



**Water-dilutable
Metalworking Fluid Systems Cleanout Procedure**

1. To start, add 5% (by operating capacity volume) of **PICOCLEAN 5052** to the existing coolant solution (or into water, if no fluid present). Circulate the cleaner for 1 to 8 hours, depending upon the condition of the system. 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 from the system before draining. Steam cleaning is also suggested for extreme conditions.
2. Drain the old coolant and cleaner mixture from the system until no liquid remains. Remove 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 may result in re-contamination of the new metalworking fluid upon recharging. Dispose of old coolant and cleaner mix properly as required.
3. 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 refill volume.
4. Fill the sump with fresh, clean water, circulate up to 1 hour, and wash down all areas of the system. The system should receive a final, fresh, clean water rinse to flush out all remnants of the cleaner solution. If the rinse water is dirty, a second rinse is recommended. Pay close attention to the clarity of the rinse water to ensure that the final rinse accomplished its goals.
5. Recharge the system to the minimum operating level with fresh, clean water (preferably deionized). The water supply should be free of bacteria, pH, chlorides, hardness, etc. 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 and test with a refractometer for correct dilution concentration.
6. 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.
7. Keep a daily record of additions, conditions that take place, comments, etc. Maintain proper coolant concentration, especially under 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: Do Not Use Bleach or Swimming Pool Chlorine as a Biocide or Sump Cleaner Additive.

Bleach can react with metalworking fluids and generate a harmful gas and is also harmful to workers. It should never be inhaled and can be a cause of irritant dermatitis. As bleach degrades, it causes high levels of chlorides to accumulate in the metalworking fluid, which corrode ferrous metals and lead to fluid instability.

This procedure is a general guide. Conditions may dictate different directions. More difficult cleaning situations may require additional attention and technical assistance from PICO. **Follow these instructions to attain the best cleanout prior to recharging with fresh metalworking fluid. Preventive maintenance procedures optimize system performance.**

Note: For systems using mineral/vegetable-based "oils" and before switching over to a water-based fluid, drain the entire system completely before starting Step 1, above.

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Pico Chemical Corporation
400 E. 16th Street • Chicago Heights, Illinois 60411
Phone 708 757-4910 • Fax 708 757-4940
e-mail info@picochemical.com • www.picochemical.com

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