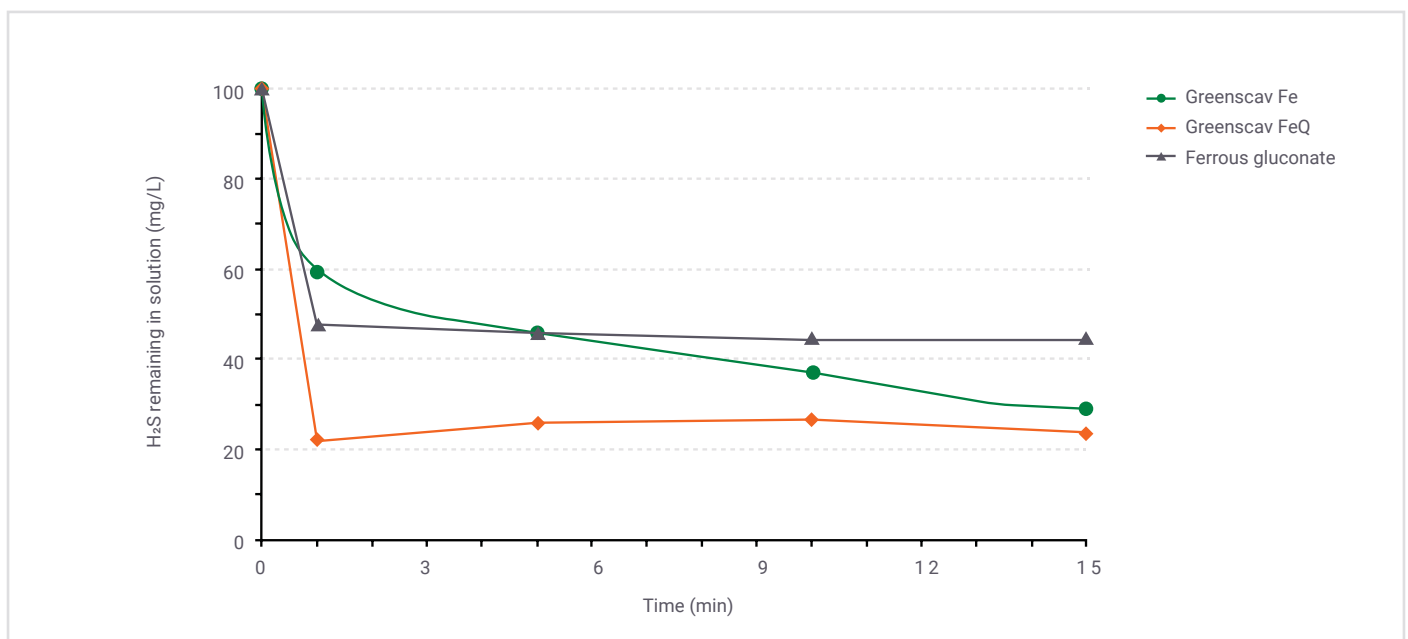
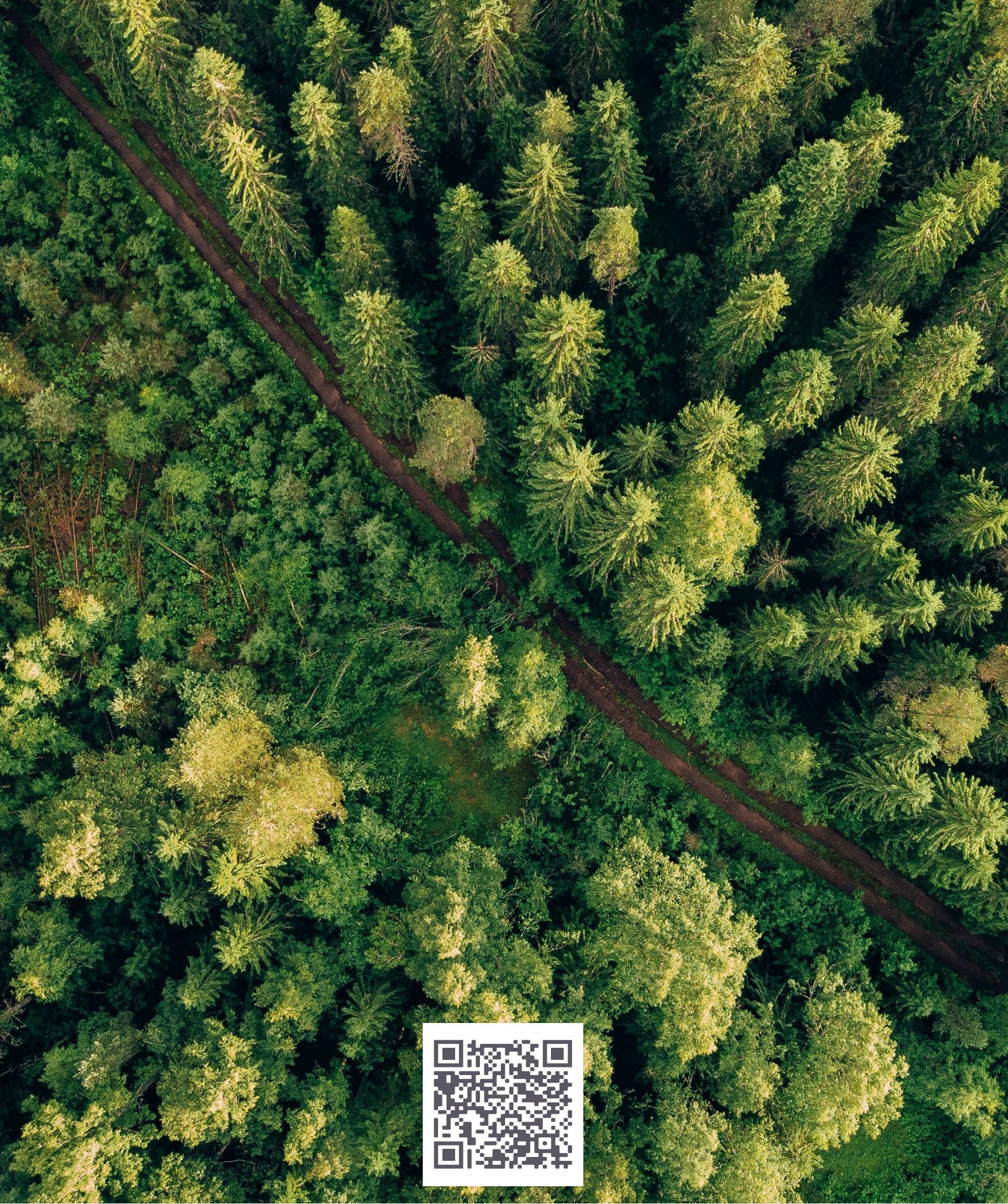


Figure 1. H₂S scavenging with GreenScav Fe (1.5 kg/m³), GreenScav FeQ (1.8 kg/m³) and ferrous gluconate (1.5 kg/m³) in synthetic brine at pH 6 and 55°C based on 165 mg/L iron (II) in scavenger.





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