



PICO Recommended Metalworking Fluid Systems Clean-out Procedure

1. Evaluate the current fluid conditions in the system and determine whether microbiological contamination is present in the fluid and the system components, i.e., sump, return lines, filters, or floor trenches.
PICOCLEAN 5052 is the recommended cleaner for sump systems exhibiting low to moderate levels of microbiological and organic contamination. Systems exhibiting exceptionally high levels of microbiological contamination, especially fungi (yeasts and molds), may require the use of **PICOCLEAN 5053**.
2. To start, add 3 to 5% (by operating capacity volume) of **PICOCLEAN 5052** to the existing coolant solution. For individual sumps (100 gallons or less), circulate the cleaner for 2 to 8 hours, depending upon the condition of the system. For larger systems, circulate the cleaner for up to 24 hours. Wash or hose down all machine surfaces, floor trenches, transfer lines, and filter mechanisms with this solution to ensure the effective removal of all dirt, debris, and biomass before draining.
3. Drain the old coolant and cleaner mixture from the system until no liquid remains. Remove (to bare metal if possible) all swarf, debris, oil residue, and dirt from all machine surfaces, transfer lines, floor trenches, filter mechanisms, and the sides of the sump or mix tank. Failure to do this could result in contamination of the new metalworking fluid upon recharging. Dispose of old coolant and cleaner mix properly as required.
4. Check the machine or system:
 - a. Repair all hydraulic leaks and seals.
 - b. Apply waterproof grease to all bearings.
 - c. Check fluid nozzles; make sure all valves are fully open and free of debris.
 - d. Make sure pumps are operating correctly.
 - e. Check sump capacity for adequate volume.
5. **This step is critical for a successful machine clean-out.** Fill the sump with fresh, clean water, circulate up to 1 hour, and wash down all areas of the system. If biomass is still adhering to surfaces, add 3 to 5% of the **PICOCLEAN** cleaner and recirculate the solution up to 2 hours again or steam clean. The system should receive a final, fresh, clean water rinse to flush out all remnants of the cleaner solution and biomass. Pay close attention to the clarity of the rinse water to ensure that the final rinse is accomplishing its goals. **Note:** The fresh, clean water supply should be tested for bacteria, pH, chlorides, hardness, etc., before use.
6. To recharge the system, fill the machine to the minimum operating level with fresh, clean water (preferably deionized) and circulate. Slowly add fresh **PICO** coolant concentrate to the water at the recommended ratio and allow to mix thoroughly (circulate) in the sump. **Note:** Always add coolant to water while mixing. Test the solution with a refractometer for correct dilution concentration.
7. Start the machine and check that the fluid flow is unobstructed; filters are operative, and ample fluid is being supplied at the tool area. Operate system using normal parameters.
8. Keeping a daily record of additions, conditions that take place, comments, etc., is beneficial. Regular tank side additions of **PICO** metalworking products and water may be necessary to maintain proper coolant performance, especially under heavy biological contamination or other excessive conditions. Minimize fluid contamination from other process lubricants (cleaners) and external sources. Skim and remove tramp oil(s) and check filters regularly. Regularly circulate and aerate the coolant in systems (even when idle).

NOTE: This procedure is a general guide. Plant and system conditions may dictate some slightly different directions. More difficult cleaning situations may require additional attention and technical assistance from **PICO**. **PICO** provides free technical assistance and analysis. **It is important to follow these instructions to attain the best performance and clean-out prior to recharging.**

PICO metalworking fluids and cleaners are made to provide long-lasting performance and effectiveness.

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