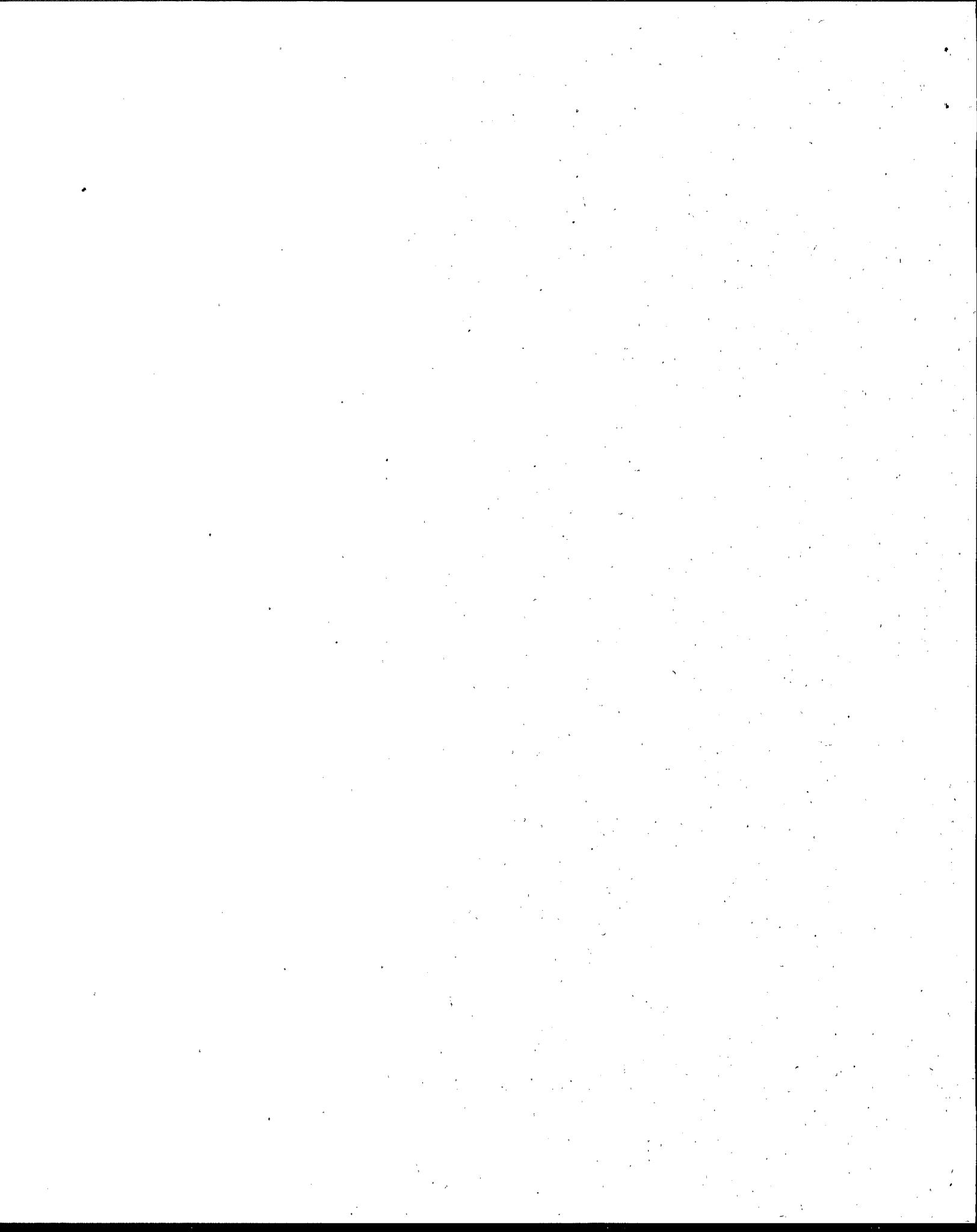




Drinking Water Regulations and Health Advisories





DRINKING WATER REGULATIONS AND HEALTH ADVISORIES

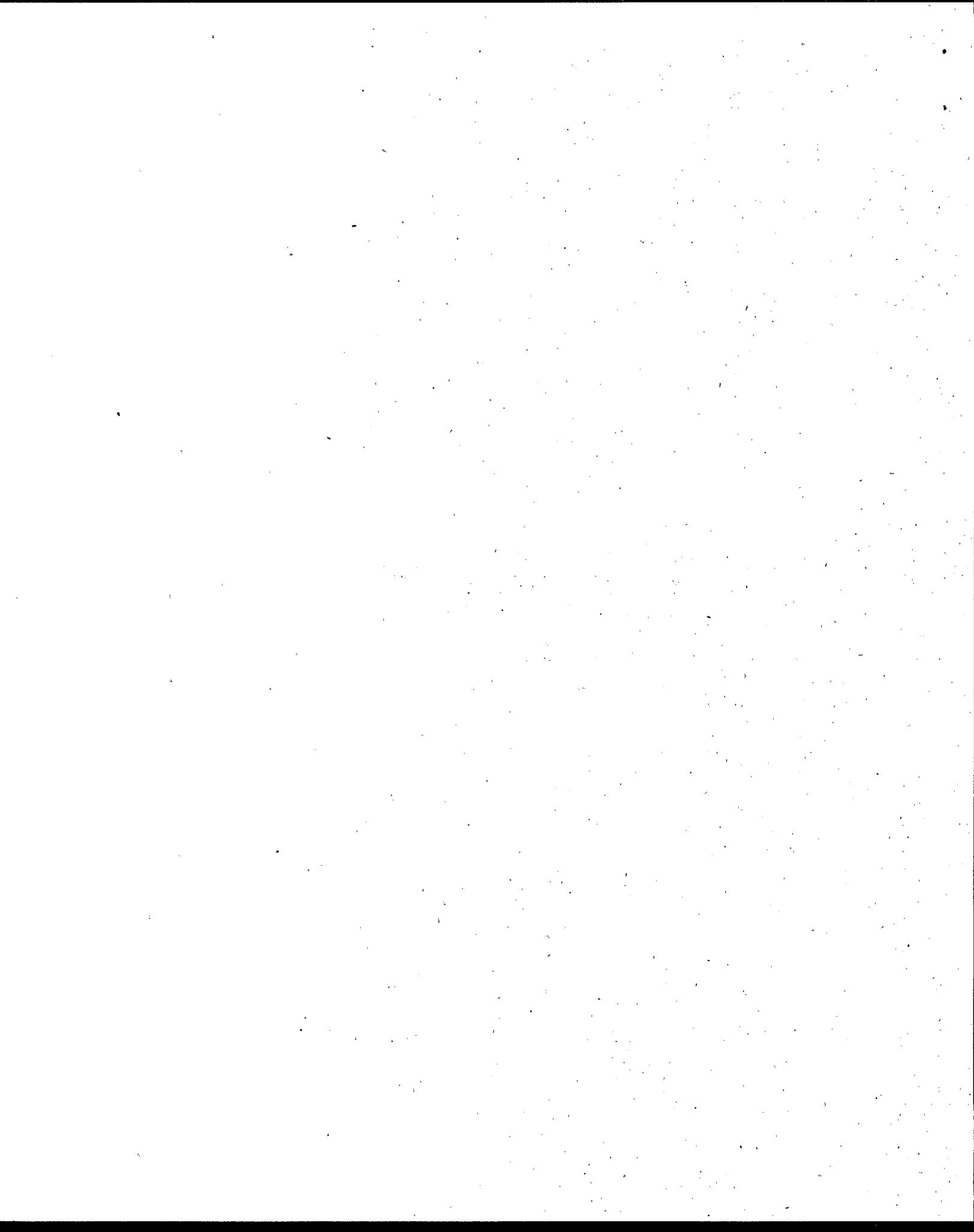
by

**Office of Water
U.S. Environmental Protection Agency
Washington, D.C.**

October 1996



Recycled/Recyclable
Printed on paper that contains
at least 50% recycled fiber.



These regulations and health advisory tables are revised approximately every 6 months by EPA's Office of Water. The tables may also be accessed on the Internet in the near future. The tables may be accessed from the Office of Science and Technology home page at:

<http://www.epa.gov/OST>.

Although no permanent mailing list is kept, copies may be ordered free of charge from the:

SAFE DRINKING WATER HOTLINE

1-800-426-4791

Monday thru Friday, 9:00 AM to 5:30 PM EST.

Publication numbers for the supportive technical documentation for the health advisories can be found on the Internet at:

<http://www.wpa.gov/OST/pc/dwha.html>

Copies of the supportive technical documentation for the health advisories can be ordered on the Internet at:

<http://www.epa.gov/OST/orderpubs.html>

or obtained for a fee from the:

Educational Resource Information Center (ERIC)

1929 Kenny Road

Columbus, OH 43210-1080

Telephone number (614) 292-6717

FAX (614) 292-0263

e-mail ERICSE@osu.edu

Payment by Purchase Order/check/Visa or Mastercard.

The Health Advisories available and their ERIC order numbers are included at the end of this publication. For further information regarding the Drinking Water Regulations and Health Advisories, call Barbara Corcoran in EPA's Office of Water at (202) 260-1332.

LEGEND

Abbreviations column descriptions are:

- MCLG:** Maximum Contaminant Level Goal. A non-enforceable concentration of a drinking water contaminant that is protective of adverse human health effects and allows an adequate margin of safety.
- MCL:** Maximum Contaminant Level. Maximum permissible level of a contaminant in water which is delivered to any user of a public water system.
- RfD:** Reference Dose. An estimate of a daily exposure to the human population that is likely to be without appreciable risk of deleterious effects over a lifetime.
- DWEL:** Drinking Water Equivalent Level. A lifetime exposure concentration protective of adverse, non-cancer health effects, that assumes all of the exposure to a contaminant is from a drinking water source.

The codes for the Status Reg and Status HA columns are as follows:

F final
D draft
L listed for regulation
P proposed
T tentative (not officially proposed)

Other codes found in the table include the following:

NA not applicable
PS performance standard 0.5 NTU-1.0 NTU
TT treatment technique

Large discrepancies between Lifetime and Longer-term HA values may occur because of the Agency's conservative policies, especially with regard to carcinogenicity, relative source contribution, and less-than-lifetime exposures in chronic toxicity testing. These factors can result in a cumulative UF (uncertainty factor) of up to 5 to 5000 when calculating a Lifetime HA.

The scheme for categorizing chemicals according to their carcinogenic potential is as follows:*

Group A: Human carcinogen	Sufficient evidence in epidemiologic studies to support causal association between exposure and cancer
Group B: Probable human carcinogen	Limited evidence in epidemiologic studies (Group B1) and/or sufficient evidence from animal studies (Group B2)
Group C: Possible human carcinogen	Limited evidence from animal studies and inadequate or no data in humans
Group D: Not classifiable	Inadequate or no human and animal evidence of carcinogenicity
Group E: No evidence of carcinogenicity for humans	No evidence of carcinogenicity in at least two adequate animal tests in different species <i>or</i> in adequate epidemiologic and animal studies

Drinking Water Health Advisories (HAs) are defined as follows:

One-day HA:	The concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects for up to 5 consecutive days of exposure, with a margin of safety.
Ten-day HA:	The concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects up to 14 consecutive days of exposure, with a margin of safety.
Long-term HA:	The concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects up to approximately 7 years (10% of an individual's lifetime) of exposure, with a margin of safety.
Lifetime HA:	The concentration of a chemical in drinking water that is not expected to cause any adverse noncarcinogenic effects over a lifetime of exposure, with a margin of safety.

*EPA is in the process of revising the Cancer Guidelines.

Drinking Water Standards and Health Advisories

October 1996

Page 1

Chemicals	Standards			Health Advisories						Cancer Group	
	status Reg.	MCLG (mg/l)	MCL (mg/l)	status HA	10-kg Child	70-kg Adult	Longer-term (mg/l)	RD (mg/kg day)	DWEL (mg/l)	Lifetime (mg/l)	mg(l) at 10 ⁴ Cancer Risk
ORGANICS					One-day (mg/l)	Ten-day (mg/l)					
Acenaphthene	-	-	-	F	2	2	-	-	-	-	-
Acenaphthenefuran	T	29.0	TT	F	1.5	0.3	0.02	0.04	0.013	0.4	0.1
Acetamide	F	zero	TT	F	-	-	-	-	-	-	B2*
Acrylonitrile	T	zero	TT	D	-	-	-	-	-	-	B2*
Adipate (diethylhexyl)	F	0.4	0.4	-	20	20	60	0.6	20	0.4	B1**
Alcohol	F	zero	0.002	F	0.1	0.1	-	0.01	0.035	0.07	C
Aldicarb*	D	0.007	0.007	D	-	-	-	0.001	0.035	0.007	D
Aldicarb sulfone**	D	0.007	0.007	D	-	-	-	0.001	0.035	0.007	D
Aldicarb sulfoxide**	D	0.007	0.007	D	-	-	-	0.001	0.035	0.007	D
Aldrin	-	-	-	D	0.0003	0.0003	0.0003	0.0003	0.001	0.001	B2
Ametryn	-	-	-	F	9	9	0.9	0.09	0.3	0.06	D
Ammonium sulfate***	-	-	-	F	20	20	20	0.28	0.28	0.2	D
Anthracene (PAH)***	F	0.003	0.003	F	0	0.1	0.05	0.035	0.2	0.035	C
Atrazine	-	-	-	F	0.04	0.04	0.04	0.1	0.004	0.1	C
Baygon	-	-	-	F	0.03	0.03	0.03	0.03	0.032	0.032	D
Benz[a]anthracene (PAH)	T	0.02	0.005	F	-	-	-	-	-	-	B2
Benzene	F	zero	0.005	F	-	0.02	0.02	-	-	-	A
Benzof(a)pyrene (PAH)	F	zero	0.0002	-	-	-	-	-	-	-	B2*
Benzofluoranthene (PAH)	-	-	-	-	-	-	-	-	-	-	B2
Benzof(g,h,i)perylene (PAH)	-	-	-	-	-	-	-	-	-	-	D
Benzof(k)fluoranthene (PAH)	-	-	-	-	-	-	-	-	-	-	B2
bis-2-Chloroisopropyl ether	-	-	-	F	4	4	4	13	0.04	1	D
Bromacil	-	-	-	F	5	5	5	9	0.13	5	C
Bromobenzene	-	-	-	D	-	-	-	-	-	-	-

* Under review.

**NOTE: The HA value or the MCLG/MCL value for any two or more of these three chemicals should remain at 0.007 mg/l because of similar mode of action.

***PAH = Polycyclic aromatic hydrocarbon

*See 40CFR Parts 141 and 142

+Revised value based on change in RD

NOTE: Anthracene and Benzo(g,h,i)perylene — not proposed in Phase V.
NOTE: Changes from the last version are noted in Italic and Bold Face print.

Drinking Water Standards and Health Advisories

October 1996

Page 2

Chemicals	Standards				Health Advisories						Cancer Group		
	Status Reg	MCLG (mg/l)	MCL (mg/l)	Status HA	10 kg Child	10 kg Adult	Longer-term (mg/l)	Longer-term (mg/l)	RID (mg/kg day)	DWEI (mg/l)	Lifetime (mg/l)	mg/l at 10 ⁻⁴ Cancer Risk	
Bromoacetonitrile	T	-	-	D	-	-	-	-	-	-	-	-	
Bromo-chloromethane	P	zero	0.1*0.08*	F	0.1	0.1	0.1	0.1	0.5	0.013	0.05	0.01	
Bromodichloromethane (THM)	P	zero	0.1*0.08*	D	6	6	4	13	0.02	0.7	-	0.06	B2
Bromofom (THM)	P	zero	0.1*0.08*	D	5	2	2	6	0.02	0.7	-	0.04	B2
Bromomethane	T	-	-	D	0.1	0.1	0.1	0.5	0.001	0.06	0.01	-	
Butyl benzyl phthalate (PAE)**	-	-	-	F	2	2	1	4	0.05	2	0.35	-	D
Butylate	-	-	-	D	-	-	-	-	-	-	-	-	D
Butylbenzene-n-	-	-	-	D	-	-	-	-	-	-	-	-	C
Butylbenzene-sec-	-	-	-	D	-	-	-	-	-	-	-	-	D
Butylbenzene-tert-	-	-	-	D	-	-	-	-	-	-	-	-	
Carbamyl	-	-	-	D	-	-	-	-	-	-	-	-	
Carbofuran	F	0.04	0.04	F	0.05	0.05	0.05	1	0.1	4	4	0.7	D
Carbon tetrachloride	F	zero	0.005	F	4	0.2	0.07	0.3	0.0007	0.03	0.2	0.01	E
Caprokin	-	-	-	F	1	1	1	4	0.01	4	0.7	0.03	B2
Chloral hydrate	P	0.04	0.06**	D	7	0.2	0.2	0.6	0.0002	0.06	0.06	-	D
Chloramben	-	-	-	F	3	3	0.2	0.5	0.015	0.5	0.1	-	C
Chlordane	F	zero	0.002	F	0.06	0.06	-	-	0.00006	0.002	-	0.003	B2
Chlorodibromomethane (THM)	P	0.06	0.018*	D	6	6	2	8	0.02	0.7	0.06	-	C
Chloroethane	L	-	-	D	-	-	-	-	-	-	-	-	B
Chloroforn (THM)	P	zero	0.1*0.08*	D	4	4	0.1	0.4	0.01	0.4	0.6	0.03	B2
Chloromethane	L	-	-	F	9	0.4	0.4	1	0.004	0.1	0.003	-	C
Chloroprene (2)	-	-	-	D	0.5	0.5	0.5	20	0.005	0.2	0.04	-	D
p-Chlorophenyl methyl sulfide/sulfone/sulfoxide	-	-	-	D	-	-	-	-	-	-	-	-	D
Chloropicrin	-	-	-	F	0.2	0.2	0.2	0.5	0.015	0.5	-	0.15	B2
Chlorothalonil	-	-	-	F	2	2	2	7	0.02	0.7	-	0.1	D
Chlorotoluene-6	L	-	-	F	2	2	2	7	0.02	0.7	-	0.1	D
Chlorotoluene-p-Clorophenol	L	-	-	F	0.03	0.03	0.03	0.1	0.003	0.1	0.02	-	D
Chrysene (PAH)	-	-	-	D	0.1	0.1	0.1	-	-	-	-	-	B2
Cyanazine***	T	0.001	-	D	0.1	0.1	0.02	0.07	0.002	0.07	0.001***	-	C

* Current MCL "A HA will not be developed due to insufficient data; a "Database Deficiency Report has been published.

** A proposed rule for Disinfectants and Disinfection By-products : Total for all THMs combined cannot exceed the 0.08 level.

** Total for all halogenated acids cannot exceed 0.06 level. **PAE = phthalate acid ester ***Draft HA updated for the Phase VI/B regulation, which has been postponed. It includes the change of the cancer classification from D to C, thus justifying the use of an additional 10-fold safety factor for the lifetime HA.

Drinking Water Standards and Health Advisories

October 1996

Page 3

Chemicals	Standards		Health Advisories						Cancer Group		
	Status Reg.	MCLG (mg/l)	MCL (mg/l)	HA	One-day (mg/l)	Ten-day (mg/l)	Longer-term (mg/l)	RID (mg/kg/day)	DWEL (mg/l)	Lifetime (mg/l)	mg(l) at 10 ⁻⁶ Cancer Risk
Cyanogen chloride	T	-	-	-	-	-	-	-	-	-	-
Cymene-p-2,4-D	F	0.07	0.07	D	-	-	-	-	-	-	D
DGPA (Dacthal)	L	-	-	F	1	0.3	0.1	0.4	0.01	0.4	0.07
Dalapon	F	0.2	0.2	F	80	80	5	20	0.01	-	D
D[[2-ethylhexyl]adipate]	F	0.4	0.4	F	3	3	0.3	0.9	0.026	0.9	0.2
Diazinon	-	-	-	-	20	20	20	60	0.6	20	0.4
Dibromoacetonitrile	L	-	-	D	0.02	0.02	0.005	0.02	0.0009	0.003	0.0006
Dibromochloropropane (DBCP)	F	zero	0.0002	F	0.2	0.05	2	8	0.02	0.8	0.02
Dibromonemethane	L	-	-	-	-	-	-	-	-	-	0.003
Dibutyl phthalate (PAE)	L	-	-	D	-	-	-	-	-	-	B2
Dikamba	L	-	-	F	0.3	0.3	0.3	1	0.03	1	D
Dichloroacetaldehyde	P	zero	0.06**	D	1	1	1	4	0.004	0.1	D
Dichloroacetic acid	L	-	-	D	1	1	0.8	3	0.008	0.3	C
Dichloroacetonitrile	L	-	-	F	9	9	9	30	0.09	3	D
Dichlorobenzene-o-	F	0.6	0.6	F	9	9	9	30	0.09	3	D
Dichlorobenzene-m-	-	-	-	F	10	10	10	40	0.1	4	D
Dichlorobenzene-p-	F	0.075	0.075	F	40	40	9	30	0.2	5	C
Dichlorodifluoromethane	L	-	-	F	0.05	0.05	0.07	0.7	0.7	1	D
Dichloroethane-(1,2)	F	zero	0.005	F	1	1	1	4	0.009	0.4	B2
Dichloroethylene (1,1-)	F	0.007	0.007	F	2	1	1	11	0.01	0.4	C
Dichloroethylene (cis-1,2)	F	0.07	0.07	F	4	3	3	11	0.01	0.4	D
Dichloroethylene (trans-1,2-)	F	0.1	0.1	F	20	2	2	6	0.02	0.6	D
Dichlormethane	F	zero	0.005	F	10	2	2	6	0.06	2	B2
Dichlorophenol (2,4-)	-	-	-	D	0.03	0.03	0.03	0.1	0.003	0.1	D
Dichloropropene(1,1-)	-	-	-	D	-	-	-	-	-	-	B2
Dichloropropene (1,2-)	F	zero	0.005	F	-	-	-	-	-	-	0.06
Dichloropropene (1,3)	-	-	-	D	-	-	-	-	-	-	B2

* The values for m-dichlorobenzene are based on data for o-dichlorobenzene.

** A quantitative risk estimate has not been determined.

** Total for all haloacetic acids cannot exceed 0.06 level.

Drinking Water Standards and Health Advisories

October 1996

Page 4

Chemicals	Standards			Health Advisories						Cancer Group
	Status Reg.	MCL (mg/L)	MCL (mg/m³)	status HA	10-kg Child		70-kg Adult		mg/L at 10 ⁻⁶ Cancer Risk	
					One-day (mg/L)	Ten-day (mg/L)	Longer term (mg/L)	Longer term (mg/L)		
Dichloropropane (2,2-)	L	-	-	D	-	-	-	-	-	-
Dichloropropene (1,1-)	L	-	-	D	0.03	0.03	0.09	0.0003	0.02	B2
Dichloropropene (1,3-)	T	zero	-	F	0.005	0.005	0.002	0.0005	0.002	B2
Delethrin	-	-	-	D	-	-	-	-	-	D
Diethyl phthalate (PAE)	F	0.006	-	D	-	-	-	-	-	B2
Di(2-ethylhexyl)phthalate (PAE)	F	zero	-	F	8	8	0.02	0.7	-	D
Disopropyl methylphosphonate	-	-	-	F	10	10	40	0.3	0.6	-
Dimethrin	-	-	-	F	2	2	6	0.2	10	-
Dimethyl methylphosphonate	-	-	-	F	0.04	0.04	0.14	0.0001	0.005	C
Dimethyl phthalate (PAE)	L	-	-	F	0.50	0.50	1	0.002	0.1	D
1,3-Dinitrobenzene	L	-	-	F	0.40	0.40	1	0.001	0.04	B2
Dinitrotoluene (2,4-)	-	-	-	F	-	-	-	-	-	B2
Dinitrotoluene (2,6-)	-	-	-	F	-	-	-	-	-	B2
tg 2,6 & 2,4 dinitrotoluene**	-	-	-	F	-	-	-	-	-	B2
Dinosep	E	0.007	-	F	0.03	0.03	0.01	0.001	0.007	D
Dioxane p-Biphenamid	-	-	-	F	4	4	-	-	-	B2
Diphenylamine	-	-	-	F	0.3	0.3	0.3	0.03	1	D
Diquat	-	-	-	F	1	1	0.3	0.03	1	D
Disulfoton	-	-	-	F	0.01	0.01	0.003	0.0004	0.001	E
Dithiane (1,4-)	-	-	-	F	0.4	0.4	1	0.01	0.4	D
Duron	-	-	-	F	1	1	0.3	0.02	0.08	D
Endofall	F	0.1	0.1	F	0.8	0.8	0.2	0.02	0.07	D
Endrin	F	0.002	0.002	F	0.02	0.02	0.003	0.003	0.002	D
Epinichiorhydrin	F	zero	-	F	0.1	0.1	0.07	0.002	0.07	B2
Ethylbenzene	F	0.7	0.7	F	30	3	1	0.1	3	D
Ethylene dibromide (EDB)	F	zero	0.00005	F	0.008	0.008	-	-	-	B2
Ethyleneglycol	F	20	6	F	6	6	20	2	40	D
ETU	F	0.3	0.3	F	0.1	0.1	0.1	0.000008	0.003	B2
Peramiphos	E	-	-	F	0.009	0.009	0.005	0.00025	0.009	D

* An HA will not be developed due to insufficient data; a "Database Deficiency Report" has been published.

** tg = technical grade

Drinking Water Standards and Health Advisories

October 1996

Chemicals	Health Advisories										Cancer Group
	Standards		10-kg Child		70-kg Adult		Lifetime		mg/l at 10 ⁴		
	Status Reg.	MCLG (mg/l)	MCL (mg/l)	Status HA	One-day (mg/l)	Ten-day (mg/l)	Longer-term (mg/l)	RD (mg/kg/day)	DWEL (mg/l)	Lifetime (mg/l)	
Fluoranthren	-	-	-	F	2	2	2	0.013	0.4	0.09	D
Fluorene (PAH)	L	-	-	F	-	-	-	0.04	-	-	D
Fluorotrichloromethane	-	-	-	D	0.002	0.002	0.002	0.002	0.07	0.01	B1***
Fog Oil	-	-	-	D	10	5	5	0.15	5	1	D
Fonofos	-	-	-	D	20	20	1	0.1	4	0.7	E
Formaldehyde	D	-	-	F	0.01	0.01	0.005	0.0005	0.005	0.0018	B2
Gasoline, unleaded (benzene)	-	-	-	F	0.0004	0.0002	0.0001	0.0001	0.0004	0.0004	B2
Glyphosate	F	0.7	0.7	F	20	20	1	0.001	1E-5	0.0004	B2
Heptachlor	D	-	-	F	0.001	-	0.005	0.005	0.02	0.002	B2
Heptachlor epoxide	-	-	-	F	0.001	-	0.005	0.005	0.03	-	C
Hexachlorobenzene	-	-	-	F	0.001	-	0.001	0.001	0.002	0.001	D
Hexachlorobutadiene	T	-	-	F	0.001	-	0.005	0.005	0.007	0.001	C
Hexachlorocycloheptadiene	-	-	-	F	0.005	-	0.005	0.005	0.01	0.001	C
Hexachloroethane	L	-	-	F	5	5	5	0.1	0.5	0.04	D
Hexane (n)	-	-	-	F	10	4	4	0.1	10	-	C
Hexazinone	-	-	-	F	3	3	3	0.033*	9	0.2*	D
HMX	-	-	-	F	5	5	5	0.05	20	0.4	D
Indeno(1,2,3-c,d)perylene (PAH)	-	-	-	D	-	-	-	-	-	-	B2
Isoparaffins	L	-	-	D	15	15	15	0.2	7	0.1	C
Isopropyl methylphosphonate	-	-	-	D	30	30	30	0.1	4.0	0.7	D
(Isopropyl)benzene	-	-	-	D	1	1	0.03	0.0003	0.01	0.0002	C
Lindane	F	0.0002	0.0002	F	0.2	0.2	0.2	0.08	0.02	0.02	D
Malathion	-	-	-	F	10	10	5	0.5	20	4	D
Maleic hydrazide	-	-	-	F	0.1	0.1	0.1	0.4	0.0015	0.05	E
MCPA	-	-	-	F	0.3	0.3	0.3	0.3	0.025	0.9	D
Methionyl	L	0.04	0.04	F	0.05	0.05	0.05	0.05	0.2	0.04	D
Methoxychlor	-	-	-	F	-	-	-	-	-	-	D
Methyl parathion	-	-	-	F	0.3	0.3	0.3	0.03	0.025	0.009	D

Drinking Water Standards and Health Advisories

October 1996

Page 6

Chemicals	Standards			Health Advisories						Cancer Group	
	Status Reg.	MCL (mg/l)	MCL (mg/l)	status HA	One-day (mg/l)	Ten-day (mg/l)	Longer-term (mg/l)	RfD (mg/kg/day)	DWEL (mg/l)	Lifetime (mg/l)	
Methyl tert butyl ether	L	-	-	D	24	24	3	12	0.03	1.0	0.02-0.2*
Methachlor	L	-	-	F	4	2	2	50	0.1	3.5	0.07
Metrizoin	L	-	-	F	5	5	0.3	0.5	0.013**	0.5	0.1
Monochloroacetic acid	L	-	-	D	-	-	-	-	-	-	D
Monochlorobenzene	F	0.1	0.1	F	2	2	2	7	0.02	0.7	0.1
Naphthalene	-	-	-	F	0.5	0.5	0.4	1	0.004	0.1	0.02
Nitrocellulose (non-toxic)	-	-	-	F	-	-	-	-	-	-	-
Nitrophenol p-Oxyanil (Vydiate)	F	0.2	0.2	F	0.2	0.2	0.2	0.9	0.025	0.9	0.06
Parquat	-	-	-	F	0.1	0.1	0.05	0.2	0.0045	0.2	0.03
Pentachloroethane	-	-	-	D	-	-	-	-	-	-	E
Pentachlorophenol	F	zero	0.001	F	1	0.3	0.3	1	0.03	1	-
Phenanthrene (PAH)	-	-	-	D	6	6	6	20	0.6	20	4
Phenol	-	0.5	0.5	F	20	20	0.7	2	0.07	2	0.5
Picloram	F	zero	0.0005	P	-	-	-	-	-	-	B2
Polychlorinated biphenyls (PCBs)	F	-	-	F	0.2	0.2	0.2	0.6	0.015*	0.5	0.1
Brometon	L	-	-	F	0.8	0.8	0.8	3	0.075	3	0.05
Pronamide	-	-	-	F	0.6	0.5	0.1	0.6	0.013	0.5	0.03
Propachlor	-	-	-	F	1	1	0.5	2	0.02	0.7	0.01
Propazine	-	-	-	F	5	5	5	20	0.02	0.6	0.1
Propham	-	-	-	D	-	-	-	-	-	-	D
Propylbenzene n-Prrene (PAH)	-	-	-	F	0.1	0.1	0.1	0.4	0.003	0.1	0.002
RDX	-	0.004	0.004	F	0.07	0.07	0.07	0.07	0.005	0.02	0.03
Slimazine	F	0.1	0.1	F	20	2	2	7	0.2	7	0.1
Styrene	-	-	-	F	0.08	0.08	0.08	1	0.01	0.35	0.07
24,5,1	-	-	-	F	1E-06	1E-07	1E-08	4E-08	1E-09	4E-08	-
2,3,7,8-TCDD (Dioxin)	F	zero	3E-08	F	-	-	-	-	-	-	2E-08 B2

* Under review.

** The RfD for metribuzin was revised Dec. 1994 to 0.013 mg/kg/day. Based on this revised RfD the Lifetime HA would be 0.1 mg/l assuming a 20% relative source contribution for drinking water. This information has not been incorporated in the Health Advisory document.

*** Tentative.

+ If the cancer classification C is accepted, the Lifetime HA is 0.02; otherwise it is 0.200 mg/l.

NOTE: Phanthrenene — not proposed.

Drinking Water Standards and Health Advisories

October 1996

Page 7

Chemicals	Standards			Health Advisories						Cancer Group	
	Status Reg.	MCLG (mg/l)	MCL (mg/l)	status HA	10-kg Child	70-kg Adult	Longer-term (mg/l)	RID (mg/kg/day)	DWEL (mg/l)	Lifetime (mg/l)	
Tebuthiuron	-	-	-	F	3	3	0.7	2	0.07	2	D
Tebacil	-	-	-	F	0.3	0.3	0.3	0.9	0.018	0.4	E
Terbutos	-	-	-	F	0.005	0.005	0.001	0.005	0.00013	0.005	D
Tetrachloroethane (1,1,1,2)	L	-	-	F	2	2	0.9	3	0.03	1	C
Tetrachloroethane (1,1,2,2)	L	-	-	D	-	-	-	-	-	-	-
Tetrachloroethylene	F	0.005	-	F	2	2	1	5	0.01	0.3	D
Tetranitromethane	-	-	-	F	20	2	2	7	0.2	7	D
Toluene	F	1	1	F	-	-	-	0.1	-	-	B2
Toxaphene	F	zero	0.003	F	-	-	-	-	-	-	D
2,4,5-TP	F	0.05	0.05	F	0.2	0.2	0.07	0.3	0.0075	0.3	D
1,1,2-Trichloro-1,2,2-trifluoroethane	P	0.3	0.08**	D	-	-	-	-	-	-	C
Trichloroacetic acid	L	-	-	D	4	4	4	13	0.01	4.0	D
Trichloroacetonitrile	F	0.07	0.07	D	0.05	0.05	-	0.5	0.01	0.04	D
Trichlorobenzene (1,2,4)	F	-	-	F	0.1	0.1	0.1	-	-	-	D
Trichlorobenzene (1,3,5)	-	-	-	F	0.6	0.6	0.6	2	0.006	0.2	D
Trichloroethane (1,1,1)	F	0.2	0.2	F	0.0	0.0	0.0	0.0	0.035	1	D
Trichloroethane (1,1,2)	F	0.003	0.005	F	0.6	0.4	0.4	1	0.004	0.1	C
Trichloroethanol (2,2,2)	L	-	-	-	-	-	-	-	-	-	-
Trichloroethylene	F	zero	0.005	F	-	-	-	-	-	-	B2
Trichloropheno (2,4,6)	L	-	-	D	-	-	-	-	-	-	B2
Trichloropropane (1,1,1)	-	-	-	D	-	-	-	-	-	-	-
Trichloropropane (1,2,3)	L	-	-	F	0.6	0.6	0.6	2	0.006	0.2	B2
Trifluralin	-	-	-	F	0.08	0.08	0.08	0.3	0.0075	0.3	C
Trimethylbenzene (1,3,5)	-	-	-	D	-	-	-	-	-	-	-
Trinitrotoluene	-	-	-	F	0.005	0.005	0.005	-	-	-	A
Vinyl chloride	F	zero	0.002	F	0.02	0.02	0.005	0.005	0.0005	0.002	0.1
Xylenes	F	10	10	F	40	40	40	100	2	60	D

* Under review.

** A HA will not be developed due to insufficient data; a "Database Deficiency Report" has been published.

** Total for all haloacetic acids cannot exceed 0.06 mg/l level.

Drinking Water Standards and Health Advisories

October 1996

Page 8

Chemicals	Standards		Status HA	10-kg Child		Longer-term (mg/l)	Lifetime (mg/l)	70-kg Adult		Cancer Risk
	Status Reg.	MCLG (mg/l)		MCL (mg/l)	(mg/l)			RID (mg/kg/day)	DMEI (mg/l)	
INORGANICS										
Aluminum	L	-	-	-	-	-	-	-	-	D
Amonia	F	0.006	0.006	0.006	0.006	D	0.01	0.015	0.004	D
Antimony	*	-	-	-	-	F	0.01	-	0.01	D
Asaric	-	-	-	-	-	F	-	-	-	A
Asbestos (fibers/l >10µm length)	F	7 MFL	7 MFL	2	2	-	-	-	-	D
Barium	F	0.004	0.004	0.004	0.004	D	30	30	4	D
Boron	L	zero	0.01	-	-	D	4	0.9	0.9	B2
Bromate	F	0.015	0.015	4***	4	D	-	-	-	D
Cadmium	P	4	4	4	4	D	1	1	1	D
Chloramine	L	-	-	-	-	D	-	-	-	D
Chlorate	P	0.3	0.8	0.8	0.8	D	-	-	-	D
Chlorine	P	4	4	4	4	D	-	-	-	D
Chlorine dioxide	T	0.08	0.08	0.08	0.08	D	-	-	-	D
Chlorite	L	0.08	1	0.1	0.1	D	-	-	-	D
Chromium (total)	F	0.1	0.1	0.1	0.1	F	1	1	0.003	D
Copper (at tap)	F	1.3	1.3	1.3	1.3	F	-	-	-	D
Cyanide	F	0.2	0.2	0.2	0.2	F	0.2	0.2	0.022	D
Fluoride*	F	4	4	4	4	P	-	-	0.12	D
Hypochlorite	P	4	4	4	4	F	-	-	-	D
Hypochlorous acid	P	20	20	20	20	F	-	-	-	B2
Lead (at tap)	F	-	-	-	-	-	-	-	-	-
Manganese	L	-	-	-	-	F	-	-	0.14 ²	-
Mercury (inorganic)	F	0.002	0.002	0.002	0.002	F	-	0.002	0.003	D
Molybdenum	L	0.11	0.11	0.11	0.11	D	0.02	0.02	0.05	D
Nickel	F	10	10	10	10	F	0.5	1	0.05	D
Nitrate (as N)	F	-	-	-	-	F	10*	-	1.6	D

* Under review.

** Copper — action level 1.3 mg/L, Lead — action level 0.015 mg/L

*** Measured as free chlorine.

1 Regulated as chlorine.

2 In food.

3 In water.

4 Being remanded

Drinking Water Standards and Health Advisories

October 1996

Page 9

Chemicals	Standards						Health Advisories						Cancer Group
	Status Reg.	MCLG (mg/l)	MCL (mg/l)	Status HA	One-day (mg/l)	Ten-day (mg/l)	longer-term (mg/l)	10-kg Child	70-kg Adult	RID (mg/kg/day)	DWEL (mg/m)	Lifetime (mg/m)	
Nitrite (as N)	F	1	1	F	-	-	-	-	-	-	-	-	-
Nitrate + Nitrite (both as N)	F	10	10	F	-	-	-	-	-	-	-	-	-
Selenium	F	0.05	0.05	-	-	-	-	-	-	-	-	-	D
Silver	-	-	-	D	0.2	0.2	0.2	-	-	0.005	-	-	D
Sodium	-	-	-	D	-	-	-	-	-	-	-	-	D
Srionium	L	-	-	D	25	25	25	-	-	-	-	-	D
Sulfate	P	500	500	D	-	-	-	-	-	-	-	-	D
Thallium	F	0.0005	0.0002	F	0.007	0.007	0.007	-	-	-	-	-	D
Vandium	T	-	-	D	-	-	-	-	-	-	-	-	D
White phosphorous	-	-	-	F	-	-	-	-	-	-	-	-	D
Zinc	L	-	-	D	6	6	6	-	-	-	-	-	D
Zinc chloride (measured as Zinc)	L	-	-	F	6	6	6	-	-	-	-	-	D
RADIONUCLIDES													
Beta particle and photon activity (formerly man-made radionuclides)	F	++	4 rem	-	-	-	-	-	-	-	-	-	A
Gross alpha particle activity	F	++	15 pCi/L	-	-	-	-	-	-	-	-	-	A
Combined Radium 226 & 228	F	++	5 pCi/L	-	-	-	-	-	-	-	-	-	A
Radon*	P	zero	300 pCi/L	-	-	-	-	-	-	-	-	-	A
Uranium	P	zero	20 μ g/L	-	-	-	-	-	-	-	-	-	A

* Under review. ** Guidance.

+ 1991 Proposed National Primary Drinking Water Rule for Radionuclides
++No final MCLG, but zero proposed in 1991.

Secondary Maximum Contaminant Levels

October 1996

Page 10

Chemicals	Status	SMCLs (mg/L)
Aluminum	F	0.05 to 0.2
Chloride	P	250
Color	F	15 color units
Copper	F	1.0
Corrosivity	F	non-corrosive
Fluoride*	F	2.0
Foaming agents	F	0.5
Iron	F	0.3
Manganese	F	0.05
Odor	F	3 threshold odor numbers
pH	F	6.5 — 8.5
Silver	F	0.1
Sulfate	F	250
Total dissolved solids (TDS)	F	500
Zinc	F	5

Status Codes: P — proposed, F — final

* Under review.

Secondary Drinking Water Standards are unenforceable federal guidelines regarding taste, odor, color and certain other non-aesthetic effects of drinking water. EPA recommends them to the States as reasonable goals, but federal law does not require water systems to comply with them. States may, however, adopt their own enforceable regulations governing these concerns. To be safe, check your State's drinking water rules.

Microbiology

October 1996

Page 11

	Status	MCLG	MCL
Cryptosporidium	L	-	-
<i>Giardia lamblia</i>	F	zero	TT
Legionella	F*	zero	TT
Standard Plate Count	F*	NA	**
Total Coliforms	F	zero	PS
Turbidity	F	NA	PS
Viruses	F*	zero	TT

Key: PS, TT, F, defined as previously stated.

- # Final for systems using surface water; also being considered for regulation under groundwater disinfection rule.

EPA Health Advis.

11/95 EPA Health Advis.

Sort Titles	A-Does	Sort Catalog	E-Does
All Documents	G-Does	USWES	F-Does
Main Menu	H-Does	USWES	I-Does
Show Record	J-Does	Sort EPA #s	K-Does
Custom Find	L-Does	C-Does	M-Does
	N-Does	Sort ERIC #s	O-Does
	P-Does	Sort ERIC #s	Q-Does
	R-Does	Sort ERIC #s	S-Does
	S-Does	Sort ERIC #s	T-Does
	T-Does	Sort ERIC #s	U-Does
	U-Does	Sort ERIC #s	V-Does
	V-Does	Sort ERIC #s	W-Does
	W-Does	Sort ERIC #s	X-Does
	X-Does	Sort ERIC #s	Y-Does
	Y-Does	Sort ERIC #s	Z-Does
	Z-Does	Sort ERIC #s	All

Search Menu

Sort Titles	A-Does	Sort Titles	A-Does	Sort Catalog	E-Does
All Documents	G-Does	USWES	F-Does	USWES	I-Does
Main Menu	H-Does	USWES	G-Does	I-Does	K-Does
Show Record	J-Does	Sort EPA #s	C-Does	J-Does	L-Does
Custom Find	L-Does	Sort ERIC #s	D-Does	M-Does	N-Does
	N-Does	Sort ERIC #s	E-Does	O-Does	P-Does
	P-Does	Sort ERIC #s	F-Does	Q-Does	R-Does
	R-Does	Sort ERIC #s	G-Does	S-Does	T-Does
	S-Does	Sort ERIC #s	H-Does	U-Does	V-Does
	T-Does	Sort ERIC #s	I-Does	W-Does	X-Does
	U-Does	Sort ERIC #s	J-Does	Y-Does	Z-Does
	V-Does	Sort ERIC #s	K-Does	Z-Does	All

ABCDEFCHIJKLMNOPQRSTUVWXYZ ALL!

D-205 Health Advisory - Acifluorfen

2.50

D-206 Health Advisory - Amitryn

1.75

D-207 Health Advisory - Ammonium Sulfamate

1.25

D-208 Health Advisory - Atrazine

3.00

D-209 Health Advisory - (Soybean) Propexur

2.50

D-210 Health Advisory - Bantecin

1.50

D-211 Health Advisory - Bromacil

2.00

D-212 Health Advisory - Butylate

2.25

D-213 Health Advisory - Cabaryl

2.00

D-214 Health Advisory - Carbolin

2.00

D-215 Health Advisory - Chlordan

2.75

D-216 Health Advisory - Chlorthalone

2.50

D-217 Health Advisory - Cyproazine

1.75

D-218 Health Advisory - DCPA (Death)

2.25

D-219 Health Advisory - Diboron

2.25

D-220 Health Advisory - Disulfoton

2.00

D-221 Health Advisory - Disulfoton

2.25

D-222 Health Advisory - I, J - Detoxopropene

38.75

ABCDEFCHIJKLMNOPQRSTUVWXYZ ALL!

D-223 Health Advisory - Dieldrin

1.75

D-224 Health Advisory - Dimethrin

1.50

D-225 Health Advisory - Disoseb

1.75

D-226 Health Advisory - Diphenamid

1.50

D-227 Health Advisory - Terbacil

2.25

D-228 Health Advisory - Disulfoton

2.25

D-229 Health Advisory - Duran

2.00

D-230 Health Advisory - Endothal

2.25

D-231 Health Advisory - Ethylene Thiourea (ETU)

2.25

D-232 Health Advisory - Etrambiphos

2.00

D-233 Health Advisory - Fluometuron

2.00

D-234 Health Advisory - Fenotols

2.00

D-235 Health Advisory - Glyphosate

1.50

D-236 Health Advisory - Hexazone

2.25

D-237 Health Advisory - Malath Hydrazide

2.25

D-238 Health Advisory - MCPA (4-Chloro-2-Methylphenyl) - Acetic Acid

2.25

D-239 Health Advisory - Methomyl

2.25

D-240 Health Advisory - Methyl Parathion

3.00

34.25

)>277	Health Advisory • Chrysophiles		
)>278	Health Advisory • Isophorone	2.25	
)>279	Health Advisory • Methylthion	2.50	
)>280	Health Advisory • Phenol	2.75	
)>281	Health Advisory • p-Nitrophenol	2.50	
)>282	Health Advisory • Silver	3.50	
)>283	Health Advisory • Thallium	3.50	
)>284	Health Advisory • Dichloromethane	1.75	
)>285	Health Advisory • 1, 2 - Dichloropropane	1.75	
)>286	Health Advisory • Formaldehyde - Informal Guidance Level for	1.25	
)>287	Health Advisory • Lead	2.25	
)>288	Health Advisory • p-Dioxane	1.25	
)>289	Health Advisory • Zinc Chloride	9.25	
)>290	Health Advisory • Bromochloromethane	1.75	
)>291	Health Advisory • Bromomethane	2.25	
)>292	Health Advisory - bis - (2 - Chloroisopropyl) Ether	1.75	
)>293	Health Advisory • Chloromethane	2.75	
)>294	Health Advisory • Dichlorodifluoromethane	2.25	

Search Menu		Sort Trans	A-Does	G-Does	T-Does	USINESS	E-Does	Sort Catalog
<input type="checkbox"/> Sort Titles	<input type="checkbox"/> A-Does	<input type="checkbox"/> G-Does	<input type="checkbox"/> T-Does	<input type="checkbox"/> USINESS	<input type="checkbox"/> E-Does	<input type="checkbox"/> Sort Catalog	<input type="checkbox"/> Sort Catalog	<input type="checkbox"/> Sort Catalog
<input type="checkbox"/> All Documents	<input type="checkbox"/> All Documents	<input type="checkbox"/> All Documents	<input type="checkbox"/> All Documents	<input type="checkbox"/> All Documents	<input type="checkbox"/> All Documents	<input type="checkbox"/> All Documents	<input type="checkbox"/> All Documents	<input type="checkbox"/> All Documents
<input type="checkbox"/> Main Menu	<input type="checkbox"/> C-Does	<input type="checkbox"/> D-Does	<input type="checkbox"/> E-Does	<input type="checkbox"/> F-Does	<input type="checkbox"/> G-Does	<input type="checkbox"/> H-Does	<input type="checkbox"/> I-Does	<input type="checkbox"/> J-Does
<input type="checkbox"/> Show Record	<input type="checkbox"/> Custom Find	<input type="checkbox"/> Sort ERIC #s						
<input type="checkbox"/> Export Cat.	<input type="checkbox"/> Sort Gopher	<input type="checkbox"/> S-Does	<input type="checkbox"/> W-Does	<input type="checkbox"/> R-Does	<input type="checkbox"/> K-Does	<input type="checkbox"/> N-Does	<input type="checkbox"/> M-Does	<input type="checkbox"/> L-Does
<input type="checkbox"/> Export Gopher	<input type="checkbox"/> Export Gopher							
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z ALL !								
D-285	Health Advisory - Hexachlorobutadiene							2.50
D-296	Health Advisory - o-Chlorotoluene							2.75
D-297	Health Advisory - o-Chlorotoluene							2.00
D-298	Health Advisory - p-Chlorotoluene							1.75
D-299	Health Advisory - 1,1,2-Trichloroethane							2.00
D-300	Health Advisory - 1,2,4-Trichlorobenzene							2.75
D-301	Health Advisory - 1,3,5-Trichlorobenzene							2.50
D-302	Health Advisory - 1,1,2-Trichloroethane							1.75
D-303	Health Advisory - 1,2,3-Trichloropropane							2.25
D-304	Health Advisory - Trichlorofluoromethane							1.75
D-305	Health Advisory - Barium							2.25
D-306	Health Advisory - Cadmium							2.25
D-307	Health Advisory - Chromium							2.25
D-308	Health Advisory - Cyanide							2.00
D-309	Health Advisory - Mercury							1.50
D-310	Nickel Health Advisory (Interim Draft)							1.75
D-311	Health Advisory - Nitrate/Nitrite							7/95
D-312	Health Advisory - Dithioglycol Diacetate (DGDG) - Date Deficiencies, Problem Areas, and Recommendations for Additional Database Development for							4.50

18.75

Search Menu	<input type="checkbox"/> Sort Titles	<input type="checkbox"/> A-Docs	<input type="checkbox"/> G-Jocs	<input type="checkbox"/> F-Docs	<input type="checkbox"/> USHESS	<input type="checkbox"/> USHESS	<input type="checkbox"/> E-Docs	<input type="checkbox"/> Sort Colors
<input type="checkbox"/> All Document	<input type="checkbox"/> Sort EPA #s	<input type="checkbox"/> C-Docs	<input type="checkbox"/> H-Jocs	<input type="checkbox"/> G-Docs	<input type="checkbox"/> Videos	<input type="checkbox"/> M-Docs	<input type="checkbox"/> Sort Gender	
<input type="checkbox"/> High Herv								
<input type="checkbox"/> Custom File	<input type="checkbox"/> Sort ERIC #s	<input type="checkbox"/> D-Docs	<input type="checkbox"/> J-Jocs	<input type="checkbox"/> W-Docs	<input type="checkbox"/> Software	<input type="checkbox"/> S-Docs	<input type="checkbox"/> Expert Cat.	
<input type="checkbox"/> Show Record								
								<input type="checkbox"/> Expert Gender

A B C D E F G H I J K L M N O P Q R S T U V X Y Z ALL !

D-446 Trichloroethylene Health Advisory 2.50

D-447 Vinyl Chloride Health Advisory 2.25

D-448 Xylenes Health Advisory 2.25

D-771 Cryptosporidium Health Advisory
(part of the microbiological health advisory group) 3.50

8222/K-94-001 National Survey of Pesticides in Drinking Water Health Advisory 1994 13.25

G-364 Summaries 3.50

D-060 Methyl- & Butyl Ether Drinking Water Health Advisory (Draft) Jan-92 3.50

D-A10 Methyl- & Butyl Ether Drinking Water Health Advisory (Draft) Jan-92 3.50

G-045 Zinc Health Advisory (Draft) Dec-90 4.50

35.35

Total charge: \$495.50

