

Aqua-Hot Coolant Information

There are three common coolants used in the Aqua-Hot and Hydro-Hot systems. If the Hydro-Hot is filled with coolant other than Ethylene Glycol, there should be a label identifying exactly which coolant is used. The size of the filler (radiator cap) you can identify which coolant is contained in Hydro-Hot systems (does not apply to Aqua-Hot's). The systems with the LARGE (just under 4" in diameter) should contain Ethylene Glycol. The systems with normal size caps should contain Propylene Glycol.

Aqua-Hot heaters (with electronic control board) and Hydro-Hot hydronic heaters built after 2003 should contain Propylene Glycol coolant. There should be a label on the unit and on the overflow bottle stating this fact. If you have any question, you can contact Aqua-Hot. You will need your model and serial number (on a tag on both outside and inside heater).

Ethylene Glycol (green):

http://ptcl.chem.ox.ac.uk/~hmc/hsci/chemicals/ethylene_glycol.html

Havoline / Texaco Extended Life Coolant (Ethylene Glycol) (red):

http://www.havoline.com/products/na/antifreeze_01.html

Propylene Glycol (pink or blue depending on manufacturer):

<http://ptcl.chem.ox.ac.uk/MSDS/PR/1,2-propanediol.html>.

Aqua-Hot recommends Camco Boiler Antifreeze -100°

<http://www.camco.net/Menu.cfm?SupCategoryId=10400&SubCategoryId=261&ProductId=2262>

There is more information below about other approved Propylene Glycol coolants.

Antifreeze Types

The following information is from Aqua-Hot (see source below)

The following information addresses the necessary usage of a propylene glycol based "boiler" type antifreeze in the Aqua-Hot. Propylene glycol is a safer alternative to the more toxic ethylene glycol antifreeze; however, as mandated by IAPMO (International Association of Plumbing and Mechanical Officials), only those propylene glycol based "boiler" type antifreezes deemed "Generally Recognized as Safe" (GRAS) by the FDA should be utilized.

Because of the significant impact various types of antifreeze can have on a Hydronic Heating System, including the level of safety provided, it has been recognized that there is a need to provide an explanation regarding two additional prominent types of antifreeze/coolant available. The following information should be utilized as an educational means of ensuring that the proper type of propylene glycol based antifreeze is selected:

RV & Marine Antifreeze:

These types of propylene glycol based antifreeze products are formulated specifically for "winterizing" applications only. Although RV & Marine antifreeze is often "Generally Recognized as Safe" by the FDA, it should never be used in the Aqua-Hot's Hydronic Heating System. This type of antifreeze is not formulated to transfer heat, which is essential to the Heating System's functionality and does not contain rust inhibitors. Please note, however, that RV & Marine antifreeze can be utilized to winterize the Aqua-Hot's Domestic Hot Water Heating System.

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Automotive Antifreeze/Coolant:

These types of propylene glycol based antifreeze products are formulated specifically to protect automotive engines against corrosion, freezing temperatures, and overheating. They also have excellent heat transfer and thermal conductivity characteristics. Although these types of antifreeze products are considered less toxic and safer than ethylene glycol for people, pets, and the environment, they are not “Generally Recognized as Safe” (GRAS) rated by the FDA. Therefore, they must be marked with a “harmful if swallowed” warning. This additional warning is required because these types of antifreeze products contain high levels of chemical rust inhibitors. Due to their potentially hazardous properties, they should never be used in the Aqua-Hot’s Hydronic Heating System.

This information from Aqua-Hot model 525 installation manual.
http://www.aqua-hot.com/documents/LTE-907-713RevA_000.pdf

There is also a good article on anti-freeze at the following web site:
http://en.wikipedia.org/wiki/Anti_freeze

There are a number of approved boiler type coolants that are approved for use by Aqua-Hot. Please refer to Aqua Hot Service Bulletin # S-126. Here: <http://www.aqua-hot.com/documents/S-126.pdf>

Aqua-Hot has changed their recommendation from using tap water to using distilled water to dilute the coolant solution in the boiler. <http://www.aqua-hot.com/documents/S-140.pdf>

The Aqua-Hot recommended water to coolant recommendation is:

- Ethylene Glycol - 33% coolant + 66% water (1 gallon coolant + 2 gallons water).
- Propylene Glycol - 50% coolant 50% water (1 gallon coolant + 1 gallon water).

Coolant to water concentration levels can be checked using a refractometer.

<http://en.wikipedia.org/wiki/Refractometer>

There are many supply sources for approved Propylene Glycol boiler type coolant. The easiest source is to purchase from the Aqua-Hot online parts ordering system. Follow this link for the Camco, Boiler Antifreeze Concentrate.

http://www.aquahotparts.com/b2c/ecom/ecomEnduser/items/xt_itemDetailNF.aspx?oFamily=&itemNum=MSX-300-275&siteId=1&bulkexists=0

Note that this concentrate is mixed 1 part coolant to 2 parts distilled water. This concentrate is the most economical way to purchase, because you are not paying to ship water. You will probably not be able to purchase approved Propylene Glycol locally. You should have at least 1 gallon of mixed (ready to use) coolant on hand.

If you would like some further assistance you can contact Aqua-Hot tech support at: (800) 685-4298 or (303) 659-8221).

You can view Aqua-Hot manuals at the following website address: <http://www.aqua-hot.com/Aqua-HotManuals.htm>

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