# SYNERGY BETWEEN SCIENCE AND NATURE



# Microbes and plants are intimate partners in virtually every life process.

PureAg BioSURF is an extremely effective colloidal green chemistry that breaks down and removes hydrocarbons from soils. It immediately begins degrading long chain hydrocarbons, by cutting the hydrogen bonds and isolating them into individual molecules that are then emulsified. This process renders the now short chain hydrocarbons into easily digestible pieces that are food to our specially selected vegetative bacteria. The encapsulated hydrocarbons will then degrade almost completely within 28 days.



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# PureAg BioSURF Surfactant/Emulsifier

- \* Emulsifies and encapsulates fuel and oil spills
- \* Penetrates and breaks down long chain hydrocarbon bonds in oils and holds them in suspension
- \* Colloidal suspension stops reverse emulsion as oil or fuel becomes water soluble
- \* Defoamer, viscosity reducer and gel fragment emulsifier
- \* Non-ionic surface active agent and detergent.
- \* Plant derived ingredients are safe, biodegradable, and environmentally friendly.

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#### **Principal Functioning Agents:**

Hydrocarbon oxidizing, single celled micro-organisms in a micronized bio-surfactant.

#### USES

PureAg BioSURF is a unique blend of water based and ultimate biodegradable ingredients specifically formulated to quickly emulsify and encapsulate fuel and oil spills. These plant derived ingredients are processed to form a colloidal micelle whose small particle size (1-4 nanometers) enables it to penetrate and break down long chain hydrocarbon bonds in oils and hold them in colloidal suspension when mixed with water. Once oil reaches nano-colloidal suspension, there is no reverse emulsion as the oil or fuel becomes water soluble.

PureAg BioSURF is a defoamer, viscosity reducer, and gel fragment emulsifier. Some of the nano-emulsion uses are micellar solutions of fatty acids, a polysorbate emulsifier, a non-ionic surface active agent and a non-ionic detergent.

### DIRECTIONS / APPLICATION GUIDE

This product is a concentrate and must be diluted with water. Please consult your PureAg consultant to help with application and directions.

#### Dilution Rate: 2 ounces (29.5 mL) to 200 gallons (757 L) water.

Store in a cool, dry place. Avoid low temperatures. Best if applied within 2 years of purchase.

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