



ANR-790-2.1.4

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Drinking Water Standards Regulating Nuisance Contaminants: Secondary Standards

Secondary Drinking Water Standards, also known as Secondary Maximum Contaminant Levels (Secondary MCLs or SMCLs), are concentration limits for nuisance contaminants and physical problems that are not generally hazardous to human health. These contaminants can cause offensive taste, odor, color, corrosion, foaming, and staining.

While EPA recommends Secondary Standards to the states as reasonable goals, Alabama has adopted these as mandatory standards. Most community water systems across the U.S. monitor and correct for these conditions where feasible. With exception of odor and foaming agents, community and nontransient noncommunity (NTNC) public water systems are required to test for and report the levels of secondary contaminants in their drinking water supplies.

Private well owners who wish to ensure that their water is suitable for all household uses, including drinking, bathing, washing, and cooking, should have their water tested for Secondary Standards.

If a water analysis identifies a contaminant significantly greater than its Secondary MCL, the decision on whether to treat the water will largely be based on personal preference. The level and the possible source of contamination are important data to consider for home water treatment. Alternative remedies such as bottled water may be cheaper and more practical at least for drinking water.

Table 1 presents the National Secondary Drinking Water Standards as set forth in the Safe Drinking Water Act along with effects of the various contaminants.

Table 1. Levels And Effects Of Secondary Drinking Water Standards.

Secondary Contaminants	Suggested Levels	Contaminant Effects
<i>Inorganics</i>		
Aluminum	0.20 mg/L ^a	Metallic taste
Chloride	250.00 mg/L	Salty taste; corrosion of pipes; blackening and pitting of stainless steel
Copper	1.0 mg/L	Bitter taste; green or bluish stains
Fluoride ^b	2.0 mg/L	Mottling of teeth; skeletal damage
Iron	0.30 mg/L	Bitter, metallic taste; brown-orange stains; brackish color
Manganese	0.05 mg/L	Bitter taste; black stains on laundry and fixtures
Silver	0.10 mg/L	Skin discoloration
Sulfate	250.00 mg/L	Bitter, medicinal taste; laxative effects; "rotten-egg" odor (more associated with hydrogen sulfide)
Total Dissolved Solids	500.00 mg/L	Salty or bitter taste; can damage plumbing and limit effectiveness of soaps and detergents
Zinc	5.0 mg/L	Metallic taste

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Secondary Contaminants	Suggested Levels	Contaminant Effects
<i>Physical Problems</i>		
Color	15 color units	Visible tint
Corrosivity	noncorrosive	Metallic taste; staining because of lead, copper, iron, or zinc dissolved from plumbing
Foaming Agents	0.50 mg/L	Soapy taste; unpleasant odor; frothy, cloudy appearance
Odor	3 threshold odor number	"Rotten-egg," septic, musty, or chemical smell
pH	6.5 to 8.5	Low pH: bitter or metallic taste; high pH: soda taste, slippery feel, scaly deposits

^amg/L = milligrams per liter = parts per million = ppm.

Source: USEPA 1989, and ADEM 1992.

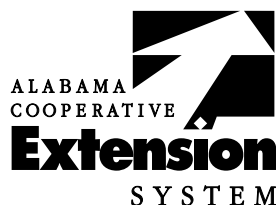
^bUnder review.

Conclusion

Secondary Standards are not enforced by EPA although corrosion control may become a mandatory measure to control lead. Corrosion control may include control of pH, total alkalinity, carbon dioxide, hardness, temperature and specific conductance, or total dissolved solids. Many states have adopted enforceable regulations governing these contaminants, as has Alabama. Check with your state water quality agency for more information.

References

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For more information, call your county Extension office. Look in your telephone directory under your county's name to find the number.

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