



Drilling Fluids, Inc.

**Specialty Product**

# NIS

**Description**

NIS is a liquid concentrate containing a long chain fatty acid compound reacted with a surfactant that is used to free stuck pipe.

**Uses**

When mixed with oil and placed opposite the zone of stuck pipe, NIS penetrates the wall cake to equalize pressures and provides lubricity to free the pipe. NIS is recommended for freeing differentially stuck pipe in water-base drilling fluids when an unweighted spotting fluid can be safely used. Building a weighted spotting fluid with NIS requires additional materials. See GEO Oil Base Mud handbook.

**Benefits**

NIS provides a means of physically reducing the contact between the wall cake and the drilling tools in areas of significant filtration. These areas are subject to differential sticking, which is related to the difference between hydrostatic pressure and formation pressure. A larger contact area results in greater total pressure differential, which must be overcome to move the pipe.

**Treatment**

One to two gallons of NIS should be added to each barrel of oil that is required to cover the zone of stuck pipe. Additional volume should be used to allow movement of the "spot" at a very slow rate for several hours.

**Function**

NIS creates an invert emulsion, attracting the water from the wall cake into the spotting fluid. The reduction in volume of the wall cake reduces the area of contact. In addition, NIS acts as a lubricant by providing a surfactant coating between the drill pipe and the well bore.

**Typical Physical Properties**

Physical Appearance.....amber liquid  
Specific Gravity.....1.036  
Pour point.....50°F  
Flash point (ASTM D56).....200+°F



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#### Safe Handling Recommendations

## NIS (continued)

Utilize normal precautions for employee protection when handling chemical products. Use of appropriate respirator, gloves, goggles, and apron is recommended for employee comfort and protection. *See Material Safety Data Sheet (MSDS) for this product prior to use.*

**Caution:** Do not store or use around heat, sparks, or open flames. Do not reuse empty containers.

#### Packaging

NIS is packaged in 5 gal cans and 55 gal non-returnable drums.