

## Sump Clean Out Procedure – Metalworking Systems

### Central System Clean Out

#### Preparation for Clean Out

1. All loose and foreign material (oil, swarf and smut/sludge) must be removed from the system.
2. Inspect all supplementary tanks for dead areas (cracks/open seams) which may lead to pockets of stagnant fluid and later become sources of contamination to the system.
3. Upon inspection and repair, operate all equipment to see that it is functioning properly prior to adding liquid to the system.

#### System Clean Out

1. Charge system tank to pumping capacity with a 3% solution of PERKLEEN 1225. The use of this cleaner will enhance the initial cleanliness of a freshly charged system and prevent the negative influence of incumbent fluid contaminants.
2. PERKLEEN 1225 should be pumped throughout the system for at least 2-4 hours or until all of the system is completely cleaned and free of possible contaminating materials.
3. Immediately upon completion of recirculation of the PERKLEEN 1225, dump the cleaner, draining the tank as completely as possible. If all material cannot be removed from the bottom of the tank, it should be diluted out with clear water, adding approximately the same amount of water that is in the bottom of the tank and draining it back to the same level.

#### System Rinse Out

Upon completion of the circulation of the coolant/rinse water, the fluid must be immediately dumped.

#### Charge System

4. Following step 7, immediately charge the system with the recommended coolant concentration level.
5. After product has circulated for 30 minutes, concentration and pH should be checked.

### Cleanout Procedure for Straight Oil Systems

1. Drain old oil from tanks and lines. Remove all types of filters.
2. Scrape sides and bottom of holding tank and remove extraneous residues.
3. Using a brush, scrub down holding tank and filter chamber, then rinse and flush out lines with Additive HSC?
4. Remove solvent cleaner from holding tank, filter chamber and lines.
5. Repeat step 3 and 4 if necessary.
6. Refill with PERCHEM OSC-II to pumping level, and then circulate through the system for 10-15 minutes.

7. Drain as much flushing oil as possible. Wipe excess off bottom of holding tank and filter chamber.
8. Replace filters and recharge with fresh product.
  - a. When cleaning with any chemical material, please follow all safety precautions supplied by the
  - b. vendor and listed on the Material Safety Data Sheet.

## Cleanout Procedure for Individual Machines

1. Prior to draining the tank, if possible, remove access tramp oil from the tank using an oil skimmer or oil suctioning device.
2. Drain the entire individual tank.
3. Remove all metal swarf and other debris from the sump, oil pans, return trenches and filtration units.
4. Fill the system or tank with water sufficient to circulate through all lines and machines.
5. Add cleaner PERKLEEN 1225 at 2 % concentration and circulate for 1-8 hours (depending on severity of soils). While cleaner is being circulated, brush all trenches, scrub machines and oil pans.
6. When the physical cleaning is complete, drain the cleaner from the system.
7. Refill with the system with a 1.0% concentration of coolant to circulate through-out the system or tanks so that all traces of cleaner and debris are removed. Drain all lines and sumps.
8. Charge the system or individual tanks with product at the recommended concentration.



## Alternative Cleanout Procedure for Individual Machines for Uninterrupted Production

In the event that it is impractical to conduct a complete drain, clean and recharge of the designated machine(s) due to manufacturing schedule restrictions, the following modified procedure can be implemented:

1. Add cleaner PERKLEEN 1225 directly to the coolant in the operating machine at a level of 2-3% concentration (based on machine size).
2. After the cleaner has been circulated in the operating system for 1-8 hours (depending on severity of soils) and production has been completed, all trenches, machine surfaces and pans should be brushed and scrubbed thoroughly to remove soils (dirt, oils and fines).
3. When the physical cleaning is complete, drain the coolant/cleaner mix from the system.
4. If the manufacturing schedule permits, refill with the machine with a 1.0% concentration of coolant to circulate throughout the system or tanks so that all traces of dirty coolant, cleaner and debris are removed. Drain all lines and sumps. (If scheduling does not permit this step, go directly from step 3 to 5.)
5. Charge the system or individual tanks with the Blue Star product at the recommended concentration.

Please note that it is an acceptable practice to add cleaner directly to the coolant in an operating machine, but it is critical that the above dosage rate of 1.0-3.0% cleaner (based on system volume) be followed. The pH should be checked after the cleaner has circulated to ensure that it does not rise above 10 in the operating system which could result in dermal issues. Also, adding cleaner directly to the circulating coolant in machine that is still in production can also increase the potential for foam.