Hybor™ Fracturing Fluid
Delayed Borate-Crosslinked Fluid System

The Hybor fluid system is one of the industry’s most popular and widely used fracturing fluids. It provides versatile and dependable performance over a broad range of treatment requirements.

Hybor fluid is a delayed borate-crosslinked fluid using guar or hydroxypropyl guar (HPG) gelling agent. Hybor fluid can be prepared using fresh water or seawater, given measures for proper pH control. Hybor fluid is recommended for wells with bottomhole static temperatures up to 300°F.

Advantages
- High-viscosity fluid
- Can be run semi-continuously or batch-mixed
- Crosslinked fluid reheals after shearing
- Suitable for both guar and HPG gelling agents
- Crosslinked-gel filter cake cleans up with water production
- Can be foamed using nitrogen

Fracture Conductivity
Hybor fluid has advantages over non-borate-crosslinked fluids based on cleanup and fracture conductivity. Hybor fluid enables easy cleanup by having the filter cake come apart in flowing water, this allows for better conductivity values after a fracturing treatment. Figure 1 shows fracture-conductivity data for an example Hybor fluid system with 2 lb/ft² 20/40 ceramic proppant. Baseline data represent clean core surfaces without gel filter cake present.

![Fracture Conductivity Data](image)

Figure 1 – Fracture conductivity for an example Hybor fluid formulation compared to a clean core with no gel filter cake present.

For more information about how Hybor™ fracturing fluid can help improve fracture conductivity, contact your local Halliburton representative or email stimulation@halliburton.com.

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