

Technical Data Sheet

BIONIC-C213: Lubricant

1. General Information

BIONIC-C213 is a blended liquid mixture of few aliphatic hydrocarbon with some surfactants. It is used as oil based lubricant for all kind of drilling fluids. It effectively improve mud lubricity and greatly reduces drag and torque of drill string.

2. Typical Physical properties

Appearance	Viscose and dark color
Density g/cm ³	0.87±0.05
Viscosity, CP	50
Nature	Oil Based
Solubility	Soluble in gasoline

3. Application

BIONIC-C213 lubricant is a synthetic liquid additive used to impart extreme pressure lubricity in water-based fluids. **BIONIC-C213** help decrease the friction wear on the bit bearing, drill string, mud pump pistons, liner parts, helps reduce rotational torque, can maintain lubricity under pressure and high temperature and can also be used to free stuck pipe.

- Help increase the lubricity properties of a circulating fluid allowing a longer bit bearing life.
- Helps decrease the friction and wear on the bit bearing drill string, mud pump pistons, and liner parts
- Help reduce torque
- Help free stuck pipe (as a spotting fluid)

4. Recommended Use

The amount of **BIONIC-C213** lubricant in the initial treatment varies according to the nature and amount of solids in the mud, the amount of oil, and the type and concentration of electrolytes in the mud. 0.5 to 6.0 lb./bbl. is a typical treatment range.

Periodic additions of BIONIC-C213 lubricants are made to maintain extreme pressure lubrication at desired levels and to maintain the film strength as determined on an EP Lubricity Tester. The amount of **BIONIC-C213** lubricant added will depend on the type and volume of mud and on the capacity of extreme

pressure lubricity desired. Treatments of 10 to 30 gallons per day have been used in the field.

5. Advantage

- Can extended bit life
- Can reduce drill string torque
- Can reduce wear of drill string and mud pump parts
- Can reduce the number of trips to replace bits.
- Can reduce the number of trips to fish bit cones.
- Can reduce the total drilling cost
- Can maintain lubricity under high pressure and high temperature condition.

6. Storage conditions

Store in suitable labeled containers. Store the containers tightly closed. Store way from heat and sources of ignition. Store separately from oxidizers.

7. Material Compatibility

Avoid contact with strong oxidizers (e.g. chlorine, peroxides, chromates, nitric acid, perchlorate, concentrated oxygen, permanganate). Avoid Contact with strong acids (e.g. sulfuric, phosphoric, nitric, hydrochloric, and chromic) may generate heat, splattering or boiling and toxic vapors.

8. Packing

BIONIC-C213 is packaged in 200 kg drums.

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