
Subject: *Guidelines for Using Glycol in Hydronic Systems*

Glycol can be used in hydronic systems for protection against water freezing within the system. These guidelines should be considered for appropriate use of glycol products in Weil-McLain hydronic heating systems.

THE PRODUCT: Weil-McLain recommends the use of *Inhibited Propylene Glycol* that is specially formulated for use in hydronic systems.

Why *Propylene* Glycol? Although neither Ethylene or Propylene Glycol will damage elastomer seals in Weil-McLain boilers, Propylene Glycol is more environmentally friendly than Ethylene Glycol. Ethylene Glycol is toxic to humans and a special permit may be required when using this solution. Be sure to check with all plumbing and EPA codes for exact requirements when using any Glycol solutions.

Why *Inhibited* Glycol? Unlike Inhibited Glycol, Uninhibited Glycol is very corrosive and will damage hydronic systems. Also, inhibitors should not be oil based. Check with the Glycol supplier for details on contents of the inhibitors that are being used.

Why *specially formulated for hydronic systems*? Automotive Glycol has not been formulated for use in hydronic systems, and has different inhibitors than those formulated for hydronic systems. Automotive Glycol can jell in a closed system which can block or restrict flow through the piping. Also, the inhibitors in Automotive Glycol will breakdown sooner, becoming less effective than hydronic Glycol.

THE AMOUNT: In order to determine the correct amount of Inhibited Propylene Glycol to use, first determine the minimum ambient temperature of the hydronic system water. Then follow the Glycol manufacturer's instructions for the proper mixture for that minimum temperature. Usually a 50% mixture of Inhibited Propylene Glycol will protect down to -30°F.

HEATING CAPACITY: Using a 20% mixture at 180°F produces 97% of the normal heating capacity. Using a 50% mixture at 180°F lowers the heating capacity to 90%. The pumping capacity with a 50% mixture at 180°F increases to 110% of normal pumping capacity.

NOTICE When using Glycol:

1. Do **not** use galvanized pipe or fittings in the hydronic system. The zinc will react with the Glycol inhibitors. Good practice is to never use galvanized piping in any hydronic system.
2. Do **not** use chromate water treatment. It reacts with the Glycol.
3. Do **not** use Ethylene Glycol (toxic to humans).
4. Do **not** use Uninhibited Glycol.
5. Do **not** use Glycol formulated for automobiles.
6. Do **not** use Glycol in steam systems.

IMPORTANT When using Glycol:

1. Clean system with trisodium phosphate (See Tech Service Bulletin No. SB0103 dated March 30, 2001.).
2. Hydro-test system and repair any leaks before adding Glycol.
3. Mix Glycol at room temperature using low mineral content water.
4. Always follow Glycol manufacturer's instructions.