

US EPA ARCHIVE DOCUMENT

## SAFE DRINKING WATER ACT (SDWA) COVERAGE OF PESTICIDES

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Drinking water from community and non-community water systems is regulated under the Safe Drinking Water Act (SDWA). Based on this law, EPA has established maximum contaminant level goals (MCLGs) and maximum contaminant levels (MCLs) for 83 contaminants, including 24 pesticides. Of those pesticides, 14 are currently registered for use. Maximum contaminant level goals are calculated for a lifetime exposure and for a 70 kg adult who ingests 2 liters of water per day. The 1996 amendments to the SDWA require the Agency to evaluate risks to children, the elderly and other sensitive subpopulations, e.g., immunosuppressed individuals, and to include these sensitive subpopulations in the analysis completed for purposes of determining the regulatory MCL. Also, where it is appropriate, MCLGs will be established for the most sensitive subpopulations and for acute or short term exposures, e.g., nitrite/nitrate which cause methemoglobinemia in infants and small children.

The MCL for each contaminant is based on a consideration of the best available technology (BAT) as well as occurrence and human exposure, health effects and toxicity, analytical methods and economics. The MCL is established to be as close as possible to the maximum contaminant level goal (MCLG). Once the MCL is established for a contaminant, the contaminant is included on the list of regulated contaminants.

The SDWA of 1996 requires community water systems to monitor for a running annual average (RAA) of inorganic contaminants other than nitrate and for synthetic organic materials which have a regulatory standard or MCL. This means that each Community Water System (CWS) where surface water is the source of the drinking water is required to take four samples per year (one sample per quarter - states have the authority to specify the timing of the quarterly samples, e.g., during the high use periods for pesticides, and states can also require more than 4 samples to be tested) and the four samples are averaged together. If one sample is above the MCL, yet the running annual average does not exceed the MCL, then the value does not have to be reported and the system is in compliance. If 1 sample causes the MCL to be exceeded, then the system is immediately out of compliance. The CWS must only report the running annual average greater than the MCL, although some systems do voluntarily report individual sample exceedances.

In addition, according to the Standardized Monitoring Framework, if a CWS does not have a running annual average above the MCL during the first year of the 3 year cycle, then the number of samples for compliance monitoring can be reduced by the states. It must be noted that it is the experience of OGWDW that CWS have much more rigorous sampling/monitoring programs than those required by law and that they are not required to report anything from their individual monitoring programs which are run in addition to the compliance monitoring program.

If an MCL has been established on an acute endpoint (as in the case for nitrite/nitrate), the number of samples to be taken for compliance monitoring are still four (1 per quarter), but the rules are different, i.e., the running annual average is not applied. If one of the 4 annual samples exceeds the MCL, then a confirmatory sample is required. If that too exceeds the MCL, the CWS is immediately out of compliance.

If a CWS has established that the RAA is greater than the MCL, then three things must be done: 1) the CWS must conduct additional monitoring; 2) they must notify the public who are served by the system of the exceedance; and 3) they must figure out the problem and fix it. Adding additional treatment is usually the last option due to the cost entailed.

### **Pesticides Currently Regulated Under the SDWA**

Under the current SDWA, the allowable levels of some pesticides should not exceed their MCLs. These MCLs are established to be protective of human health and must be “feasible.” The feasibility is determined by BAT removal efficiency, levels of contaminants in raw water, water quality parameters, and the contaminant concentrations that can be accurately quantified analytically. The MCLs of the 14 currently registered pesticides are:

<u>Pesticide</u>	<u>MCL (: g/L)</u>
Atrazine	3
Alachlor	2
Aldicarb	3
Carbofuran	40
2,4-D	70
Diquat	20
Endothall	100
Glyphosate	700
Lindane	0.2
Methoxychlor	40
Oxamyl	200
Pentachlorophenol	1
Picloram	500
Simazine	4