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**ENVIRONMENTAL PROTECTION AGENCY**

**[EPA-HQ-OW-2014-0135; FRL-9929-85-OW]**

**Final Updated Ambient Water Quality Criteria for the Protection of Human Health**

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Notice of availability.

**SUMMARY:** The Environmental Protection Agency (EPA) announces the final updated recommended ambient water quality criteria for the protection of human health for ninety-four chemical pollutants to reflect the latest scientific information and implementation of existing EPA policies found in *Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health (2000)*. The EPA issued the draft updated human health criteria on May 13, 2014 and accepted written views from the public until August 13, 2014. The EPA prepared responses to those public comments. The EPA's recommended ambient water quality criteria for the protection of human health provide technical information for states and authorized tribes to establish water quality standards (i.e., criteria) to protect human health under the Clean Water Act. These final 2015 updated section 304(a) human health criteria recommendations supersede EPA's previous recommendations.

**FOR FURTHER INFORMATION CONTACT:** Jamie Strong, Office of Water, Health and Ecological Criteria Division (4304T), Environmental Protection Agency, 1200 Pennsylvania Avenue, NW, Washington, DC 20460; telephone number: (202) 566-0056; e-mail address: [strong.jamie@epa.gov](mailto:strong.jamie@epa.gov).

**SUPPLEMENTARY INFORMATION:**

## **I. General Information**

### *A. How Can I Get Copies Of This Document and Other Related Information?*

1. *Docket.* EPA has established a docket for this action under Docket ID No. **EPA-HQ-OW-2014-0135; FRL-9929-85-OW**. Publicly available docket materials are available either electronically through [www.regulations.gov](http://www.regulations.gov) or in hard copy at the EPA Water Docket in the EPA Docket Center, (EPA/DC) EPA West, Room 3334, 1301 Constitution Ave., NW, Washington, DC. The EPA Docket Center Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the Water Docket is (202) 566-2426.

2. *Electronic Access.* You may access this Federal Register document electronically from the Government Printing Office under the “Federal Register” listings at FDSys (<http://www.gpo.gov/fdsys/browse/collection.action?collectionCode=FR>). EPA’s final criteria documents for the ninety-four chemical pollutants, the response to views from the public on the draft criteria, and supporting information are also available on EPA’s web site <http://water.epa.gov/scitech/swguidance/standards/criteria/health/>.

## **II. What are EPA’s Recommended Water Quality Criteria?**

EPA’s recommended water quality criteria are scientifically derived numeric values that EPA determines will generally protect aquatic life or human health from the adverse effects of pollutants in ambient water.

Section 304(a)(1) of the Clean Water Act (CWA) requires EPA to develop and publish and, from time to time, revise criteria for protection of water quality and human health that accurately reflect the latest scientific knowledge. Water quality criteria developed under section

304(a) are based solely on data and scientific judgments on the relationship between pollutant concentrations and environmental and human health effects. Section 304(a) criteria do not reflect consideration of economic impacts or the technological feasibility of meeting pollutant concentrations in ambient water.

EPA's recommended Section 304(a) criteria provide technical information for states and authorized tribes to consider and use in adopting water quality standards that ultimately provide the basis for assessing water body health and controlling discharges of pollutants into waters of the United States. Under the CWA and its implementing regulations, states and authorized tribes are required to adopt water quality criteria to protect designated uses (e.g., public water supply, aquatic life, recreational use, or industrial use) and that are based on sound scientific rationale. EPA's recommended criteria do not substitute for the CWA or regulations, nor are they regulations themselves. Thus, EPA's recommended criteria do not impose legally binding requirements. States and authorized tribes have the discretion to adopt, where appropriate, other scientifically defensible water quality criteria that differ from these recommendations. Ultimately, however, such criteria must protect the designated use and be based on sound scientific rationale.

### **III. Information on EPA's 2015 Final Updated Human Health Criteria**

EPA announces the availability of final updated national recommended water quality criteria for the protection of human health for ninety-four chemical pollutants. These revisions are based on EPA's existing methodology for deriving human health criteria in *Methodology for Deriving Ambient Water Quality Criteria for the Protection of Human Health* (2000) (EPA-822-B-00-004, October 2000). The methodology describes EPA's approach for deriving national

recommended water quality criteria for the protection of human health. Table 1 presents the updated human health criteria for ninety-four chemical pollutants.

<b>Table 1: Revised Human Health Water Quality Criteria</b>			
<b>Pollutant</b>	<b>CAS No.</b>	<b>Human Health Water Quality Criteria for the Consumption of</b>	
		<b>Water + Organism (µg/L)</b>	<b>Organism Only (µg/L)</b>
1,1,1-Trichloroethane	71-55-6	10,000	200,000
1,1,2,2-Tetrachloroethane	79-34-5	0.2	3
1,1,2-Trichloroethane	79-00-5	0.55	8.9
1,1-Dichloroethylene	75-35-4	300	20,000
1,2,4,5-Tetrachlorobenzene	95-94-3	0.03	0.03
1,2,4-Trichlorobenzene	120-82-1	0.071	0.076
1,2-Dichlorobenzene	95-50-1	1,000	3,000
1,2-Dichloroethane	107-06-2	9.9	650
1,2-Dichloropropane	78-87-5	0.90	31
1,2-Diphenylhydrazine	122-66-7	0.03	0.2
1,3-Dichlorobenzene	541-73-1	7	10
1,3-Dichloropropene	542-75-6	0.27	12
1,4-Dichlorobenzene	106-46-7	300	900
2,4,5-Trichlorophenol	95-95-4	300	600
2,4,6-Trichlorophenol	88-06-2	1.5	2.8
2,4-Dichlorophenol	120-83-2	10	60
2,4-Dimethylphenol	105-67-9	100	3,000
2,4-Dinitrophenol	51-28-5	10	300
2,4-Dinitrotoluene	121-14-2	0.049	1.7
2-Chloronaphthalene	91-58-7	800	1,000
2-Chlorophenol	95-57-8	30	800
2-Methyl-4,6-Dinitrophenol	534-52-1	2	30
3,3'-Dichlorobenzidine	91-94-1	0.049	0.15
3-Methyl-4-Chlorophenol	59-50-7	500	2,000
Acenaphthene	83-32-9	70	90
Acrolein	107-02-8	3	400
Acrylonitrile	107-13-1	0.061	7.0
Aldrin	309-00-2	0.00000077	0.00000077
alpha-Hexachlorocyclohexane (HCH)	319-84-6	0.00036	0.00039
alpha-Endosulfan	959-98-8	20	30

Anthracene	120-12-7	300	400
Benzene	71-43-2	0.58 - 2.1	16 - 58
Benzidine	92-87-5	0.00014	0.011
Benzo(a)anthracene	56-55-3	0.0012	0.0013
Benzo(a)pyrene	50-32-8	0.00012	0.00013
Benzo(b)fluoranthene	205-99-2	0.0012	0.0013
Benzo(k)fluoranthene	207-08-9	0.012	0.013
beta-Hexachlorocyclohexane (HCH)	319-85-7	0.0080	0.014
beta-Endosulfan	33213-65-9	20	40
Bis(2-Chloro-1-Methylethyl) Ether	108-60-1	200	4,000
Bis(2-Chloroethyl) Ether	111-44-4	0.030	2.2
Bis(2-Ethylhexyl) Phthalate	117-81-7	0.32	0.37
Bis(Chloromethyl) Ether	542-88-1	0.00015	0.017
Bromoform	75-25-2	7.0	120
Butylbenzyl Phthalate	85-68-7	0.10	0.10
Carbon Tetrachloride	56-23-5	0.4	5
Chlordane	57-74-9	0.00031	0.00032
Chlorobenzene	108-90-7	100	800
Chlorodibromomethane	124-48-1	0.80	21
Chloroform	67-66-3	60	2,000
Chlorophenoxy Herbicide (2,4-D)	94-75-7	1,300	12,000
Chlorophenoxy Herbicide (2,4,5-TP) [Silvex]	93-72-1	100	400
Chrysene	218-01-9	0.12	0.13
Cyanide	57-12-5	4	400
Dibenzo(a,h)anthracene	53-70-3	0.00012	0.00013
Dichlorobromomethane	75-27-4	0.95	27
Dieldrin	60-57-1	0.0000012	0.0000012
Diethyl Phthalate	84-66-2	600	600
Dimethyl Phthalate	131-11-3	2,000	2,000
Di-n-Butyl Phthalate	84-74-2	20	30
Dinitrophenols	25550-58-7	10	1,000
Endosulfan Sulfate	1031-07-8	20	40
Endrin	72-20-8	0.03	0.03
Endrin Aldehyde	7421-93-4	1	1
Ethylbenzene	100-41-4	68	130
Fluoranthene	206-44-0	20	20
Fluorene	86-73-7	50	70
gamma-Hexachlorocyclohexane (HCH)	58-89-9	4.2	4.4
Heptachlor	76-44-8	0.0000059	0.0000059
Heptachlor Epoxide	1024-57-3	0.000032	0.000032
Hexachlorobenzene	118-74-1	0.000079	0.000079
Hexachlorobutadiene	87-68-3	0.01	0.01

Hexachlorocyclohexane (HCH)-Technical	608-73-1	0.0066	0.010
Hexachlorocyclopentadiene	77-47-4	4	4
Hexachloroethane	67-72-1	0.1	0.1
Indeno(1,2,3-cd)pyrene	193-39-5	0.0012	0.0013
Isophorone	78-59-1	34	1,800
Methoxychlor	72-43-5	0.02	0.02
Methyl Bromide	74-83-9	100	10,000
Methylene Chloride	75-09-2	20	1,000
Nitrobenzene	98-95-3	10	600
Pentachlorobenzene	608-93-5	0.1	0.1
Pentachlorophenol	87-86-5	0.03	0.04
Phenol	108-95-2	4,000	300,000
p,p'-Dichlorodiphenyldichloroethane (DDD)	72-54-8	0.00012	0.00012
p,p'-Dichlorodiphenyldichloroethylene (DDE)	72-55-9	0.000018	0.000018
p,p'-Dichlorodiphenyltrichloroethane (DDT)	50-29-3	0.000030	0.000030
Pyrene	129-00-0	20	30
Tetrachloroethylene (Perchloroethylene)	127-18-4	10	29
Toluene	108-88-3	57	520
Toxaphene	8001-35-2	0.00070	0.00071
trans-1,2-Dichloroethylene (DCE)	156-60-5	100	4,000
Trichloroethylene (TCE)	79-01-6	0.6	7
Vinyl Chloride	75-01-4	0.022	1.6

The revision of these criteria is a systematic update of EPA’s national recommended human health criteria. EPA previously described its process for publishing revised criteria [see National Recommended Water Quality Criteria – Correction (64 FR 19781; or EPA-822-Z-99-001) or the Federal Register Notice for EPA’s 2000 Methodology (65 FR 66444)]. EPA updated the human health criteria using externally peer-reviewed information sources.

On May 13, 2014, EPA announced the availability of the draft updated human health criteria in the Federal Register notice “Updated National Recommended Water Quality Criteria for the Protection of Human Health” (79 FR 27303) and announced that written views would be accepted from the public until July 14, 2014. In response to stakeholder requests, on June 23, 2014, EPA announced in the Federal Register (79 FR 35545) an extension of the public comment

period for an additional 30 days, until August 13, 2014. EPA reviewed and considered all public comments received and prepared responses to those comments.

EPA developed chemical-specific science documents for each of the ninety-four chemical pollutants. These documents detail the latest scientific information supporting the final human health criteria, particularly the updated toxicity and exposure input values. A fact sheet and a summary of updated input parameters (*e.g.*, health toxicity values, bioaccumulation factors) used to derive the final updated criteria are provided. All these documents, including EPA's responses to views received during the comment period, are available on EPA's web site at <http://water.epa.gov/scitech/swguidance/standards/criteria/health/>.

#### **IV. What is the Relationship between EPA's 2015 Final Updated Human Health Criteria and State or Tribal Water Quality Standards?**

Section 303(a)-(c) of the CWA requires states and authorized tribes to adopt water quality standards for their waters. As part of the water quality standards triennial review process set forth in section 303(c) of the CWA, states and authorized tribes are required to review and revise, if appropriate, their water quality standards at least once every three years.

States and authorized tribes must adopt water quality criteria that protect designated uses. 40 C.F.R. 131.11(a)(1). Criteria must be based on a sound scientific rationale and contain sufficient parameters or constituents to protect the designated uses. *Id.* Criteria may be expressed in either narrative or numeric form. EPA's regulations provide that states and authorized tribes should adopt numeric water quality criteria based on:

- (1) EPA's recommended section 304(a) criteria; or
- (2) EPA's recommended section 304(a) criteria modified to reflect site-specific conditions; or
- (3) Other scientifically defensible methods. (40 CFR 131.11(b)).

It is important for states and authorized tribes to consider any new or updated section 304(a) recommended criteria as part of their triennial review process to ensure that state or tribal water quality criteria reflect sound science and protect applicable designated uses. EPA recently proposed revisions to its water quality standards regulations that would, if finalized without substantive change, require states during their triennial reviews to consider new or updated section 304(a) recommended criteria and, if they do not adopt new or revised criteria for such pollutants, provide an explanation to EPA and the public as to why the state did not do so. These final updated section 304(a) human health criteria recommendations supersede EPA's previous recommendations.

Dated: June 22, 2015.

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