



# DG-ECODRILL® STICKS

PRODUCT BULLETIN

*DrillGreen-EcoDrill® drill sticks are dispersible, water-soluble sticks containing spraydried, hydrated potassium silicate powder.*

## Product

EcoDrill is a spray-dried, hydrous potassium silicate powder manufactured by PQ Corporation. Potassium silicate is recognized by industry as one of the most effective water-based shale inhibitors. The unique chemistry of potassium silicate effectively stabilizes all types of shales. Shale inhibition is achieved by a variety of different but complimentary mechanisms. Two of the most important mechanisms are the precipitation of the silicate with multivalent metals and the polymerization of silicate under acidic conditions. Superior inhibition is also matched with superior environmental performance. Potassium silicates are derived from, and ultimately return to nature, as soluble silica ( $\text{SiO}_2$ -2) and soluble potassium ( $\text{K}_2\text{O}$ ) compounds.

## Product Uses

DG-EcoDrill® drill sticks are multi-functional but are primarily recommended for improving shale inhibition in water-base drilling fluids. Potassium silicate is also a high performance and cost effective corrosion inhibitor. Once dissolved into the drilling fluid, DG-EcoDrill® drill sticks creates a nano-thin defensive film on the surface of the drill pipe and casing. This film also serves to improve the cement bond.

## Product Advantages

DG-EcoDrill® drill sticks are an economical way of improving shale inhibition or targeting particularly troublesome shale without the expense of running a full silicate system. The results; better gauge hole; competent, inhibited cuttings; higher rates of penetration; corrosion protection; improved cementing; environmentally friendly.

## Treatment

DG-EcoDrill® drill sticks are recommended for use in water-based systems that do not contain high levels of salt, calcium or are acidic in nature. The number of DG-EcoDrill® drill sticks to be used varies from one drilling operation to another. The weight of mud, drilling depth and water weight can also affect the number of sticks to be dropped. Suggested application rates are listed in the chart listed below: DG-EcoDrill® Drill Stick Size Sticks per Joint of Drill Stem Added to String

DG-Drill Stick Sizes	Sticks per Joint of Drill Stem Added to String
1 ¼" x 15"	3-6 sticks per joint

**NOTE:** *This amount recommended is based on past field drilling tests and operating under normal drilling operations and procedures. To determine the optimum amount of sticks required for periodic treatments you may choose to gradually increase or decrease the number of sticks until the most economical treatment point is reached*



DG-ECODRILL® (CONT.)

## Common Procedures

The most common procedure is to drop the specified number of sticks to be dropped from the chart each time an additional joint of drill stem is added to the drill string in the drilling operating. As the fluid moves down the hole the EcoDrill® will dissolve and release soluble silica and soluble potassium into the drilling fluid.

## Product Packaging

1 1/4" x 15"	45/Pail	75/Chest
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**CAUTION:** *Avoid contact with eyes or skin. Wash thoroughly with water. Sticks should be stored in a cool dry place. Always remove sticks from plastic bag or cardboard tube before using. Bag or tube can be used as a glove to avoid contact with hands.*

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