



Advanced Lubricants Technology

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## PRODUCT INFORMATION

### PERENNIAL HTSC SERIES ( HEAT TRANSFER SYSTEM CLEANERS)

#### DESCRIPTION

CLEANS LARGE SYSTEMS- ON THE FLY- SAFE, AND EASY USE :

Restores System Performance

Dissolves Sludge as System Runs

Maximum recommended use temperature 550°F (288°C)

Minimal Downtime

Compatible with any Mineral-Oil

HTSC CLEAN100 is a long life, preventative maintenance system cleaner. In addition to its ability to function as a long-term heat transfer fluid, HTSC CLEAN 100 effectively dissolves sludge and carbon build-up in tanks and process piping without disrupting production. HTSC CLEAN 100 is the perfect preventative maintenance tool. It's capable of running in systems at temperatures up to 288°C (550°F) and it's odorless. It easily handles long term operation while seamlessly allowing production to continue uninterrupted for a complete oil cycle. *HTSC CLEAN 100 is also available in Food Grade.*

HTSC CLEAN 200 is another first for the industry. Finally there is a cleaning fluid compatible with Polyalkylene Glycol fluids such as Ucon 500® that is safe and effective to use at temperatures up to 260°C (500°F). This product is ideal for either preventative maintenance or as a light to moderate system cleaner.

HTSC CLEAN 200 ULTRA is a fastacting heat transfers systems solvent. A high flash point and pleasant odor make it ideal for stripping heat transfer systems of sludge and carbon. Its fast acting formula dissolves sludge and breaks down carbon in a matter of hours so you can get back up and running.

HTSC CLEAN 200 ULTIMATE is our large system cleaner. It is added as a concentrate to larger systems and it allows for continued production up to 315°C (600°F). HTSC CLEAN 200 ULTIMATE will clean large systems of sludges and varnishes associated with the use of lower grade heat transfer fluids.

#### How Much HTSC CLEAN 200 ULTIMATE Cleaner To Use In Your System

- a. Replace 5 to 10% of the volume of the system.
- b. The percentage will vary depending upon how long you plan to let the cleaning continue as your system runs. For more precise information, contact your PERENNIAL representative about a fluid analysis and review.

#### Benefits

The HTSC CLEAN System Cleaner Liquid is specifically formulated to dissolve and suspend sludge deposits that can reduce flow—and thus heat transfer—in larger continuously operated systems. Compatible with mineral-oil based fluids, it operates while the system runs, eliminating the downtime involved with flushing fluids or chemical cleaning agents.

## Instructions For Use

1. Install a 60 mesh screen in the Y-strainer to catch any large lumps that break loose.
2. Drain the equivalent amount of fluid from the system before adding the cleaner.
3. Add the cleaner slowly using a positive displacement transfer pump and hoses of appropriate temperature range. Either pump the cleaner liquid directly into system (near pump suction if possible) or pump into expansion tank and drain into system.
4. Allow cleaner to circulate until all loops are at operating temperature. Run system normally. Minimum suggested time is 3 weeks, maximum time is 1 year.
5. Clean Y-strainer screen as necessary.
6. To drain cleaner and fluid, shut off heater but allow pump to circulate until system temperature is cool enough to handle (180°F to 200°F). Do not turn off pump and allow system to cool as this will permit particles to settle out and contaminate the new fluid.
7. Drain system with pump running. Continue to run pump until it begins to cavitate or the low pressure switch shuts it off.
8. Continue draining as quickly as possible. Any delay will allow sludge to settle out in the piping where it will contaminate the new fluid.
9. Fill system with HEATRANST200 or a compatible brand and restart system.
10. One week after startup, send sample to fluid supplier for testing.

Product	Application	% to add to System	Run Production	Flushing Required?	Maximum Use Temperature	Viscosity cSt @ 104°F	Flash Point
<b>HTSC CLEAN 100</b>	Light to moderately fouled systems	100%	Yes	No	287°C (550°F)	44.6cSt	240°C (465°F)
<b>HTSC CLEAN 200</b>	Specifically formulated for Glycol systems (Ucon 500®)	100%	Yes	No	260°C (500°F)	55cSt	266°C (511°F)
<b>HTSC CLEAN 200 Ultra</b>	Severely fouled, emergency system reviver	100%	No	Yes	65°C (150°F)	4.6cSt	96°C (205°F)
<b>HTSC CLEAN 200 ULTIMATE</b>	Large Heat Transfer System Cleaner	5-10%	Yes	No	315°C (600°F)	40cSt	235°C (455°F)

The above details is typical and does not constitute a contract in terms of properties