



TECHNICAL DATA

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#4007 HEAT TRANSFER DETERGENT COCKTAIL

Heat Transfer Detergent Cocktail is a specially formulated cleaner that is designed to dissolve and suspend sludge and varnish deposits that can reduce flow and heat transfer in small and large heat transfer systems. Heat Transfer Detergent Cocktail is compatible with petroleum based and most types of synthetic based heat transfer fluids.

Heat Transfer Cocktail Detergent can be used while the system is operating thus eliminating the downtime with flushing fluids or chemical cleaning agents. It helps to displace other system contaminants such as water, loose solids and debris and dangerous light end components that may have resulted from thermal degradation of the previous heat transfer fluid. The use of Heat Transfer Detergent Cocktail will result in a cleaner and safer heat transfer system that results in maximizing the performance and the service life of the new heat transfer fluid and lowering overall operating costs.

The use of Heat Transfer Cocktail Detergent in the existing heat transfer fluid will not have any adverse effects on new fluid performance. The product will not add any thermally unstable materials that can shorten fluid life nor will it result in a reduction of the heat transfer fluids viscosity, flash point or initial boiling point.

Instructions for Use

To clean systems that are badly fouled and sludged up.

1. Start the system and bring the temperature to about 225°F/108°C. Shut down the heater. Allow the pump to run so that the old fluid is thoroughly mixed in order to fully suspend some of the existing solids.
2. Shut the pump down and open all the low point drains and drain the system before any suspended solids have a chance to resettle. Personnel should exercise appropriate cautions when working around hot fluid – remember Safety Comes First. The benefit of hot oil draining is that it prevents sludge and tars from re-depositing in the system.

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3. Recharge the system with same heat transfer fluid that is used in the system along with the #4007 Heat Transfer Detergent Cocktail at a mixture rate of 90 to 95% heat transfer fluid and 5 to 10% Heat Detergent Cocktail and restart the system and run the system at 225°F/108°C to 250°F/122°C to mix the solution well.
4. Filter the existing heat transfer fluid using a side stream filtration system such as a kidney loop filter or filter cart that contains a 100 micron filter element.
5. Change the filter elements when necessary. This usually occurs when a pressure differential drop is noticed. If the system is heavily sludged filters may have to be changed every 2 hours.
6. Change from 100 micron to 50 micron to 25 micron elements as the solid loading of the filters decreases.
7. If the expansion tank needs to be cleaned open the warm-up valves and allow the mixture to circulate through it. Before circulating the mixture the expansion tank must be blanketed with nitrogen.
8. Continue circulating until replacement of the filters is less than once per day.
9. Turn off the heat and allow the system to cool to 180°F/80°C to 203°F/95°C with the fluid circulating.
10. Drain the system with the pump operating until the pump cavitates or the low pressure switch shuts it off.
11. Continue draining as quickly as possible. Any delay in draining will allow the sludge and carbon deposits to settle in the system where it will be picked up by the new fluid.
12. Install a new 10 to 40 micron filter if the system contains an existing filtration system and fill the system with a new charge of heat transfer fluid.
13. If the heat transfer system employs the use of only Y strainer elements follow procedures 1 through 8.
14. Operate the system until heat transfer is restored.
15. Next follow procedures 9-11.
16. Change the Y strainer element and recharge the system with new fluid.

To slowly clean systems or system that are not badly fouled:

1. Filter the existing the using a 40 micron or smaller filter to remove particulates from the system.
2. Add one gallon of Heat Transfer Detergent Cocktail to every 300 gallons of heat transfer fluid.
3. Start the system and bring the temperature to about 225°F/108°C. Shut off the heater but allow the pump to run so that the solution is thoroughly mixed.
4. Next circulate the solution mixture for 72 hours at temperatures above 200°F/93°C or at operating temperature.
5. As the system is operating filter the fluid using a side stream filtration system such as a kidney loop filter or filter cart that contains a 25 micron filter element.
6. Change the filter elements when necessary. This usually occurs when a pressure differential drop is noticed.
7. If the expansion tank needs to be cleaned open the warm-up valves and allow the mixture to circulate through it. Before circulating the mixture the expansion tank must be blanketed with nitrogen.
8. Continue circulating until replacement of the filters is less than once per day.
9. Turn off the heat and allow the system to cool to 80°F/27°C.
10. When the fluid reaches 80°F/27°C begin to drain the fluid while the pump is operating until the pump cavitates or the low pressure switch shuts it off
11. Continue draining as quickly as possible. Any delay in draining will allow any remaining sludge and carbon deposits to settle in the system where it will be picked up by the new fluid.
12. Refill the system with either Schaeffer's #281 Heat Transfer Oil, #281 Synthetic Plus Heat Transfer Oil or #281S Synthetic Heat Transfer Oil and restart the system.

Typical Properties

Specific Gravity	0.936
Flash Point °F/°C ASTM D-92	365°/185°
Maximum use Temperature °F/°C	600°/315°
Vapor Pressure, mm Hg @ 20°C	<1

Packaging: #4007 Heat Transfer Detergent Cocktail is available in 5-gallon pails, 55-gallon drums and 275-gallon totes.