List of Subjects in 40 CFR Parts 141 and 142.

Administrative practice and procedure, Chemicals, Indians-lands, Intergovernmental relations, Radiation protection, Reporting, recordkeeping requirements, Water supply.

Dated: May 18, 1992.

F. Henry Habicht II,

Administrator.

For the reasons set forth in the preamble, chapter I of title 40 of the Code of Federal Regulations is amended as follows:

PART 141—NATIONAL PRIMARY DRINKING WATER REGULATIONS

1. The authority citation for part 141 continues to read as follows:

Authority: 42 U.S.C. 300f, 300g–1, 300g–2, 300g–3, 300g–4, 300g–5, 300g–6, 300j–4 and 300j–9.

2. Section 141.2 is amended by revising the definition for "Initial compliance period" to read as follows:

§ 141.2 Definitions.

* * * * *

Initial compliance period means the first full three-year compliance period which begins at least 18 months after promulgation, except for contaminants listed at 141.61(a) (19)–(21), (c)(19)–(33), and 141.62(b) (11)–(16), initial compliance period means the first full three-year compliance period after promulgation for systems with 150 or more service connections (January 1993–December 1995), and first full three-year compliance period after the effective date of the regulation (January 1996–December 1998) for systems having fewer than 150 service connections.

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3. Section 141.6 is amended by adding paragraph (h), to read as follows:

§ 141.6 Effective Date.

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(h) Regulations for the analytic methods listed at § 141.23(k)(4) for measuring antimony, beryllium, cyanide, nickel, and thallium are effective August 17, 1992. Regulations for the analytic methods listed at § 141(f)(16) for dichloromethane, 1,2,4-trichlorobenzene, and 1,1,2-trichloroethane are effective August 17, 1992. Regulations for the analytic methods listed at § 141.24(h)(12) for measuring dalapon, dinoseb, diquat, endothall, endrin, glyphosate, oxamyl, picloram, simazine, benzo(a)pyrene, di(2-ethylhexyl)adipate, di(2-ethylhexyl)phthalate, hexachlorobenzene, hexachlorocyclopentadiene, and 2,3,7,8-TCDD are effective August 17, 1992. The revision to § 141.12(a) promulgated on July 17, 1992 is effective on August 17, 1992.

4. Section 141.12 is amended by removing and reserving paragraph (a) in the table to read as follows:

§ 141.12 Maximum contaminant levels for organic chemicals.

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(a) [Reserved]

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5. Section 141.23, which will be effective, is amended by revising the introductory text to paragraph (a)(4), by revising the introductory text to a (a)(4)(i), (a)(4)(i) table, by adding paragraph (a)(4)(iii), by revising paragraph (c) introductory text, (c)(1), and (i)(1), by redesignating (k)(5) as (k)(6) and revising it, redesignating (k)(4) as (k)(5) and revising it, and by adding a new (k)(4) to read as follows:

§ 141.23 Inorganic chemical sampling and analytical requirements.

* * * * *

(a) * * *

(4) The State may reduce the total number of samples which must be analyzed by allowing the use of compositing. Composite samples from a maximum of five samples are allowed, provided that the detection limit of the method used for analysis is less than one-fifth of the MCL. Compositing of samples must be done in the laboratory.

(i) If the concentration in the composite sample is greater than or equal to one-fifth of the MCL of any inorganic chemical, then a follow-up sample must be taken within 14 days at each sampling point included in the composite. These samples must be analyzed for the contaminants which exceeded one-fifth of the MCL in the composite sample. Detection limits for each analytical method and MCLs for each inorganic contaminant are the following:

DETECTION LIMITS FOR INORGANIC CONTAMINANTS

Contaminant	MCL (mg/l)	Methodology	Detection limit (mg/l)
Antimony	0.006	Atomic Absorption; Furnace	0.003
			0.0008 [6]
		ICP-Mass Spectrometry	0.0004
		Hydride-Atomic Absorption	0.001
Asbestos	7 MFL [2]	Transmission Electron Microscopy	0.01 MFL
Barium	2	Atomic Absorption; furnace technique	0.002
		Atomic Absorption; direct aspiration	0.1
		Inductively Coupled Plasma	0.002
			(0.001) [1]
Beryllium	0.004	Atomic Absorption; Furnace	0.0002
		xl	0.00002 [6]
		Inductively Coupled Plasma [1]	0.0003
		ICP-Mass Spectrometry	0.0003
Cadmium	0.005	Atomic Absorption; furnace technique	0.0001
		Inductively Coupled Plasma	0.001 [1]
Chromium	0.1	Atomic Absorption; furnace technique	0.001
		Inductively Coupled Plasma	0.007
			(0.001) [1]
Cyanide	0.2	Distillation, Spectrophotometric [4]	0.02
		Distillation, Automated, Spectrophotometric [4]	0.005
		Distillation, Selective Electrode [4]	0.05
		Distillation, Amenable, Spectrophotometric [5]	0.02
Mercury	0.002	Manual Cold Vapor Technique	0.0002
		Automated Cold Vapor Technique	0.0002
Nickel	0.1	Atomic Absorption; Furnace	0.001
			0.0006 [6]
		Inductively Coupled Plasma [3]	0.005
		ICP-Mass Spectrometry	0.0005

DETECTION LIMITS FOR INORGANIC CONTAMINANTS—Continued

Contaminant	MCL (mg/l)	Methodology	Detection limit (mg/l)
Nitrate	10 (as N)	Manual Cadmium Reduction	0.01
		Automated Hydrazine Reduction	0.01
		Automated Cadmium Reduction	0.05
		Ion Selective Electrode	1
		Ion Chromatography	0.01
Nitrite	1 (as N)	Spectrophotometric	0.01
		Automated Cadmium Reduction	0.05
		Manual Cadmium Reduction	0.01
		Ion Chromatography	0.004
Selenium	0.05	Atomic Absorption; furnace	0.002
		Atomic Absorption; gaseous hydride	0.002
Thallium	0.002	Atomic Absorption; Furnace	0.001
			0.0007 [6]
		ICP-Mass Spectrometry	0.0003

[1] Using concentration technique in Appendix A to EPA Method 200.7.
[2] MFL = million fibers per liter >10 μm.
[3] Using a 2X preconcentration step as noted in Method 200.7. Lower MDLs may be achieved when using a 4X preconcentration.
[4] Screening method for total cyanides.
[5] Measures "free" cyanides.
[6] Lower MDLs are reported using stabilized temperature graphite furnace atomic absorption.

* * * * *

(iii) If duplicates of the original sample taken from each sampling point used in the composite are available, the system may use these instead of resampling. The duplicates must be analyzed and the results reported to the State within 14 days of collection.

* * * * *

(c) The frequency of monitoring conducted to determine compliance with the maximum contaminant levels in § 141.62 for antimony, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, selenium and thallium shall be as follows:

(1) Groundwater systems shall take one sample at each sampling point once every three years. Surface water systems (or combined surface/ground) shall take one sample annually at each sampling point.

* * * * *

(i) * * *

(1) For systems which are conducting monitoring at a frequency greater than annual, compliance with the maximum contaminant levels for antimony, asbestos, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, selenium and thallium is determined by a running annual average at any sampling point. If the average at any sampling point is greater than the MCL, then the system is out of compliance. If any one sample would cause the annual average to be exceeded, then the system is our of compliance immediately. Any sample below the method detection limit shall be calculated at zero for the purpose of determining the annual average.

* * * * *

(k) Inorganic analysis

(4) Analysis for the listed inorganic contaminants shall be conducted using the following methods:

Contaminant	Methodology	EPA [1, 5, 12]	ASTM [2]	SM [3]	USGS [4]	Other
Antimony	Atomic Absorption; Furnace [6]	[1] 204.2		3113		
	Atomic Absorption; Platform [6]	[5] 220.9				
	ICP-Mass Spectrometry [6]	[5] 200.8				
	Hydride-Atomic Absorption [9]		D-3697-87			
Asbestos	Transmission Electron Microscopy	[12] EPA				
Barium	Atomic Absorption; Furnace [6]	[1] 208.2		3113B		
	Atomic Absorption; Direct [6]	[1] 208.1		3111D		
	Inductively Coupled Plasma [6]	[5] 200.7		3120		
Beryllium	Atomic Absorption; Furnace [6]	[1] 210.2	D-3645-84B	3113		
	Atomic Absorption; Platform [6]	[5] 200.9				
	Inductively Coupled Plasma [6]	[5] 200.7		3120		
	ICP-Mass Spectrometry [6]	[5] 200.8				
Cadmium	Atomic Absorption; Furnace [6]	[1] 213.2		3113B		
	Inductively Coupled Plasma [6]	[5] 200.7				
Chromium	Atomic Absorption; Furnace [6]	[1] 218.2		3113B		
	Inductively Coupled Plasma [6]	[5] 200.7		3120		
Cyanide	Distillation, Spec.	[7] 335.2	D-2036-89A	4500-CN-D	I330085	
	Distillation, Automated, Spec.	[1] 335.3		4500-CN-E		
	Distillation, Selective Electrode		D-2036-89A	4500-CN-F		
	Distillation, Amenable, Spec.	[1] 335.1	D-2036-89B	4500-CN-G		
Mercury	Manual Cold Vapor Technique [9]	[1] 245.1	D3223-86	3112B		
	Automated Cold Vapor Technique [9]	[1] 245.2				
Nickel	Atomic Absorption; Furnace [6]	[1] 249.2		3113		
	Atomic Absorption; Platform [6]	[5] 200.9				
	Atomic Absorption; Direct [6]	[1] 249.1		3111B		
	Inductively Coupled Plasma [6]	[5] 200.7		3120		
	ICP-Mass Spectrometry [6]	[5] 200.8				
Nitrate	Manual Cadmium Reduction	[1] 353.3	D3867-90	4500-NO_3-E		
	Automated Hydrazine Reduction	[1] 353.1				
	Automated Cadmium Reduction	[1] 353.2	D3867-90	4500-NO_3-F		

Contaminant	Methodology	EPA [1, 5, 12]	ASTM [2]	SM [3]	USGS [4]	Other
	Ion Selective Electrode					WeWWG/5880 [7]
	Ion Chromatography	[11] 300.0				B-1011 [8]
Nitrite	Spectophometric	[1] 354.1				
	Automated Cadmium Reduction	[1] 353.2	D3867-90	4500-NO_3-F		
	Manual Cadmium Reduction	[1] 353.3	D3867-90	4500-NO_3-E		
	Ion Chromatography	[11] 300.0				B-1011 [8]
Selenium	Hydride-Atomic Absorption [9]		D3859-84A	3114B		
	Atomic Absorption; Furnace [6, 10]	[1] 270.2	D3859-88	3113B		
Thallium	Atomic Absorption; Furnace [6]	[1] 279.2		3113		
	Atomic Absorption; Platform [6]	[5] 200.9				
	ICP-Mass Spectrometry [6]	[5] 200.8				

[1] "Methods of Chemical Analysis of Water and Wastes," EPA Environmental Monitoring Systems Laboratory, Cincinnati, OH 45268 March 1983. EPA-600/4-79-020.

[2] Annual Book of ASTM Standards, Vols. 11.01 and 11.02, 1991, American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.

[3] "Standard Methods for the Examination of Water and Wastewater," 17th edition, American Public Health Association, American Water Works Association, Water Pollution Control Federation, 1989.

[4] Techniques of Water Resources Investigations of the U.S. Geological Survey, "Methods for Determination of Inorganic Substances in Water and Fluvial Sediments," Book 5, Chapter A-1, Third Edition, 1989. Available at Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

[5] "Methods for the Determination of Metals in Environmental Samples." Available at NTIS, PB 91-231498.

[6] Samples that contain less than 1 NTU (nephelometric turbidity unit) and are properly preserved (conc HNO_3 to pH <2) may be analyzed directly (without digestion) for total metals, otherwise, digestion is required. Turbidity must be measured on the preserved samples just prior to the initiation of metal analysis. When digestion is required, the total recoverable technique as defined in the method must be used.

[7] "Orion Guide to Water and Wastewater Analysis." Form WeWWG/5880, p. 5, 1985. Orion Research, Inc., Cambridge, MA.

[8] "Waters Test Method for Determination of Nitrite/Nitrate in Water Using Single Column Ion Chromatography, Method B-1011, Millipore Corporation, Waters Chromatography Division, 34 Maple Street, Milford, MA 01757.

[9] For the gaseous hydride determinations of antimony and selenium and for the determination of mercury by the cold vapor techniques, the proper digestion technique as defined in the method must be followed to ensure the element is in the proper state for analyses.

[10] Add 2 ml of 30% H_2O_2 and an appropriate concentration of matrix modifier $Ni(NO_3)+6H_20$ (nickel nitrate) to samples.

[11] "Method 300. Determination of Inorganic Anions in Water by Ion Chromatography." Inorganic Chemistry Branch, Environmental Monitoring Systems Laboratory. August 1991.

[12] "Analytical Method For Determination of Asbestos Fibers in Water," EPA-600/4-83-043, September 1983. U.S. EPA Environmental Research Laboratory. Athens, GA 30613.

(5) Sample collection for antimony, asbestos, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, nitrate, nitrite, selenium, and thallium under this section shall be conducted using the sample preservation, container, and maximum holding time procedures specified in the table below:

Contaminant	Preservative [1]	Container [2]	Time [3]
Antimony	Conc HNO_3 to pH <2	P or G	6 months.
Asbestos	Cool, 4°C	P or G	
Barium	Conc HNO_3 to pH <2	P or G	6 months.
Beryllium	Conc HNO_3 to pH <2	P or G	6 months.
Cadmium	Conc HNO_3 to pH <2	P or G	6 months.
Chromium	Conc HNO_3 to pH <2	P or G	6 months.
Cyanide	Cool, 4°C, NAOH to pH >12,	P or G	14 days.
Fluoride	None	P or G	1 month.
Mercury	Conc HNO_3 to pH <2	P or G	28 days.
Nickel	Conc HNO_3 to pH <2	P or G	6 months.
Nitrate			
Chlorinated	Cool, 4°C	P or G	28 days.
Non-chlorinated	Conc H_2SO_4 to pH <2	P or G	14 days.
Nitrite	Cool, 4°C	P or G	48 hours.
Selenium	Conc HNO_3 to pH <2	P or G	6 months.
Thallium	Conc HNO_3 to pH <2	P or G	6 months.

[1] If HNO_3 cannot be used because of shipping restrictions, sample may be initially preserved by icing and immediately shipping it to the laboratory. Upon receipt in the laboratory, the sample must be acidified with conc HNO_3 to pH <2 and held for 16 hours before analysis.

[2] P=plastic, hard or soft; G=glass, hard or soft.

[3] In all cases, samples should be analyzed as soon after collection as possible.

[4] See method(s) for the information for preservation.

(6) Analysis under this section shall only be conducted by laboratories that have been certified by EPA or the State. Laboratories may conduct sample analysis under provisional certification until January 1, 1996. To receive certification to conduct analyses for antimony, asbestos, barium, beryllium, cadmium, chromium, cyanide, fluoride, mercury, nickel, nitrate, nitrite and selenium and thallium, the laboratory must:

(i) Analyze Performance Evaluation samples which include those substances provided by EPA Environmental Monitoring Systems Laboratory or equivalent samples provided by the State.

(ii) Achieve quantitative results on the analyses that are within the following acceptance limits:

Contaminant	Acceptance limit
Antimony	6#30 at ≥0.006 mg/1
Asbestos	2 standard deviations based on study statistics.
Barium	±15% at ≥0.15 mg/1
Beryllium	±15% at ≥0.001 mg/1
Cadmium	±20% at ≥0.002 mg/1
Chromium	±15% at ≥0.01 mg/1
Cyanide	±25% at ≥0.1 mg/1
Fluoride	±10% at ≥1 to 10 mg/1
Mercury	±30% at ≥0.0005 mg/1
Nickel	±15% at ≥0.01 mg/1
Nitrate	±10% at ≥0.4 mg/1
Nitrite	±15% at ≥0.4 mg/1

Contaminant	Acceptance limit
Selenium	±20% at ≥0.01 mg/1
Thallium	±30% at ≥0.002 mg/1

* * * * *

6. Section 141.24 is amended by revising paragraph (f) introductory text, paragraphs (f) introductory text, paragraphs (f)(4), (f)(5), (f)(7), and (f)(10), (f)(11), introductory text, (f)(12), the introductory texts of (f)(14), (f)(15) and (f)(16) revising (f) (17) and (18), (h)(10), (h)(12)(ii)–(iv), (h)(12)(vi)–(viii), (h)(18), (h)(19)(i)(B), and adding paragraphs (h)(12)(ix)–(xiv) to read as follows:

§ 141.24 Organic chemicals other than total trialomethanes, sampling and analytical requirements.

* * * * *

(f) Beginning with the initial compliance period, analysis of the contaminants listed in § 141.61(a) (1) through (21) for the purpose of determining compliance with the maximum contaminant level shall be conducted as follows:

* * * * *

(4) Each community and non-transient non-community water system shall take four consecutive quarterly samples for each contaminant listed in § 141.61(a) (2) through 21 during each compliance period, beginning in the initial compliance period.

(5) If the initial monitoring for contaminants listed in § 141.61(a) (1) through (8) and the monitoring for the contaminants listed in § 141.61(a) (9) through (21) as allowed in paragraph (f)(18) has been completed by December 31, 1992, and the system did not detect any contaminant listed in § 141.61(a) (1) through (21), then each ground and surface water system shall take one sample annually beginning with the initial compliance period.

* * * * *

(7) Each community and non-transient ground water system which does not detect a contaminant listed in § 141.61(a) (1) through (21) may apply to the State for a waiver from the requirements of paragraphs (f)(5) and (f)(6) of this section after completing the initial monitoring. (For purposes of this section, detection is defined as >0.0005 mg/l.) A waiver shall be effective for no more than six years (two compliance periods). States may also issue waivers to small systems for the initial round of monitoring for 1,2,4-trichlorobenzene.

* * * * *

(10) Each community and non-transient surface water system which does not detect a contaminant listed in § 141.61(a) (1) through (21) may apply to the State for a waiver from the requirements of (f)(5) of this section after completing the initial monitoring. Composite samples from a maximum of five sampling points are allowed, provided that the detection limit of the method used for analysis is less than one-fifth of the MCL. Systems meeting this criterion must be determined by the State to be non-vulnerable based on a vulnerability assessment during each compliance period. Each system receiving a waiver shall sample at the frequency specified by the State (if any).

(11) If a contaminant listed in § 141.61(a) (2) through (21) is detected at a level exceeding 0.0005 mg/l in any sample, then:

* * * * *

(12) Systems which violate the requirements of § 141.61(a) (1) through (21), as determined by paragraph (f)(15) of this section, must monitor quarterly. After a minimum of four consecutive quarterly samples which show the system is in compliance as specified in paragraph (f)(15) of this section the system and the State determines that the system is reliably and consistently below the maximum contaminant level, the system may monitor at the frequency and times specified in paragraph (f)(11)(iii) of this section.

* * * * *

(14) The State may reduce the total number of samples a system must analyze by allowing the use of compositing. Composite samples from a maximum of five sampling points are allowed, provided that the detection limit of the method used for analysis is less than one-fifth of the MCL. Compositing of samples must be done in the laboratory and analyzed within 14 days of sample collection.

* * * * *

(15) Compliance with § 141.61(a) (1) through (21) shall be determined based on the analytical results obtained at each sampling point.

* * * * *

(16) Analysis for the contaminants listed in § 141.61(a) (1) through (21) shall be conducted using the following EPA methods or their equivalent as approved by EPA. These methods are contained in Methods for the Determination of Organic Compounds in Drinking Water, EPA/600/4–88/039, and are available from the National Technical Information Service (NTIS) NTIS PB91–231480 and PB91–146027, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161. The toll-free number is 800–336–4700.

* * * * *

(17) Analysis under this section shall only be conducted by laboratories that are certified by EPA or the State according to the following conditions (laboratories may conduct sample analysis under provisional certification until January 1, 1996):

(i) To receive certification to conduct analyses for the contaminants in § 141.61(a) (2) through (21) the laboratory must:

(A) Analyze Performance Evaluation samples which include these substances provided by EPA Environmental Monitoring Systems Laboratory or equivalent samples provided by the State.

(B) Achieve the quantitative acceptance limits under paragraphs (f)(17)(i) (C) and (D) of this section for at least 80 percent of the regulated organic chemicals listed in § 141.61(a) (2) through (21).

(C) Achieve quantitative results on the analyses performed under paragraph (f)(17)(i)(A) of this section that are within ±20% of the actual amount of the substances in the Performance Evaluation sample when the actual amount is greater than or equal to 0.010 mg/l.

(D) Achieve quantitative results on the analyses performed under paragraph (f)(17)(i)(A) of this section that are within ±40 percent of the actual amount of the substances in the Performance Evaluation sample when the actual amount is less than 0.010 mg/l.

(E) Achieve a method detection limit of 0.0005 mg/l, according to the procedures in Appendix B of Part 136.

(ii) To receive certification for vinyl chloride, the laboratory must:

(A) Analyze Performance Evaluation samples provided by EPA Environmental Monitoring Systems Laboratory or equivalent samples provided by the State.

(B) Achieve quantitative results on the analyses performed under paragraph (f)(17)(ii)(A) of this section that are within ±40 percent of the actual amount of vinyl chloride in the Performance Evaluation sample.

(C) Achieve a method detection limit of 0.0005 mg/l, according to the procedures in appendix B of part 136.

(D) Obtain certification for the contaminants listed in § 141.61(a)(2) through (21).

(18) States may allow the use of monitoring data collected after January 1, 1988, required under section 1445 of the Act for purposes of initial monitoring compliance. If the data are generally consistent with the other requirements of this section, the State may use these data (i.e., a single sample rather than four quarterly samples) to satisfy the initial monitoring requirement of

paragraph (f)(4) of this section. Systems which use grandfathered samples and did not detect any contaminant listed § 141.61(a)(2) through (21) shall begin monitoring annually in accordance with paragraph (f)(5) of this section beginning with the initial compliance period.

* * * * *

(h) * * *

(10) The State may reduce the total number of samples a system must analyze by allowing the use of compositing. Composite samples from a maximum of five sampling points are allowed, provided that the detection limit of the method used for analysis is less than one-fifth of the MCL. Compositing of samples must be done in the laboratory and analyzed within 14 days of sample collection.

* * * * *

(12) * * *

(ii) Method 505, "Analysis of Organohalide Pesticides and Commercial Polychlorinated Biphenyl Products (Aroclors) in Water by Microextraction and Gas Chromatography." Method 505 can be used to measure alachlor, atrazine, chlordane, endrin, heptachlor, heptachlor epoxide, hexachlorobenzene, hexachlorocyclopentadiene, lindane, methoxychlor, toxaphene and simazine. Method 505 can be used as a screen for PCBs.

(iii) Method 507, "Determination of Nitrogen- and Phosphorus-Containing Pesticides in Ground Water by Gas Chromatography with a Nitrogen-Phosphorus Detector." Method 507 can be used to measure alachlor, atrazine and simazine.

(iv) Method 508, "Determination of Chlorinated Pesticides in Water by Gas Chromatography with an Electron Capture Detector." Method 508 can be used to measure chlordane, endrin, heptachlor, heptachlor epoxide, hexachlorobenzene, lindane, methoxychlor and toxaphene. Method 508 can be used as a screen for PCBs.

* * * * * * *

(vi) Method 515.1, "Determination of Chlorinated Acids in Water by Gas Chromatography with an Electron Capture Detector." Method 515.1 can be used to measure 2,4-D, dalapon, dinoseb, pentachlorophenol, picloram and 2,4,5-TP (Silvex).

(vii) Method 525.1, "Determination of Organic Compounds in Drinking Water by Liquid-Solid Extraction and Capillary Column Gas Chromatography/Mass Spectrometry." Method 525.1 can be used to measure alachlor, atrazine, chlordane, di(2-ethylhexyl)adipate, di(2-ethylhexyl)phthalate, endrin, heptachlor, heptachlor epoxide, hexachlorobenzene, hexachlorocyclopentadiene, lindane, methoxychlor, pentachlorophenol, polynuclear aromatic hydrocarbons, simazine, and toxaphene.

(viii) Method 531.1, "Measurement of N-Methyl Carbamoyloximes and N-Methyl Carbamates in Water by Direct Aqueous Injection HPLC with Post-Column Derivatization." Method 531.1 can be used to measure aldicarb, aldicarb sulfoxide, aldicarb sulfone, carbofuran and oxamyl.

(ix) Method 1613, "Tetra- through Octa- Chlorinated Dioxins and Furans by Isotope Dilution." Method 1613 can be used to measure 2,3,7,8-TCDD (dioxin). This method is available from USEPA-OST, Sample Control Center, P.O. Box 1407, Alexandria, VA 22313.

(x) Method 547, "Analysis of Glyphosate in Drinking Water by Direct Aqueous Injection HPLC with Post-Column Derivatization" Method 547 can be used to measure glyphosate.

(xi) Method 548, "Determination of Endothall in Aqueous Samples." Method 548 can be used to measure endothall.

(xii) Method 549, "Determination of Diquat and Paraquat in Drinking Water by High Performance Liquid Chromatography with Ultraviolet Detection." Method 549 can be used to measure diquat.

(xiii) Method 550, "Determination of Polycyclic Aromatic Hydrocarbons in Drinking Water by Liquid-Liquid Extraction and HPLC with Coupled Ultraviolet and Fluorescence Detection". Method 550 can be used to measure benzo(a)pyrene and other polynuclear aromatic hydrocarbons.

(xiv) Method 550.1, "Determination of Polycyclic Aromatic Hydrocarbons in Drinking Water by Liquid-Solid Extraction and HPLC with Coupled Ultraviolet and Fluorescence Detection". Method 550.1 can be used to measure benzo(a)pyrene and other polynuclear aromatic hydrocarbons.

* * * * *

(18) Detection as used in this paragraph shall be defined as greater than or equal to the following concentrations for each contaminant.

Contaminant	Detection limit (mg/l)
Alachlor	.0002
Aldicarb	.0005
Aldicarb sulfoxide	.0005
Aldicarb sulfone	.0008
Atrazine	.0001
Benzo[a]pyrene	.00002
Carbofuran	.0009
Chlordane	.0002
Dalapon	.001
Dibromochloropropane (DBCP)	.00002
Di (2-ethylhexyl) adipate	.0006
Di (2-ethylhexyl) phthalate	.0006
Dinoseb	.0002
Diquat	.0004
2,4-D	.0001
Endothall	.009
Endrin	.00001
Ethylene dibromide (EDB)	.00001
Glyphosate	.006
Heptachlor	.00004
Heptachlor epoxide	.00002
Hexachlorobenzene	.0001
Hexachlorocyclopentadiene	.0001
Lindane	.00002
Methoxychlor	.0001
Oxamyl	.002
Picloram	.0001
Polychlorinated biphenyls (PCBs) (as decachlorobiphenyl)	.0001
Pentachlorophenol	.00004
Simazine	.00007
Toxaphene	.001
2,3,7,8-TCDD (Dioxin)	.000000005
2,4,5-TP (Silvex)	.0002

* * * * *

(19) * * *

(i) * * *

(B) Achieve quantitative results on the analyses that are within the following acceptance limits:

Contaminant	Acceptance limits (percent)
DBCP	±40
EDB	±40.
Alachlor	±45.
Atrazine	±45.
Benzo[a]pyrene	2 standard deviations.
Carbofuran	±45.
Chlordane	±45.
Dalapon	2 standard deviations.
Di(2-ethylhexyl)adipate	2 standard deviations.
Di(2-ethylhexyl)phthalate	2 standard deviations.
Dinoseb	2 standard deviations.
Diquat	2 standard deviations.
Endothall	2 standard deviations.
Endrin	±30.
Glyphosate	2 standard deviations.
Heptachlor	±45.
Heptachlor epoxide	±45.
Hexachlorobenzene	2 standard deviations.
Hexachloro-cyclopentadiene	2 standard deviations.
Lindane	±45.
Methoxychlor	±45.
Oxamyl	2 standard deviations.
PCBs (as Decachlorobiphenyl)	0–200.
Picloram	2 standard deviations.
Simazine	2 standard deviations.
Toxaphene	±45.
Aldicarb	2 standard deviations.
Aldicarb sulfoxide	2 standard deviations.
Aldicarb sulfone	2 standard deviations.
Pentachlorophenol	±50.
2,3,7,8-TCDD (Dioxin)	2 standard deviations.
2,4-D	±50.
2,4,5-TP (Silvex)	±50.

* * * * *

7. Section 141.32 is amended by adding paragraphs (e)(53) through (75) to read as follows:

§ 141.32 Public notification.

* * * * *

(e)* * *

(53) *Antimony.* The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that antimony is a health concern at certain levels of exposure. This inorganic chemical occurs naturally in soils, ground water and surface waters and is often used in the flame retardant industry. It is also used in ceramics, glass, batteries, fireworks and explosives. It may get into drinking water through natural weathering of rock, industrial production, municipal waste disposal or manufacturing processes. This chemical has been shown to decrease longevity, and altered blood levels of cholesterol and glucose in laboratory animals such as rats exposed to high levels during their lifetimes. EPA has set the drinking water standard for antimony at 0.006 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to antimony.

(54) *Beryllium.* The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that beryllium is a health concern at certain levels of exposure. This inorganic metal occurs naturally in soils, ground water and surface waters and is often used in electrical equipment and electrical components. It generally gets into water from runoff from mining operations, discharge from processing plants and improper waste disposal. Beryllium compounds have been associated with damage to the bones and lungs and induction of cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. There is limited evidence to suggest that beryllium may pose a cancer risk via drinking water exposure. Therefore, EPA based the health assessment on noncancer effects with an extra uncertainty factor to account for possible carcinogenicity. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. EPA has set the drinking water standard for beryllium at 0.004 part per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to beryllium.

(55) *Cyanide.* The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that cyanide is a health concern at certain levels of exposure. This inorganic chemical is used in electroplating, steel processing, plastics, synthetic fabrics and fertilizer products. It usually gets into water as a result of improper waste disposal. This chemical has been shown to damage the spleen, brain and liver of humans fatally poisoned with cyanide. EPA has set the drinking water standard for cyanide at 0.2 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to cyanide.

(56) *Nickel.* The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that nickel poses a health concern at certain levels of exposure. This inorganic metal occurs naturally in soils, ground water and surface waters and is often used in electroplating, stainless steel and alloy products. It generally gets into water from mining and refining operations. This chemical has been shown to damage the heart and liver in laboratory animals when the animals are exposed to high levels over their lifetimes. EPA has set the drinking water standard at 0.1 parts per million (ppm) for nickel to protect against the risk of these adverse effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to nickel.

(57) *Thallium.* The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that thallium is a health concern at certain high levels of exposure. This inorganic metal is found naturally in soils and is used in electronics, pharmaceuticals, and the manufacture of glass and alloys. This chemical has been shown to damage the kidney, liver, brain and intestines of laboratory animals when the animals are exposed at high levels over their lifetimes. EPA has set the drinking water standard for thallium at 0.002 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to thallium.

(58) *Benzo[a]pyrene.* The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that benzo[a]pyrene is a health concern at certain levels of exposure. Cigarette smoke and charbroiled meats are common source of general exposure. The major source of benzo[a]pyrene in drinking water is the leaching from coal tar lining and sealants in water storage tanks. This chemical has been shown to cause cancer in animals such as rats and mice when the animals are exposed at high levels. EPA has set the drinking water standard for benzo[a]pyrene at 0.0002 parts per million (ppm) to protect against the risk of cancer. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to benzo[a]pyrene.

(59) *Dalapon.* The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that dalapon is a health concern at certain levels of exposure. This organic chemical is a widely used herbicide. It may get into drinking water after application to control grasses in crops, drainage ditches and along railroads. This chemical has been shown to cause damage to the kidney and liver in laboratory animals when the animals are exposed to high levels over their lifetimes. EPA has set the drinking water standard for dalapon at 0.2 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to dalapon.

(60) *Dichloromethane.* The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that dichloromethane (methylene chloride) is a health concern at certain levels of exposure. This organic chemical is a widely used solvent. It is used in the manufacture of paint remover, as a metal degreaser and as an aerosol propellant. It generally gets into drinking water after improper discharge of waste disposal. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. EPA has set the drinking water standard for dichloromethane at 0.005 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe with respect to dichloromethane.

(61) *Di (2-ethylhexyl)adipate.* The United States Environmental Protection Agency (EPA) sets drinking water

standards and has determined that di(2-ethylhexyl)adipate is a health concern at certain levels of exposure. Di(2-ethylhexyl)adipate is a widely used plasticizer in a variety of products, including synthetic rubber, food packaging materials and cosmetics. It may get into drinking water after improper waste disposal. This chemical has been shown to damage liver and testes in laboratory animals such as rats and mice exposed to high levels. EPA has set the drinking water standard for di(2-ethylhexyl)adipate at 0.4 parts per million (ppm) to protect against the risk of adverse health effects. Drinking water which meets the EPA standards is associated with little to none of this risk and should be considered safe with respect to di(2-ethylhexyl)adipate.

(62) *Di(2-ethylhexyl)phthalate.* The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that di(2-ethylhexyl)phthalate is a health concern at certain levels of exposure. Di(2-ethylhexyl)phthalate is a widely used plasticizer, which is primarily used in the production of polyvinyl chloride (PVC) resins. It may get into drinking water after improper waste disposal. This chemical has been shown to cause cancer in laboratory animals such as rats and mice exposed to high levels over their lifetimes. EPA has set the drinking water standard for di(2-ethylhexyl)phthalate at 0.004 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to di(2-ethylhexyl)phthalate.

(63) *Dinoseb.* The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that dinoseb is a health concern at certain levels of exposure. Dinoseb is a widely used pesticide and generally gets into drinking water after application on orchards, vineyards and other crops. This chemical has been shown to damage the thyroid and reproductive organs in laboratory animals such as rats exposed to high levels. EPA has set the drinking water standard for dinoseb at 0.007 parts per million (ppm) to protect against the risk of adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to dinoseb.

(64) *Diquat.* The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that diquat is a health concern at certain levels of exposure. This organic chemical is a herbicide used to control terrestrial and aquatic weeds. It may get into drinking water by runoff into surface water. This chemical has been shown to damage the liver, kidney and gastrointestinal tract and causes cataract formation in laboratory animals such as dogs and rats exposed at high levels over their lifetimes. EPA has set the drinking water standard for diquat at 0.02 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to diquat.

(65) *Endothall.* The United States Environmental Protection Agency (EPA) has determined that endothall is a health concern at certain levels of exposure. This organic chemical is a herbicide used to control terrestrial and aquatic weeds. It may get into water by runoff into surface water. This chemical has been shown to damage the liver, kidney, gastrointestinal tract and reproductive system of laboratory animals such as rats and mice exposed at high levels over their lifetimes. EPA has set the drinking water standard for endothall at 0.1 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to endothall.

(66) *Endrin.* The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that endrin is a health concern at certain levels of exposure. This organic chemical is a pesticide no longer registered for use in the United States. However, this chemical is persistent in treated soils and accumulates in sediments and aquatic and terrestrial biota. This chemical has been shown to cause damage to the liver, kidney and heart in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. EPA has set the drinking water standard for endrin at 0.002 parts per million (ppm) to protect against the risk of these adverse health effects which have been observed in laboratory animals. Drinking water that meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to endrin.

(67) *Glyphosate.* The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that glyphosate is a health concern at certain levels of exposure. This organic chemical is a herbicide used to control grasses and weeds. It may get into drinking water by runoff into surface water. This chemical has been shown to cause damage to the liver and kidneys in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. EPA has set the drinking water standard for glyphosate at 0.7 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to glyphosate.

(68) *Hexachlorobenzene.* The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that hexachlorobenzene is a health concern at certain levels of exposure. This organic chemical is produced as an impurity in the manufacture of certain solvents and pesticides. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed to high levels during their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. EPA has set the drinking water standard for hexachlorobenzene at 0.001 parts per million (ppm) to protect against the risk of cancer and other adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to hexachlorobenzene.

(69) *Hexachlorocyclopentadiene.* The United States Environmental Protection Agency (EPA) establishes drinking water standards and has determined that hexachlorocyclopentadiene is a health concern at certain levels of exposure. This organic chemical is used as an intermediate in the manufacture of pesticides and flame retardants. It may get into water by discharge from production facilities. This chemical has been shown to damage the kidney and the stomach of laboratory animals when exposed at high levels over their lifetimes. EPA has set the drinking water standard for hexachlorocyclopentadiene at 0.05 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to hexachlorocyclopentadiene.

(70) *Oxamyl.* The United States Environmental Protection Agency (EPA) establishes drinking water standards

and has determined that oxamyl is a health concern at certain levels of exposure. This organic chemical is used as a pesticide for the control of insects and other pests. It may get into drinking water by runoff into surface water or leaching into ground water. This chemical has been shown to damage the kidneys of laboratory animals such as rats when exposed at high levels over their lifetimes. EPA has set the drinking water standard for oxamyl at 0.2 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to oxamyl.

(71) *Picloram.* The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that picloram is a health concern at certain levels of exposure. This organic chemical is used as a pesticide for broadleaf weed control. It may get into drinking water by runoff into surface water or leaching into ground water as a result of pesticide application and improper waste disposal. This chemical has been shown to cause damage to the kidneys and liver in laboratory animals such as rats when the animals are exposed at high levels over their lifetimes. EPA has set the drinking water standard for picloram at 0.5 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to picloram.

(72) *Simazine.* The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that simazine is a health concern at certain levels of exposure. This organic chemical is a herbicide used to control annual grasses and broadleaf weeds. It may leach into ground water or runs off into surface water after application. This chemical may cause cancer in laboratory animals such as rats and mice exposed at high levels during their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. EPA has set the drinking water standard for simazine at 0.004 parts per million (ppm) to reduce the risk of cancer or other adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to simazine.

(73) *1,2,4-Trichlorobenzene.* The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that 1,2,4-trichlorobenzene is a health concern at certain levels of exposure. This organic chemical is used as a dye carrier and as a precursor in herbicide manufacture. It generally gets into drinking water by discharges from industrial activities. This chemical has been shown to cause damage to several organs, including the adrenal glands. EPA has set the drinking water standard for 1,2,4-trichlorobenzene at 0.07 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to 1,2,4-trichlorobenzene.

(74) *1,1,2-Trichloroethane.* The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined 1,1,2-trichloroethane is a health concern at certain levels of exposure. This organic chemical is an intermediate in the production of 1,1-dichloroethylene. It generally gets into water by industrial discharge of wastes. This chemical has been shown to damage the kidney and liver of laboratory animals such as rats exposed to high levels during their lifetimes. EPA has set the drinking water standard for 1,1,2-trichloroethane at 0.005 parts per million (ppm) to protect against the risk of these adverse health effects. Drinking water which meets the EPA standard is associated with little to none of this risk and should be considered safe with respect to 1,1,2-trichloroethane.

(75) *2,3,7,8-TCDD (Dioxin).* The United States Environmental Protection Agency (EPA) sets drinking water standards and has determined that dioxin is a health concern at certain levels of exposure. This organic chemical is an impurity in the production of some pesticides. It may get into drinking water by industrial discharge of wastes. This chemical has been shown to cause cancer in laboratory animals such as rats and mice when the animals are exposed at high levels over their lifetimes. Chemicals that cause cancer in laboratory animals also may increase the risk of cancer in humans who are exposed over long periods of time. EPA has set the drinking water standard for dioxin at 0.00000003 parts per million (ppm) to reduce the risk of cancer or other adverse health effects which have been observed in laboratory animals. Drinking water which meets this standard is associated with little to none of this risk and should be considered safe with respect to dioxin.

8. Section 141.40 is amended by revising paragraph (e), revising paragraph (f), revising paragraphs (g) and (h), and revising paragraphs (n) (11) and (12) including the tables to read as follows:

§ 141.40 Special monitoring for organic chemicals.

* * * * *

(e) Community water systems and non-transient, non-community water systems shall monitor for the following contaminants except as provided in paragraph (f) of this section:

(1) Chloroform
(2) Bromodichloromethane
(3) Chlorodibromomethane
(4) Bromoform
(5) Chlorobenzene
(6) m-Dichlorobenzene
(8) 1,1-Dichloropropene
(9) 1,1-Dichloroethane
(10) 1,1,2,2-Tetrachloroethane
(11) 1,3-Dichloropropane
(12) Chloromethane
(13) Bromomethane
(14) 1,2,3-Trichloropropane
(15) 1,1,1,2-Tetrachloroethane
(16) Chloroethane
(17) 2,2-Dichloropropane
(18) o-Chlorotoluene
(19) p-Chlorotoluene
(20) Bromobenzene
(21) 1,3-Dichloropropene

(f) [Reserved]

(g) Analysis under this section shall be conducted using the recommended EPA methods as follows, or their equivalent as determined by EPA: 502.1, "Volatile Halogenated Organic Compounds in Water by Purge and Trap Gas Chromatography," 503.1, "Volatile Aromatic and Unsaturated Organic Compounds in Water by Purge and Trap Gas Chromatography," 524.1, "Volatile Organic Compounds in Water by Purge and Trap Gas Chromatography/Mass Spectrometry," 524.2, "Volatile Organic Compounds in Water by Purge and Trap Capillary Column Gas Chromatography/Mass Spectrometry, or 502.2, "Volatile Organic Compounds in Water by Purge and Trap Gas Chromatography with Photoionization and Electrolytic Conductivity Detectors in Series." These methods are contained in "Methods for the Determination of Organic Compounds in Finished Drinking Water and Raw Source Water," September 1986, available from the Drinking Water Public Docket or the National Technical Information Service (NTIS), NTIS PB91-231480 and PB91-146027, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161. The toll-free number is 800-336-4700.

(h) Analysis under this section shall only be conducted by laboratories approved under § 141.24(g)(11).

* * * * *

(n) * * *

(11) List of Unregulated Organic Contaminants:

Organic contaminants	EPA analytical method
Aldrin	505, 508, and 525.
Butachlor	507, 525.
Carbaryl	531.1.
Dicamba	515.1.
Dieldrin	505, 508, and 525.
3-Hydroxycarbofuran	531.1.
Methomyl	531.1.
Metolachlor	507, 525.
Metribuzin	507, 508, and 525.
Propachlor	507, 525.

(12) List of Unregulated Inorganic Contaminants:

Inorganic contaminants	EPA analytical method
Sulfate	Colorimetric.

9. Section 141.50 is amended by adding paragraphs (a)(19) through (a)(23) and paragraphs (b)(21) through (b)(33) in the table in paragraphs (b) as follows:

§ 141.50 Maximum contaminant level goals for organic chemicals.

(a) * * *

(19) Benzo[a]pyrene

(20) Dichloromethane (methylene chloride)

(21) Di(2-ethylhexyl)phthalate

(22) Hexachlorobenzene

(23) 2,3,7,8-TCDD (Dioxin)

(b) * * *

Contaminant	MCLG (mg/l)
* * * * *	
(21) Dalapon	0.2
(22) Di(2-ethylhexyl)adipate	4
(23) Dinoseb	.007
(24) Diquat	.02
(25) Endothall	1
(26) Endrin	.002
(27) Glyphosate	.7
(28) Hexachlorocyclopentadiene	.05
(29) Oxamyl (Vydate)	.2
(30) Picloram	.5
(31) Simazine	.004
(32) 1,2,4-Trichlorobenzene	.07
(33) 1,1,2-Trichloroethane	.003

10. Section 141.51 is amended by adding entries (b)(11) through (b)(15) as follows:

§ 141.51 Maximum contaminant level goals for inorganic contaminants.

(b) * * *

Contaminant	MCLG (mg/l)
* * * * *	
(11) Antimony	0.006
(12) Beryllium	.004
(13) Cyanide (as free Cyanide)	.2
(14) Nickel	1
(15) Thallium	.0005

11. Section 141.60 is amended by adding paragraphs (a)(3) and (b)(3) to read as follows:

§ 141.60 Effective dates.

(a) * * *

(3) The effective date for paragraphs (a)(19) through (a)(21) and (c)(19) through (c)(33) of § 141.61 is January 17, 1994.

(b) * * *

(3) The effective date for paragraphs (b)(11) through (b)(15) of § 141.62 is January 17, 1994.

12. Section 141.61 is amended by adding paragraphs (a)(19)–(21); by revising paragraph (b) including the table; by revising the introductory text to paragraph (c); and by adding paragraphs (c)(19)–(33).

§ 141.61 Maximum contaminant levels for organic contaminants.

* * * * *

CAS No.	Contaminant	MCL (mg/l)
* * * * *		
(19) 75-09-2	Dichloromethane	0.005
(20) 120-82-1	1,2,4-Trichlorobenzene.	.07
(21) 79-00-5	1,1,2-Trichloroethane.	005

(b) The Administrator, pursuant to section 1412 of the Act, hereby identifies as indicated in the Table below granular activated carbon (GAC), packed tower aeration (PTA), or oxidation (OX) as the best technology treatment technique, or other means available for achieving compliance with the maximum contaminant level for synthetic organic contaminants identified in paragraphs (a) and (c) of this section:

BAT FOR ORGANIC CONTAMINANTS LISTED IN SECTION 141.61(A) AND (C)

CAS No.	Contaminant	GAC	PTA	OX
50-32-8	Benzo[a]pyrene	X		
75-99-0	Dalapon	X		
75-09-2	Dichloromethane		X	
103-23-1	Di (2-ethylhexyl) adipate	X	X	
117-81-7	Di (2-ethylhexyl) phthalate	X		
88-85-7	Dinoseb	X		
85-00-7	Diquat	X		
145-73-3	Endothall	X		
72-20-8	Endrin	X		
1071-53-6	Glyphosate			X
118-74-1	Hexachlorobenzene	X		
77-47-3	Hexachlorocyclopentadiene	X	X	
23135-22-0	Oxamyl (Vydate)	X		
1918-02-1	Picloram	X		
122-34-9	Simazine	X		
120-82-1	1,2,4-Trichlorobenzene	X	X	
79-00-5	1,1,2-Trichloroethane	X	X	
1746-01-6	2,3,7,8-TCDD (Dioxin)	X		

(c) The following maximum contaminant levels for synthetic organic contaminants apply to community water systems and non-transient, non-community water systems:

* * * * *

	CAS No.	Contaminant	MCL (mg/1)
(19)	50-32-8	Benzo[a]pyrene	0.0002
(20)	75-99-0	Dalapon	0.2
(21)	103-23-1	Di(2-ethylhexyl) adipate	0.4
(22)	117-81-7	Di(2-ethylhexyl) phthalate	0.006
(23)	88-85-7	Dinoseb	0.007
(24)	85-00-7	Diquat	0.02
(25)	145-73-3	Endothall	0.1
(26)	72-20-8	Endrin	0.002
(27)	1071-53-6	Glyphosate	0.7
(28)	118-74-1	Hexachlorobenzene	0.001
(29)	77-47-4	Hexachlorocyclopentadiene	0.05
(30)	23135-22-0	Oxamyl (Vydate)	0.2
(31)	1918-02-1	Picloram	0.5
(32)	122-34-9	Simazine	0.004
(33)	1746-01-6	2,3,7,8-TCDD (Dioxin)	3×10^{-8}

3. Section 141.62 is amended by revising the introductory text to paragraph (b); by adding paragraphs (b)(11) through (b)(15); and by revising paragraph (c), including the table, to read as follows:

§ 141.62 Maximum contaminant levels for inorganic contaminants.

* * * * *

(b) The maximum contaminant levels for inorganic contaminants specified in paragraphs (b)(2)—(6), (b)(10), and (b)(11)—(15) of this section apply to community water systems and non-transient, non-community water systems. The maximum contaminant level specified in paragraph (b)(1) of this section only applies to community water systems. The maximum contaminant levels specified in (b)(7), (b)(8), and (b)(9) of this section apply to community water systems; non-transient, non-community water systems; and transient non-community water systems.

Contaminant	MCL (mg/l)
(11) Antimony	0.006
(12) Beryllium	0.004
(13) Cyanide (as free Cyanide)	0.2
(14) Nickel	0.1
(15) Thallium	0.002

(c) The Administrator, pursuant to Section 1412 of the Act, hereby identifies the following as the best technology, treatment technique, or other means available for achieving compliance with the maximum contaminant levels for inorganic contaminants identified in paragraph (b) of this section, except fluoride:

BAT FOR INORGANIC COMPOUNDS LISTED IN SECTION 141.62(B)

Chemical Name	BAT(s)
Antimony	2,7
Asbestos	2,3,8
Barium	5,6,7,9
Beryllium	1,2,5,6,7
Cadmium	2,5,6,7
Chromium	2,5,6 [2],7
Cyanide	5,7,10
Mercury	2 [1],4,6 [1],7 [1]
Nickel	5,6,7
Nitrate	5,7,9
Nitrite	5,7
Selenium	1,2 [3],6,7,9
Thallium	1,5

[1] BAT only if influent Hg concentrations $< 10 \mu g/1$.
[2] BAT for Chromium III only.
[3] BAT for Selenium IV only.

Key to BATS in Table

1 = Activated Alumina
2 = Coagulation/Filtration
3 = Direct and Diatomite Filtration
4 = Granular Activated Carbon
5 = Ion Exchange
6 = Lime Softening
7 = Reverse Osmosis
8 = Corrosion Control
9 = Electrodialysis
10 = Chlorine
11 = Ultraviolent

14. Section 141.89(a) table is amended by revising footnote 9 to read as follows:

§ 141.89 Analytical methods.

* * * * *

[9] For analyzing lead and copper, the technique applicable to total metals must be used and samples cannot be filtered. Samples that contain less than 1 NTU (nephelometric turbidity unit) and are properly preserved (conc HNO_3 to pH < 2) may be analyzed directly (without digestion) for total metals; otherwise, digestion is required. Turbidity must be measured on the preserved samples just prior to when metal analysis is initiated. When digestion is required, the 'total recoverable' technique as defined in the method must be used.

* * * * *

PART 142—NATIONAL PRIMARY DRINKING WATER REGULATIONS IMPLEMENTATION

1. The authority citation for part 142 continues to read as follows:

Authority: 42 U.S.C. 300g, 300g-1, 300g-2, 300g-3, 300g-4, 300g-5, 300g-6, 300j-4 and 300j-9.

2. Section 142.16 is amended by revising the introductory text to paragraph (e), and revising paragraph (e)(2) to read as follows:

§ 142.16 Special Primary Requirements.

* * * * *

(e) An application for approval of a State program revision which adopts the requirements specified in §§ 141.11, 141.23, 141.24, 141.32, 141.40, 141.61 and 141.62 must contain the following (in addition to the general primacy requirements enumerated elsewhere in this Part, including the requirement that State regulations be at least as stringent as the federal requirements):

(2) A monitoring plan for the initial monitoring period by which the State will assure all systems complete the required initial monitoring within the regulatory deadlines.

Note: States may update their monitoring plan submitted under the Phase II Rule or simply note in their application that they will use the same monitoring plan for the Phase V Rule.

(i) The initial monitoring plan must describe how systems will be scheduled during the initial monitoring period and demonstrate that the analytical workload on certified laboratories for each of the three years has been taken into account, to assure that the State's plan will result in a high degree of monitoring compliance and that as a result there is a high probability of compliance and will be updated as necessary.

(ii) The State must demonstrate that the initial monitoring plan is enforceable under State law.

3. Section 142.62 is amended by revising paragraphs (a) and (b) to read as follows:

§ 142.62 Variances and exemptions from the maximum contaminant levels for organic and inorganic chemicals.

(a) The Administrator, pursuant to section 1415(a)(1)(A) of the Act hereby identifies the technologies listed in paragraphs (a)(1) through (a)(54) of this section as the best technology, treatment techniques, or other means available for achieving compliance with the maximum contaminant levels for organic chemicals listed in §§ 141.61 (a) and (c):

Contaminant	Best available technologies		
	PAT [1]	GAO [2]	OX [3]
(1) Benzene	X	X	
(2) Carbon tetrachloride	X	X	
(3) 1,2-Dichloroethane	X	X	
(4) Trichloroethylene	X	X	
(5) para-Dichlorobenzene	X	X	
(6) 1,1-Dichloroethylene	X	X	
(7) 1,1,1-Trichloroethane	X	X	
(8) Vinyl chloride	X		
(9) cis-1,2-Dichloroethylene	X	X	
(10) 1,2-Dichloropropane	X	X	
(11) Ethylbenzene	X	X	
(12) Monochlorobenzene	X	X	
(13) o-Dichlorobenzene	X	X	
(14) Styrene	X	X	
(15) Tetrachloroethylene	X	X	
(16) Toluene	X	X	
(17) trans-1,2-Dichloroethylene	X	X	
(18) Xylense (total)	X	X	
(19) Alachlor	X	X	
(20) Aldicarb		X	
(21) Aldicarb sulfoxide		X	
(22) Aldicarb sulfone		X	
(23) Atrazine		X	
(24) Carbofuran		X	
(25) Chlordane		X	
(26) Dibromochloropropane	X	X	
(27) 2,4-D		X	
(28) Ethylene dibromide	X	X	
(29) Heptachlor		X	
(30) Heptachlor epoxide		X	
(31) Lindane		X	
(32) Methoxychlor		X	
(33) PCBs		X	
(34) Pentachlorophenol		X	
(35) Toxaphene		X	
(36) 2,4,5-TP		X	
(37) Benzo[a]pyrene		X	
(38) Dalapone		X	
(39) Dichloromethane	X		
(40) Di(2-ethylhexyl)adipate	X	X	
(41) Di(2-ethylhexyl)phthalate		X	
(42) Dinoseb		X	
(43) Diquat		X	
(44) Endothall		X	
(45) Endrin		X	
(46) Glyphosate			X
(47) Hexachlorobenzene			X
(48) Hexachlorocyclopentadiene	X	X	
(49) Oxamyl (Vydate)		X	
(50) Picloram		X	
(51) Simazine		X	
(52) 1,2,4-Trichlorobenzene	X	X	
(53) 1,1,2-Trichloroethane	X	X	
(54) 2,3,7,8-TCDD (Dioxin)		X	

[1] Packed Tower Aeration
[2] Granular Activated Carbon
[3] Oxidation (Chlorination or Ozonation)

(b) The Administrator, pursuant to section 1415(a)(1)(A) of the Act, hereby identifies the following as the best technology, treatment techniques, or other means available for achieving compliance with the maximum

contaminant levels for the inorganic chemicals listed in § 141.62:

BAT FOR INORGANIC COMPOUNDS LISTED IN [6] 141.62(B)

Chemical name	BAT(s)
Antimony	2,7
Asbestos	2,3,8
Barium	5,6,7,9
Beryllium	1,2,5,6,7
Cadmium	2,5,6,7
Chromium	2,5,6 [2],7
Cyanide	5,7,10
Mercury	2 [1],4,6 [1],7 [1]
Nickel	5,6,7
Nitrite	5,7,9
Nitrate	5,7
Selenium	1,2 [3],6,7,9
Thallium	1,5

[1] BAT only if influent Hg concentrations ≤ 10μg/1.
[2] BAT for Chromium III only.
[3] BAT for Selenium IV only.

Key to BATS in Table

1 = Activated Alumina
2 = Coagulation/Filtration (not BAT for systems <500 service connections)
3 = Direct and Diatomite Filtration
4 = Granular Activated Carbon
5 = Ion Exchange
6 = Lime Softening (not BAT for systems <500 service connections)
7 = Reverse Osmosis
8 = Corrosion Control
9 = Electrodialysis
10 = Chlorine
11 = Ultraviolet

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