

TECH DATA CALFLO™ CLEANING FLUID FOR HEAT TRANSFER SYSTEMS

INTRODUCTION

Petro-Canada Lubricants CALFLO Cleaning Fluid is specially designed to help clean dirty heat transfer systems including heavily carbonized systems that are a result of thermal and oxidative degradation of heat transfer fluids. Formulated with ultra-pure, high quality base oils and specially selected additives, use of CALFLO Cleaning Fluid helps contribute to better thermal efficiency of the heat transfer system. As an outcome, this will help reduce costly downtime as the system start-up time will be much less than compared to when water-based chemical cleaners are used. CALFLO Cleaning Fluid should be used along with CALFLO Flushing Fluid to thoroughly clean and flush dirty heat transfer fluid systems.

The unique formulation of CALFLO Cleaning Fluid is also an ideal solution to efficiently clean process tanks and vessels; improving worker safety, reduced environmental impact, lower costs and result in less downtime.

FEATURES AND BENEFITS

Specially designed to clean heat transfer systems

 Works for systems that contain aromatic based or mineral oil based heat transfer fluids

Helps to improve thermal efficiency

 The use of CALFLO Cleaning Fluid will contribute to better thermal efficiency of the heat transfer system

Helps to reduce down time

 The system start-up time will be much less than when water- based chemical cleaners are used

Excellent cleaning properties when used at elevated temperatures (up to 100 $^{\circ}$ C / 212 $^{\circ}$ F) and turbulent flow conditions

APPLICATIONS

CALFLO Cleaning Fluid is recommended for use in closed heat transfer systems which suffer from carbon and sludge formation due to thermal and oxidative degradation, especially those employing aromatic heat transfer fluids. Carbon and sludge formation will reduce the thermal efficiency and may block the proper operation of safety devices. A clean heat transfer system reduces operating costs through efficient operation while providing a safer operation. The recommended upper operating limit for CALFLO Cleaning Fluid is 100°C (212°F). For guidelines on proper cleaning of fouled heat transfer systems using this product, please contact a Petro-Canada Lubricants Technical Services Advisor and/or request Technical Bulletin TB-1158.

Alternatively, CALFLO Cleaning Fluid can effectively clean process tanks and vessels such as crude oil tanks, skim oil tanks, bunker C tanks, railcars, pipelines and treaters by circulating through the tanks and causing the hydrocarbon deposits to break up and gradually dissolve over a period of time.

FOOD PROCESSING FACILITIES

- HT1 registered by NSF
- Acceptable for use in food processing facilities
- PURITY™ FG WO White Mineral Oil should be used in food processing facilities as the flushing fluid



Nonfood Compounds Program Listed HT1 161676

TYPICAL PERFORMANCE DATA

| Property | ASTM Test Method | CALFLO CLEANING FLUID |
|---|---------------------|------------------------|
| Density, kg/L at 15°C (60°F) | D4052 | 0.853 |
| Colour, ASTM | D1500 | <2 |
| Flash Point, COC, °C (°F) | D92 | 155 (311) |
| Kinematic Viscosity cSt @ 40°C cSt @ 100°C | D445 | 7.93 2.2 |
| Pour Point, °C (°F) | D5950 | -15 (5) |
| Water Separability, 54°C, mL water, (min.) | D1401 | 40 (5) |
| GC Distillation, 10%, °C (°F) 90%, °C (°F) | D2887 | 286 (547) 379 (714) |

The values quoted above are typical of normal production. They do not constitute a specification.

Learn more about us: petrocanadalubricants.com

Contact us: Iubecsr@hfsinclair.com

Committed to the disciplined operation of our business.



Petro-Canada Lubricants Inc.

2310 Lakeshore Road W. Mississauga, Ontario, Canada L5J 1K2 petrocanadalubricants.com