PRODUCT SPECIFICATIONS

**STAR SHIELD® Wellbore Stabilizer**

**DESCRIPTION**
STAR SHIELD® wellbore stabilizer is a preventative wellbore shielding® additive enabling operators to successfully drill in challenging formations. STAR SHIELD protects the formation by minimizing fluid and pressure invasion into matrix pores and microfractures by creating a ‘shield’ against the rock-fluid interface. STAR SHIELD technology – the additive advantage, adopted by major operators in unconventional shale plays in North America and deepwater Gulf of Mexico.

**APPLICATION**
- Seals up to 250 μm fractures at high differential pressure
- Performs in circulating system with API 70 mesh screens
- Effective in water-, oil- or synthetic-based drilling fluid systems

**PHYSICAL PROPERTIES**
- Appearance: Light tan powder
- pH: 6-7 in fresh water
- Specific gravity: 1.6-1.7 g/cm³
- Does not contain Graphite, Asphalt, Gilsonite or other black powder based material

**ADVANTAGE**
- Operators drill safely with mud densities greater than the fracture initiation pressure
- Eliminates differential sticking in high permeability formations
- Does not shear degrade and has a broad particle size distribution
- High temperature stability (over 400°F)

**RESERVOIR PERFORMANCE**
- Demonstrated to be non-damaging in independent 3rd party testing
- Lab testing using tight perm field rock and 350mD Clashach cores demonstrates low flow initiation pressure

**ENVIRONMENTAL ADVANTAGE**
- Environmentally compliant for use in all areas in North America
- Passes the North America 96-hr LC50 bioassay mysid shrimp

**HANDLING AND STORAGE**
STAR SHIELD® should be stored in a dry environment. Avoid excessive dust and inhalation. Use appropriate PPE and review the SDS before use.

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**TREATMENT RECOMMENDATIONS**
- Effective at concentrations as low as 3-12 ppb
- Designed for use in the circulating fluid system
- Concentration can be monitored by Impact’s proprietary Sand Bed Tester

**PACKAGING**
STAR SHIELD® is available in 25-lb, multi-walled bags – 48 sack per pallet

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