

# PRODUCT USAGE GUIDE

## PLUTUS PRA®

This non-hazardous product is formulated to solve a variety of problems unique to the oil and transportation industry.

PLUTUS PRA® targets paraffin and asphaltene accumulations production operations, pipelines tankers and storage batteries. PLUTUS PRA® removes wax accumulation downhole in perforations, pumps, tubing and rods. PLUTUS PRA® returns the paraffin to the oil phase of the crude without changing the grade of the crude.

PLUTUS PRA® softens sludge in tanks and reduces friction in pipelines. PLUTUS PRA® the frequency required for scraping and pigging sub-sea pipelines. PLUTUS PRA® improves viscosity of crude oil even in cold water/climate conditions.

PLUTUS PRA® quickly kills algae and mold growth in fuel storage tanks. PLUTUS PRA® drops water out of suspension in both diesel and gasoline without lowering the btu quality of the fuel.

## USES FOR PLUTUS PRA®

PLUTUS PRA® is a very effective cleaning solution for use in a variety of commercial and industrial uses, especially:

- ◆ Downhole paraffin problems
- ◆ Petroleum/crude pipelines
- ◆ Oil and fuel storage tanks

PLUTUS PRA® is cost and time effective for remediation of clogged, and kinked pipelines.

## APPLICATION INSTRUCTIONS

**———— DOWNHOLE SITUATIONS ————**  
*Note:* Before beginning any treatment process make sure all SAFETY GUIDELINES and PROCEDURES are in place. If in doubt about correct procedure, then check with SAFETY OFFICER or OSHA before proceeding. PLUTUS Environmental Technologies, Inc. or its associated or subsidiary companies shall not be held liable or at risk for any safety violations or errors by the user.

*Step 1.* Apply PLUTUS PRA® down the annulus at an initial rate of 1 gal/100 ft. of well depth to 8000 ft. and 1.5 gal/100 ft in wells deeper than 8000 ft and for 8 inches or larger casing diameter. Combine with crude from the well if desired. Do not add refined hydrocarbons.

*Step 2.* Allow PLUTUS PRA® to circulate over night so as to clean pump and tubing. The wax will recombine with the oil and stay in solution until the refining process occurs.

*Step 3.* Perforations usually open when PLUTUS PRA® is allowed to stand for a period determined by the severity of the buildup. 24-48 hours is normal.

*Step 4.* If an unacceptable amount of buildup remains repeat Steps 2-4 until satisfactory. NOTE: Regular use of PLUTUS PRA® will lessen frequency of maintenance.

### ———— PIPELINES ————

*Step 1.* PLUTUS PRA® should be injected into the pipeline as far "upstream" as possible. Injected volume will depend upon severity of wax buildup in pipeline.

*Step 2.* Pipelines from production facilities that have been treated with PLUTUS PRA® will have less buildup than from untreated wells. Pumps stay clean and valves function properly. Less pressure may be needed to move product.

*Step 3.* Sub-sea and cold climate pipelines have less friction when treated with PLUTUS PRA®. Pigging or scraping problems are eliminated or reduced in kinked lines. Call PLUTUS for asphaltene treatment data. Call for data regarding "stuck" pigs or scrapers.

### — BARGES, TANKERS AND STORAGE BATTERIES —

*Step 1.* PLUTUS PRA® should be added to "dirty" tanks at 2-5% of the volume of sludge accumulation.

*Step 2.* Circulate PLUTUS PRA® in storage tanks if time and storage conditions allow. Circulation will separate wax from the sludge. The wax will re-enter the oil phase of the crude without change in the grade of the crude. Add water when the tank is pulled down for scheduled maintenance. The bottoms may then be pumped off with little or no hydrocarbons remaining.

*Step 3.* It is not necessary to take barge or tanker compartments out of service. Normal current movement within the oil will serve to circulate the PLUTUS PRA® and reduce sludge or wax volume.

### ———— FUEL STORAGE TANKS ————

*Step 1.* PLUTUS PRA® should be added to fouled diesel or gasoline tanks at 2.5 gallons per 5000 gallons of tank capacity.

*Step 2.* Circulate PLUTUS PRA® to kill algae and mold or to break suspensions. Circulation will cause solids and water droplets to fall out of suspension. Drawdown is not required. Fuel quality and btu value will increase. Effective treatment time is generally within 24 hours.