

ENVIRONMENTAL HEALTH DIVISION  
<http://www.tompkins-co.org/health/eh>

Ph: (607) 274-6688  
Fx: (607) 274-6695

### Common Aesthetic Groundwater Problems

- If you smell or taste gas or oil in the water, or there is a sheen to it, immediately stop using it for drinking or cooking and contact the Health Department.
- Treatment options listed here are not comprehensive. A Water Treatment Specialist can provide more detailed information.

#### ODORS IN WATER

Problem	Cause	Significance	Practical Treatment
Rotten egg odor	Hydrogen sulfide gas, sulfur or sulfate reducing bacteria; Gas naturally occurs in ground water, common in Tompkins County	Corrosion due to its activity as a weak acid; Reduced efficiency of water softener; Laxative effect; Inky discharge from water lines	*Chlorination *Oxidizing filter (manganese green sand) *Aeration *Activated carbon filter *If odor in hot water only, replace manganese rod in water heater with aluminum rod
Bleach or swimming pool odor	Chlorine from disinfection	Harmless at levels normally used for disinfection	Activated carbon filtration
Fishy or musty odor	Decaying organic matter; Potential contamination from surface water	Nuisance – Test water for coliform bacteria	Activated carbon filtration or chlorination followed by activated carbon filter

#### TASTE OF WATER

Problem	Cause	Effect	Practical Treatment
Metallic taste	Iron, manganese, copper, or other metals	Various – depends on the cause	The specific cause must first be determined
Salty taste	Sodium chloride from soil, rock, or road salt; Water softeners can also elevate sodium level in water	Chloride can cause corrosion at high amounts	*No practical treatment *May need alternate water source
		Sodium can be harmful for someone on a sodium restricted diet	*By-pass of water softener for cold drinking water lines *No practical treatment *May need alternate water source
Bitter "soda" taste Alkaline taste	Bicarbonates, Carbonates, and Hydroxides (Most occur naturally)	Nuisance – Can stain aluminum cookware	pH correction using either a neutralizing filter or chemical feed pump to lower the pH
Fizzy/bland taste	Carbon dioxide (by-product of organic decay process in soil)	"off taste", corrosion	Aeration, or pass water through tank with limestone chips

## Common Aesthetic Groundwater Problems

### COLOR OF WATER AND/OR STAINS

Problem	Cause	Significance	Practical Treatment
Reddish-orange water, stains and/or sediment	Iron – Naturally occurring in soil and rock (iron is one of most common elements in the earth's crust); Rusting water lines	Nuisance - Stains laundry and sinks; Metallic taste; May leave deposits in pipelines and water heaters; Promotes growth of certain bacteria	Treatment depends on form of iron (dissolved or oxidized, whether it is combined with organic matter)
Dark brown to black stains and/or sediment	Manganese – Naturally occurring in soil and rock	Same as for iron	Treatment depends on form of manganese (dissolved or oxidized, whether it is combined with organic matter)
Red-brown or black-brown slime	Iron or manganese bacteria – Do not cause disease; Naturally occurring	Nuisance - Often seen first in toilet tanks; Can clog water lines; Odors from decaying organisms	Chlorination, perhaps followed by filtration
Blackening and pitting of metal sinks/fixtures	Hydrogen sulfide gas – Naturally occurring	Can be corrosive; High concentrations (rare) are flammable and poisonous	*Chlorination *Oxidizing filter (manganese green sand) *Aeration *Activated carbon filter.
Milky or cloudy	Turbidity – Naturally occurring deposits of fine sediment or mud in rock and soil (does not clear)	Nuisance – Because turbid water may contain disease causing organisms, water should be tested for coliform bacteria	*Mechanical filtration *Alum treatment is not recommended for private homes
	Methane gas (water clears as bubbles rise)	Gassy odor – <b>Methane is extremely flammable/explosive if confined</b>	Aerate the water prior to use The aerator must be vented to the open air
	Small air bubbles dissolved in water (water clears as bubbles rise)	Harmless	Allow bubbles to dissipate
Soap scum, scaling, whitish deposit on fixtures, failure of soap to lather well	Carbonates and bicarbonates of calcium and magnesium (hard water) – Occur naturally in soil and rocks	Scaling in hot water heaters and lines	*Standard water softener (on hot water lines) *Use of water softener in laundry machines
Blue to blue-green stains	Copper – From home plumbing and fixtures when the water is corrosive. <b>If you have copper contamination due to corrosion, you may also have lead in your water.</b>	Nuisance – At high doses copper can cause gastrointestinal problems. An indicator of possible lead contamination.	*Test pH of water; If corrosive, adjust pH *Test for lead *Ion exchange *Point of use treatment: Reverse osmosis or distillation