RP™ II
For Refined Products

Background
RP™ II Flow Improver is a high-performing product for refined products pipelines within the LiquidPower Specialty Products Inc. (LSPI) product portfolio. With its improved heat stability, specially designed polymer and superior performance, RP™ II Flow Improver is the answer to your refined products pipeline needs.

Characteristics
RP™ II Flow Improver's rapid dispersion and dissolution characteristics and the high efficiency of its polymer make it the most effective flow improver for refined products to date.

Benefits

Great Performance:
• Greater than 80% drag reduction

Superior Technology:
• Less polymer required to achieve a given performance
• Lower injection rates than other drag reducers
• Faster dissolution in cold fuels than other drag reducers

Proven Compatibility with Refined Products:
• Nonaqueous base
• Extensively tested, including ASTM engine testing

Improved Handling:
• Superior handling qualities

The formulation of RP™ II means less total polymer is required to achieve a given performance in your pipeline. By adding just a few parts per million of RP™ II Flow Improver, more than 80% drag reduction can be achieved. The graph below shows the expected performance of RP™ II Flow Improver in gasoline and diesel.

The re-engineered polymer in RP™ II Flow Improver is suspended in a nonaqueous base. Extensive field and ASTM testing have proven that RP™ II Flow Improver has no effect on refined products’ quality at the accepted polymer loading level. Reports of these tests are available through a LSPI representative.

Handling
RP™ II Flow Improver is easy to handle, store and clean up. Its low viscosity allows it to flow readily.

This performance curve demonstrates the range in which RP™ II flow improver can operate, depending on pipeline and fluid conditions.
# RP™ II
## Product Properties

### GENERAL
- **Application**: Refined hydrocarbon liquids
- **Flow Improver type**: Suspension
- **Carrier**: Primary alkyl alcohol

### PERFORMANCE
- **Maximum drag reduction**: Greater than 80%
- **Typical concentration**: 5 to 50 ppm

### TYPICAL PROPERTIES
- **Color**: White
- **Density**: 7.3 lbs/gal (0.88 g/cm³)
- **Flash Point**: 181°F (83°C)
- **Viscosity**: 175 cP @ 511s⁻¹ (Non-Newtonian) @ 77°F/25°C
- **Freezing Point**: <−40°F (<−40°C)
- **Boiling Point**: 365°F (185°C)
- **Vapor Pressure**: 0.02 psia (1.0 mm Hg) @ 100°F/37.8°C

### HANDLING
- **Operating range**: -40°F to 100°F (-40°C to 37.8°C)
- **Product stability**: Stable suspension
- **Intermittent agitation required**:
- **Pressure Heating**: Climate control environment available

### INJECTION EQUIPMENT
- **Pumps**: Various designs available for different injection range and environments
- **Range**: 5 to 2,500 gal/day (20 to 9,500 L/day)
- **Flow meter**: Mass (Coriolis)
- **Automation**: Available

### SAFETY AND ENVIRONMENTAL
- **Safety & Health (per U.S. OSHA)**: Combustible liquid. Expected to be a low hazard for usual industrial handling by trained personnel.
- **Environmental (per U.S. EPA)**: Not classified as hazardous waste

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