

# Condensate Neutralization and the Environment

As a code enforcement official are you requiring the installation of a condensate neutralizer on every installation of a condensing gas fired appliance? Are you as an HVAC, Plumbing or Heating contractor installing a condensate neutralizer on all new condensing appliance installations? Are you as an HVAC, Plumbing or Heating Service Contractor servicing existing condensate neutralizers when providing preventative maintenance or repairs? Are you installing a new condensate neutralizer when you service a customer's condensing appliance that was installed without a condensate neutralizer?

Did you realize that for every 100,000 BTU's/hr of appliance input, creates 1 gallon of acidic condensate? This acidic condensate is detrimental to the environment. It can damage any metallic piping it encounters. It is damaging to sewer systems, sewer treatment plants and septic systems. If dumped directly onto the ground it will affect the ground and could leach into an aquifer.

One might say how is a gallon of condensate going to harm the environment. This condensate can be anywhere from approx. 2 to 4.5 on the pH scale. Now let's think about the amount that could be produced. There are 8760 hours in a year. Obviously, every application will have different run times but for this example let's say that every appliance runs 15% of the time or 1314 hours per year. That is approx. 1314 gallons per year. Figures published by the US Energy Information Administration say that in 2017 the US used about (84,500,000,000) 84 billion 500 million therms of gas. A therm is equal to about 100,000 BTU's. Let's assume that 50% of this was consumed by condensing appliances. This means there was upwards of 42 billion, 500 million gallons of acidic condensate produced and disposed of. This will continue to grow in the future. What is the cost to the environment of dumping 42.25 billion gallons of acidic condensate each year?

Every condensing appliance should have a condensate neutralizer installed in its drain line and all neutralizers should receive service on a regular basis.