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Joint Committee on Drinking Water Additives – Treatment Chemicals
Joint Committee on Drinking Water Additives – System Components

5/10/2024

Proposed revision to NSF/ANSI/CAN 600 – Health Effects Evaluation and Criteria for Chemicals in Drinking Water (600i11r1)

Revision 1 of NSF/ANSI/CAN 600, issue 11 is being forwarded to the Joint Committee for consideration. Please review the proposal and **submit your ballot by May 31, 2024** via the NSF Online Workspace.

Please review all ballot materials. When adding comments, please include the section number applicable to your comment and add all comments under one comment number whenever possible. If you need additional space, please use the attached blank comment template in the reference documents and upload online via the browse function.

Purpose

This ballot includes updates to Table 4.1 in alignment with the 2018 Edition of the Drinking Water Standards and Health Advisory Tables from the US EPA.

Background

Updates to the drinking water criteria are based on the continued efforts of the Health Advisory Board (HAB) and the Joint Peer Steering Committee (JPRSC). New contaminants, as well as changes made to existing contaminants are shown in the ballot using strikeout for removal of old text and gray highlights to show the updated text.

If you have any questions about the technical content of the ballot, you may contact me in care of:

France Lemiuex, Chair, Joint Committee on Drinking Water Additives
c/o Amy Jump, Joint Committee Secretariat
T (313) 426-4918
E ajump@nsf.org@nsf.org

[Note – the recommended changes to the standard which include the current text of the relevant section(s) indicate deletions by use of ~~strikeout~~ and additions by grey highlighting. Rationale Statements are in *italics* and only used to add clarity; these statements will NOT be in the finished publication.]

NSF/ANSI Standard
for Drinking Water Additives –

Health Effects Evaluation and Criteria for Chemicals in Drinking Water

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Table 4.1
Drinking water criteria

Substance	CAS#	MCL/MAC or TAC (mg/L)	SPAC (mg/L)	STEL (mg/L)	Source of supporting documentation [1, 2, 3, 4, 5, 6, 7]	Additional information
formaldehyde	50-00-0	1	0.1	7 —	Derived from the oral RfD on the U.S. EPA IRIS database with a default 20% RSC for drinking water. Verification date: 1990-06-20	—
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benzamide	55-21-0	0.003	0.0003	0.01	TOE	—
trinitroglycerol	55-63-0	0.005	0.0005	0.2	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03	—
dipropylamine, 3,3'-diamino-	56-18-8	0.003	0.0003	0.01	TOE	—

Table 4.1
Drinking water criteria

Substance	CAS#	MCL/MAC or TAC (mg/L)	SPAC (mg/L)	STEL (mg/L)	Source of supporting documentation [1, 2, 3, 4, 5, 6, 7]	Additional information
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n,n-dimethylformamide	68-12-2	0.09	0.009	0.4	NSF action level. External peer review date: 2013-04-18	—
dimethrin	70-38-2	2	0.2	10	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03	—
benzenesulfonamide, 4-methyl-	70-55-3	0.1 (total)	0.1 (total)	2 (total)	NSF action level. External peer review date: 2018-10-23	Expressed as anhydrous Chloramine T. Detections shall be summed with the following chemicals: CAS# 127-65-1 and CAS# 7080-50-4.
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iodomethane	74-88-4	0.003	0.0003	0.01	TOE	—
bromochloromethane	74-97-5	0.09	0.009	0.5 —	U.S. EPA Lifetime Drinking Water Health Advisory. ~~Issue date: 1989~~ Verification Date: 2018-03	—
propane	74-98-6	0.01	0.01	—	WQA action level. JPRSC consensus date: 2014-0813	—
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Table 4.1
Drinking water criteria

Substance	CAS#	MCL/MAC or TAC (mg/L)	SPAC (mg/L)	STEL (mg/L)	Source of supporting documentation [1, 2, 3, 4, 5, 6, 7]	Additional information
trichlorofluoromethane	75-69-4	2	0.2	10 ~~—~~	Derived from the oral RfD on the U.S. EPA IRIS database with a default 20% RSC for drinking water. Verification date: ~~1985-05-31~~ 2018-03	—
dichlorodifluoromethane	75-71-8	1 ~~0.003~~	0.1 ~~0.0003~~	5 ~~0.01~~	~~TOE~~ US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03	—
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trichloroacetic acid	76-03-9	0.060 (total)	0.0060 (total)	0.060 (total)	40 C.F.R. § 141.64	Detections shall be summed with the following chemicals: CAS# 79-08-3, CAS# 79-11-8, CAS# 631-64-1, and CAS# 79-43-6. Dichloroacetic acid (CAS# 79-43-6) must also be evaluated under its separate pass/fail criteria (TAC = 0.007 mg/L, SPAC = 0.0007 mg/L).
dichloroacetic acid	76-43-6	0.007	0.0007	0.07	Adjusted to the 10^{-5} (TAC) and 10^{-6} (SPAC) cancer risk levels from the US EPA Drinking Water Health Advisory 10^{-4} cancer risk level. Verification date: 2018-03	
heptachlor	76-44-8	0.0004	0.00004	—	40 C.F.R. § 141.60, 40 C.F.R. § 141.61	—
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Table 4.1
Drinking water criteria

Substance	CAS#	MCL/MAC or TAC (mg/L)	SPAC (mg/L)	STEL (mg/L)	Source of supporting documentation [1, 2, 3, 4, 5, 6, 7]	Additional information
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acrylamide	79-06-1	0.014 ~~0.0004~~	0.0014 ~~0.00004~~	0.07 —	Derived from the DWEL in the US EPA Drinking Water Health Advisory database with a default 20% relative source contribution for drinking water. Verification date: 2018-03 ~~Derived from the U.S. EPA IRIS $10^{-5}/10^{-6}$ cancer risk levels in the IRIS Toxicological Review document. Dated: 2010-03~~	—
acrylamide (as a monomer in drinking water treatment polymers)	79-06-1	TT (0.05% dosed at 1 ppm, or equivalent)	TT (0.05% dosed at 1 ppm, or equivalent)	—	40 C.F.R. § 141.111, 40 C.F.R. § 141.110	TT = treatment technique
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isobutyric acid	79-31-2	0.003	0.0003	0.01	TOE	—
1,1,2,2-tetrachloroethane	79-34-5	0.004 ~~0.002~~	0.0004 ~~0.0002~~	0.04 —	Adjusted to the 10^{-5} (TAC) and 10^{-6} (SPAC) cancer risk levels from the US EPA Drinking Water Health Advisory 10^{-4} cancer risk level. Verification date: 2018-03 ~~U.S. EPA IRIS $10^{-5}/10^{-6}$ cancer risk levels. Verification date: 1986-06-26~~	—
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Table 4.1
Drinking water criteria

Substance	CAS#	MCL/MAC or TAC (mg/L)	SPAC (mg/L)	STEL (mg/L)	Source of supporting documentation [1, 2, 3, 4, 5, 6, 7]	Additional information
acenaphthene	83-32-9	0.4 ~~0.003~~	0.04 ~~0.0003~~	2 ~~0.01~~	Derived from the DWEL in the US EPA Drinking Water Health Advisory database with a default 20% relative source contribution for drinking water. Verification date: 2018-03 ~~TOE~~	—
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phenol, 2,6-dichloro-	87-65-0	0.003	0.0003	0.01	TOE	—
hexachlorobutadiene	87-68-3	0.009	0.0009	0.09	Adjusted to the 10^{-5} (TAC) and 10^{-6} (SPAC) cancer risk levels from the US EPA Drinking Water Health Advisory 10^{-4} cancer risk level. Verification date: 03/2018	
~~1,3-butanediene, hexachloro-~~	~~87-68-3~~	~~0.004~~	~~0.0004~~	—	~~WQA action level. JPRSC consensus date: 2015-05-20~~	—
hexabromobenzene	87-82-1	0.01	0.001	—	Derived from the oral RfD on the U.S. EPA IRIS database with a default 20% RSC for drinking water. Verification date: 1985-11-06	—
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fenoprop	93-72-1	0.05	0.005	—	40 C.F.R. § 141.60, 40 C.F.R. § 141.61	—
Trichlorophenoxy-acetic acid	93-76-5	0.07	0.007	0.35	US EPA Lifetime Drinking Water Health Advisory Verification date:2018-03	

Table 4.1
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Substance	CAS#	MCL/MAC or TAC (mg/L)	SPAC (mg/L)	STEL (mg/L)	Source of supporting documentation [1, 2, 3, 4, 5, 6, 7]	Additional information
benzanilide	93-98-1	0.003	0.0003	0.01	TOE	—
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phenetidine, o-	94-70-2	0.003	0.0003	0.01	TOE	—
4-(chloro-2-methoxyphenoxy) acetic acid	94-74-6	0.03	0.003	0.14	US EPA Lifetime Drinking Water Health Advisory Verification date:2018-03	
2,4-D	94-75-7	0.07	0.007	—	40 C.F.R. § 141.60, 40 C.F.R. § 141.61	—
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~~2-~~2-chlorotoluene	95-49-8	0.1	0.01	0.7 ~~—~~	US EPA Lifetime Drinking Water Health Advisory Verification date:2018-03 ~~Based on the oral RfD and lifetime drinking water health advisory in the U.S. EPA 2011 Edition of the Drinking Water Standards and Health Advisories.~~	—
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Table 4.1
Drinking water criteria

Substance	CAS#	MCL/MAC or TAC (mg/L)	SPAC (mg/L)	STEL (mg/L)	Source of supporting documentation [1, 2, 3, 4, 5, 6, 7]	Additional information
ethylene thiourea	96-45-7	0.001 ~~0.0006~~	0.0001 ~~0.00006~~	0.007 ~~—~~	Derived from the DWEL in the US EPA Drinking Water Health Advisory database with a default 20% relative source contribution for drinking water. Verification date: 2018-03 ~~Derived from the oral RfD on the U.S. EPA IRIS database with a default 20% RSC for drinking water.~~ ~~Verification date: 1991-02-20~~	—
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isopropylbenzene (cumene)	98-82-8	0.7	0.07	4 ~~—~~	Derived from the oral RfD on the U.S. EPA IRIS database with a default 20% RSC for drinking water. Agency consensus date: 1997-06-06	—
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1,3,5-trinitrobenzene	99-35-4	0.2	0.02	—	Derived from the oral RfD on the U.S. EPA IRIS database with a default 20% RSC for drinking water. Verification date: 1997-08-27	—
dinitrobenzene (1,3-)	99-65-0	0.001	0.0001	0.005	US EPA Lifetime Drinking Water Health Advisory Verification date:2018-03	
methylparaben	99-76-3	0.01	0.01	—	NSF action level. JPRSC consensus date: 2018-09-12	—
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Drinking water criteria

Substance	CAS#	MCL/MAC or TAC (mg/L)	SPAC (mg/L)	STEL (mg/L)	Source of supporting documentation [1, 2, 3, 4, 5, 6, 7]	Additional information
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4-nitrophenol	100-02-7	0.06	0.006	0.3 ~~0.06~~	US EPA Lifetime Drinking Water Health Advisory Verification date:2018-03 ~~Based on the oral RfD and lifetime drinking water health advisory in the U.S. EPA 2012 Edition of the Drinking Water Standards and Health Advisories.~~	—
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4-chlorotoluene	106-43-4	0.1	0.01	0.7 ~~—~~	US EPA Lifetime Drinking Water Health Advisory Verification date:2018-03 ~~Based on the oral RfD and lifetime drinking water health advisory in the U.S. EPA 2011 Edition of the Drinking Water Standards and Health Advisories.~~	—
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Table 4.1
Drinking water criteria

Substance	CAS#	MCL/MAC or TAC (mg/L)	SPAC (mg/L)	STEL (mg/L)	Source of supporting documentation [1, 2, 3, 4, 5, 6, 7]	Additional information
acrylonitrile	107-13-1	0.0006	0.00006	0.006 —	Adjusted to the 10^{-5} (TAC) and 10^{-6} (SPAC) cancer risk levels from the US EPA Drinking Water Health Advisory 10^{-4} cancer risk level. Verification date: 2018-03 ~~U.S. EPA IRIS $10^{-5}/10^{-6}$ cancer risk levels.~~ ~~Verification date: 1987-02-11~~	—
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pyridine, 2,6-dimethyl-	108-48-5	0.003	0.0003	0.01	TOE	—
bis(2-chloro-1 methylethyl) ether	108-60-1	0.3	0.03	1	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03	
propylene glycol monomethyl ether acetate	108-65-5	2 (total)	0.2 (total)	3 (total)	NSF action level. External peer review date: 2018-04-10	Expressed as PGME. Detections shall be summed with PGME CAS# 107-98-2.
trimethylbenzene, 1,3,5-	108-67-8	0.2 (total)	0.02 (total)	1 (total)	NSF action level. External peer review date: 2016-10-27	Detections shall be summed with chemicals under the high flash aromatic naphtha (CAS# 64742-95-6) class-based evaluation level.
3,5-dimethylphenol	108-68-9	0.003	0.0003	0.01	TOE	—

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Substance	CAS#	MCL/MAC or TAC (mg/L)	SPAC (mg/L)	STEL (mg/L)	Source of supporting documentation [1, 2, 3, 4, 5, 6, 7]	Additional information
trichlorobenzene (1,3,5-)	108-70-3	0.04	0.004	0.2	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03	
pyridine, 2,4,6-trimethyl-	108-75-8	0.003	0.0003	0.01	TOE	—
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phenol	108-95-2	2	0.2	11 ~~—~~	Derived from the oral RfD on the U.S. EPA IRIS database with a default 20% RSC for drinking water. Agency consensus date: 2002-08-28	—
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anthracene	120-12-7	2 ~~0.003~~	0.2 ~~0.0003~~	10 ~~0.01~~	Derived from the DWEL in the US EPA Drinking Water Health Advisory database with a default 20% relative source contribution for drinking water. Verification date: 2018-03 ~~TOE~~	—
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Table 4.1
Drinking water criteria

Substance	CAS#	MCL/MAC or TAC (mg/L)	SPAC (mg/L)	STEL (mg/L)	Source of supporting documentation [1, 2, 3, 4, 5, 6, 7]	Additional information
2,4-dinitrotoluene	121-14-2	0.0005 (total)	0.00005 (total)	0.005 (total) —	Adjusted to the 10^{-5} (TAC) and 10^{-6} (SPAC) cancer risk levels from the US EPA Drinking Water Health Advisory 10^{-4} cancer risk level. Verification date: 2018-03 ~~U.S. EPA IRIS 10^{-5}/10^{-6} cancer risk levels. Verification date: 1989-05-03~~	Detections shall be summed with the following chemical: CAS# 606-20-2.
benzaldehyde, 4-hydroxy-3-methoxy (vanillin)	121-33-5	0.003	0.0003	0.01	TOE	—
triethylamine	121-44-8	0.1	0.01	3	WQA action level. JPRSC consensus date: 2015-09-16	—
3-hydroxyacetophenone	121-71-1	0.003	0.0003	0.01	TOE	—
1,3,5-trinitro-1,3,5-triazinane	121-82-4	0.002	0.0002	0.03	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03	
malathion	121-75-5	0.19	0.019	—	Health Canada MAC. Issue date: 1986-02	—
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diphenylamine	122-39-4	0.2	0.02	—	Derived from the oral RfD on the U.S. EPA IRIS database with a default 20% RSC for drinking water. Verification date: 1986-07-22	—
propham	122-42-9	0.1	0.01	0.6	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03	
phenyl glycidyl ether	122-60-1	0.006	0.0006	0.1	NSF action level. External peer review date: 2002-10-03	—

Table 4.1
Drinking water criteria

Substance	CAS#	MCL/MAC or TAC (mg/L)	SPAC (mg/L)	STEL (mg/L)	Source of supporting documentation [1, 2, 3, 4, 5, 6, 7]	Additional information
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hydroquinone	123-31-9	2	0.2	4	NSF action level. External peer review date: 2013-04-18	—
maleic hydrazide	123-33-1	4	0.4	20	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03	
diacetone alcohol	123-42-2	3	0.3	10	NSF action level. External peer review date: 2011-05-10	—
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pyrene	129-00-0	0.2 ~~0.003~~	0.02 ~~0.0003~~	— ~~0.01~~	Derived from the oral RfD in the US EPA Drinking Water Health Advisory database with a default 20% relative source contribution for drinking water. Verification date: 2018-03 ~~TOE~~	—
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captan	133-06-2	0.003	0.0003	0.01	TOE	—
chloramben	133-90-4	0.1	0.01	0.5	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03	
methyl anthranilate	134-20-3	0.003	0.0003	0.01	TOE	—

Table 4.1
Drinking water criteria

Substance	CAS#	MCL/MAC or TAC (mg/L)	SPAC (mg/L)	STEL (mg/L)	Source of supporting documentation [1, 2, 3, 4, 5, 6, 7]	Additional information
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nitrilotriacetic acid	139-13-9	0.4	0.04	—	Health Canada MAC. Issue date: 1990-01	—
propazine	139-40-2	0.01	0.001	0.7	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03	
diphenyl sulfide	139-66-2	0.003	0.0003	0.01	TOE	—
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tetraethylene glycol dimethyl ether	143-24-8	0.003	0.0003	0.01	TOE	—
cyanide	143-33-9	0.004	0.0004	—	Derived from the oral RfD in the US EPA Drinking Water Health Advisory database with a default 20% relative source contribution for drinking water. Verification date: 2018-03	
pentanediol, 2,2,4-trimethyl-1,3-	144-19-4	0.2 (total)	0.02 (total)	2 (total)	WQA action level. External peer review date: 2016-10-26	Detections shall be summed with the following chemicals: CAS# 77-68-9, CAS# 6846-50-0, CAS# 25265-77-4, CAS# 74367-33-2, CAS# 74367-34-3, and CAS# 74381-40-1.

Table 4.1
Drinking water criteria

Substance	CAS#	MCL/MAC or TAC (mg/L)	SPAC (mg/L)	STEL (mg/L)	Source of supporting documentation [1, 2, 3, 4, 5, 6, 7]	Additional information
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cyclohexadecane	295-65-8	0.003	0.0003	0.01	TOE	—
methyl parathion	298-00-00	0.001	0.0001	0.007	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03	
phorate	298-02-2	0.002	0.0002	—	Health Canada MAC. Issue date: 1986-02	—
disulfoton	298-04-4	0.0007	0.00007	0.0035	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03	
benzene, 2-propenyl-	300-57-2	0.003	0.0003	0.01	TOE	—
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aldrin	309-00-2	0.0007 (total)	0.00007 (total)	—	Health Canada MAC. Issue date: 1994-10	Detections shall be summed with the following chemical: CAS# 60-57-1.
bromacil	314-40-9	0.07	0.007	3.5	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03	
tacrine	321-64-2	0.003	0.0003	0.01	TOE	—
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Table 4.1
Drinking water criteria

Substance	CAS#	MCL/MAC or TAC (mg/L)	SPAC (mg/L)	STEL (mg/L)	Source of supporting documentation [1, 2, 3, 4, 5, 6, 7]	Additional information
1,4-dithiane	505-29-3	0.08 ~~0.07~~	0.008 ~~0.007~~	0.4 ~~—~~	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03 ~~Derived from the oral RfD on the U.S. EPA IRIS database with a default 20% RSC for drinking water. Verification date: 1992-06-24~~	—
1-tetracosanol	506-51-4	0.003	0.0003	0.01	TOE	—
cyanogen chloride	506-77-4	0.4	0.04	2	Derived from the DWEL in the US EPA Drinking Water Health Advisory database with a default 20% relative source contribution for drinking water. Verification date: 2018-03	
tert-butyl hypochlorite	507-40-4	0.003	0.0003	0.01	TOE	—
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2H-pyran-2-one, tetrahydro-	542-28-9	0.003	0.0003	0.01	TOE	—
dichloropropene (1,3-)	542-75-6	0.004	0.0004	0.04	Adjusted to the 10^{-5} (TAC) and 10^{-6} (SPAC) cancer risk levels from the US EPA Drinking Water Health Advisory 10^{-4} cancer risk level. Verification date: 2018-03	
bis(chloromethyl)ether	542-88-1	0.000002	0.0000002	—	U.S. EPA IRIS 10^{-5}/10^{-6} cancer risk levels. Verification date: 1988-05-04	—
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Table 4.1
Drinking water criteria

Substance	CAS#	MCL/MAC or TAC (mg/L)	SPAC (mg/L)	STEL (mg/L)	Source of supporting documentation [1, 2, 3, 4, 5, 6, 7]	Additional information
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nitroguanidine	556-88-7	0.7	0.07	3.5 —	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03 ~~Derived from the oral RfD on the U.S. EPA IRIS database with a default 20% RSC for drinking water.~~ ~~Verification date: 1989-05-17~~	—
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2,6-dinitrotoluene	606-20-2	0.0005 (total)	0.00005 (total)	0.005 (total) —	Adjusted to the 10^{-5} (TAC) and 10^{-6} (SPAC) cancer risk levels from the US EPA Drinking Water Health Advisory 10^{-4} cancer risk level. Verification date: 2018-03 ~~U.S. EPA IRIS 10^{-5}/10^{-6} cancer risk levels.~~ ~~Verification date: 1989-05-03~~	Detections shall be summed with the following chemical: CAS# 121-14-2.
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1,1,1,2-tetrachloroethane	630-20-6	0.01	0.001	0.1 —	Adjusted to the 10^{-5} (TAC) and 10^{-6} (SPAC) cancer risk levels from the US EPA Drinking Water Health Advisory 10^{-4} cancer risk level. Verification date: 2018-03 ~~U.S. EPA IRIS 10^{-5}/10^{-6} cancer risk levels.~~ ~~Verification date: 1988-05-04~~	—

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Substance	CAS#	MCL/MAC or TAC (mg/L)	SPAC (mg/L)	STEL (mg/L)	Source of supporting documentation [1, 2, 3, 4, 5, 6, 7]	Additional information
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2,6-di-tert-butyl-4-nitrophenol	728-40-5	0.003	0.0003	0.01	TOE	—
dimethyl methylphosphonate	756-79-6	0.1	0.01	0.7	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03	
formamide, N,N-dimethylthio-	758-16-7	0.003	0.0003	0.01	TOE	—
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p-hydroxybenzhydrol	833-39-6	0.01	0.01	0.01	NSF action level. External peer review date: 2013-04-18	—
ametryn	834-12-8	0.06	0.006	0.3	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03	
methacrylic acid, 2-hydroxyethyl ester	868-77-9	0.01	0.01	—	IAPMO action level. JPRSC consensus date: 2020-04-02	—
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1-hexanone, 1-phenyl	942-92-7	0.003	0.0003	0.01	TOE	—
fonofos	944-22-9	0.01	0.001	0.07	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03	

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Substance	CAS#	MCL/MAC or TAC (mg/L)	SPAC (mg/L)	STEL (mg/L)	Source of supporting documentation [1, 2, 3, 4, 5, 6, 7]	Additional information
laurolactam	947-04-6	0.4	0.04	2	NSF action level. External peer review date: 2008-10-15	—
(hydroxycyclohexyl)phenyl methanone	947-19-3	0.08	0.008	0.5	NSF action level. External peer review date: 2019-10-22	—
diphenamid	957-51-7	0.2	0.02	1	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03	
butane, 2-methoxy-2-methyl-	994-05-8	0.3 (total)	0.03 (total)	0.4 (total)	NSF action level. External peer review date: 2019-10-22	Action levels expressed as TAA (CAS# 75-85-4). Detections of TAEE (CAS# 919-94-8) and TAME (CAS# 994-05-8) are to be multiplied by molecular weight adjustment factors of 0.76 and 0.86, respectively, prior to summation. Detections shall be summed with the following chemicals: CAS# 919-94-8 and CAS# 75-85-4.
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xylenol, 6-tert-butyl-3,4-	1445-23-4	0.003	0.0003	0.01	TOE	—

Table 4.1
Drinking water criteria

Substance	CAS#	MCL/MAC or TAC (mg/L)	SPAC (mg/L)	STEL (mg/L)	Source of supporting documentation [1, 2, 3, 4, 5, 6, 7]	Additional information
diisopropylmethylphosphonate	1445-75-6	0.6	0.06	3	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03	
benzenemethanol, α-methyl-, -(S)-	1445-91-6	0.003	0.0003	0.01	TOE	—
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1,4-diisopropenylbenzene	1605-18-1	0.003	0.0003	0.01	TOE	—
prometon	1610-18-0	0.4	0.04	2	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03	
benzaldehyde, 3,5-di-tert-butyl-4-hydroxy-	1620-98-0	0.003	0.0003	0.01	TOE	—
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methoxytrimethylsilane	1825-61-2	0.003	0.0003	0.01	TOE	—
isopropyl methylphosphonate	1832-54-8	0.7	0.07	3.5	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03	
tetrafluorobenzenedicarbonitrile	1835-49-0	0.003	0.0003	0.01	TOE	—
anilinobenzothiazole	1843-21-6	0.003	0.0003	0.01	TOE	—
benzimidazolone, 3-methyl-2-	1849-01-0	0.003	0.0003	0.01	TOE	—

Table 4.1
Drinking water criteria

Substance	CAS#	MCL/MAC or TAC (mg/L)	SPAC (mg/L)	STEL (mg/L)	Source of supporting documentation [1, 2, 3, 4, 5, 6, 7]	Additional information
dimethyl tetrachloroterephthalate	1861-32-1	0.7	0.07	0.35	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03	
1,2,3-trichloro-2-methylpropane	1871-58-5	0.003	0.0003	0.01	TOE	—
2-octenoic acid, (2E)-	1871-67-6	0.003	0.0003	0.01	TOE	—
xylenol, 6-tert-butyl-1,4-	1879-09-0	0.003	0.0003	0.01	TOE	—
hydroxymethylcyclo-dodecane	1892-12-2	0.003	0.0003	0.01	TOE	—
2-(4-chlorophenoxy)ethanol	1892-43-9	0.003	0.0003	0.01	TOE	—
chlorothalonil	1897-45-6	0.015	0.0015	0.15	Adjusted to the 10^{-5} (TAC) and 10^{-6} (SPAC) cancer risk levels from the US EPA Drinking Water Health Advisory 10^{-4} cancer risk level. Verification date: 2018-03	
cembrene	1898-13-1	0.003	0.0003	0.01	TOE	—
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picloram	1918-02-1	0.19	0.019	—	Health Canada MAC. Issue date: 1988-06	—
propachlor	1918-16-7	0.01	0.001	0.1	Adjusted to the 10^{-5} (TAC) and 10^{-6} (SPAC) cancer risk levels from the US EPA Drinking Water Health Advisory 10^{-4} cancer risk level. Verification date: 2018-03	
oxonanoic acid methyl ester	1931-63-1	0.003	0.0003	0.01	TOE	—

Table 4.1
Drinking water criteria

Substance	CAS#	MCL/MAC or TAC (mg/L)	SPAC (mg/L)	STEL (mg/L)	Source of supporting documentation [1, 2, 3, 4, 5, 6, 7]	Additional information
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benzenedimethanol, a,a,a',a'-tetramethyl-1,3-	1999-85-5	0.003	0.0003	0.01	TOE	—
butylate	2008-41-5	0.4	0.04	2	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03	
2,6-dichlorobenzamide	2008-58-4	0.003	0.0003	0.01	TOE	—
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urea, N'-cyclopentyl-N,N-dimethyl-	2163-69-1	0.05 (total)	0.05 (total)	0.8 (total)	NSF action level. External peer review date: 2017-10-17	Detections shall be summed with other chemicals under the alkyl-substituted urea class-based evaluation level.
fluometuron	2164-17-2	0.09	0.009	0.5	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03	
pentachloropyridine	2176-62-7	0.003	0.0003	0.01	TOE	—
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pyrrolidinone, 1-dodecyl-2-	2687-96-9	0.003	0.0003	0.01	TOE	—

Table 4.1
Drinking water criteria

Substance	CAS#	MCL/MAC or TAC (mg/L)	SPAC (mg/L)	STEL (mg/L)	Source of supporting documentation [1, 2, 3, 4, 5, 6, 7]	Additional information
octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine	2691-41-0	0.4	0.04	2	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03	
sodium 4-styrenesulfonate	2695-37-6	0.003	0.0003	0.01	TOE	—
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2-ethyl-4-pentenal	5204-80-8	0.003	0.0003	0.01	TOE	—
carboxin	5234-68-4	0.7	0.07	3.5	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03	
3,4,5,6-tetrahydro-1,3-oxazin-2-one	5259-97-2	0.003	0.0003	0.01	TOE	—
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acetylhexamethyleneimine	5809-41-6	0.003	0.0003	0.01	TOE	—
terbacil	5902-51-2	0.09	0.009	0.4	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03	
tau-cadinol	5937-11-1	0.01	0.01	—	WQA action level. JPRSC consensus date: 2014-08-13	—
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Table 4.1
Drinking water criteria

Substance	CAS#	MCL/MAC or TAC (mg/L)	SPAC (mg/L)	STEL (mg/L)	Source of supporting documentation [1, 2, 3, 4, 5, 6, 7]	Additional information
silver	7440-22-4	0.1	0.01	0.2 —	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03 ~~Issue date: 1992~~	—
strontium	7440-24-6	4	0.4	20 —	Derived from the oral RfD on the U.S. EPA IRIS database with a default 20% RSC for drinking water. Verification date: 1992-06-23	—
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propanone, 1-, 2-hydroxy-2-methyl-1-phenyl-	7473-98-5	0.003	0.0003	0.01	TOE	—
mercury (inorganic)	7487-94-7	0.002	0.0002	0.01	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03	
isobornyl methacrylate	7534-94-3	0.03	0.003	0.4	NSF action level. External peer review date: 2015-10-21	—
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hydrogen peroxide	7722-84-1	8	8	—	NSF action level. External peer review date: 2010-05-05	—
white phosphorous	7723-14-0	0.0001	0.00001	0.0005	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03	

Table 4.1
Drinking water criteria

Substance	CAS#	MCL/MAC or TAC (mg/L)	SPAC (mg/L)	STEL (mg/L)	Source of supporting documentation [1, 2, 3, 4, 5, 6, 7]	Additional information
bromine	7726-95-6	10 (total)	1 (total)	10 (total)	NSF action level. External peer review date: 2011-09-21	Detections shall be summed with the following chemical: CAS# 24959-67-9.
ammonium sulfamate	7773-06-0	2	0.2	8	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03	
1,2-dimethoxypropane	7778-85-0	0.01	0.01	—	WQA action level. JPRSC consensus date: 2018-12-11	—
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perchlorate	14797-73-0	0.015	0.005	—	US EPA Interim Lifetime Drinking Water Health Advisory Verification date: 2018-03 ~~U.S. EPA Interim Health Advisory. Issue Date: 2008~~	Compliance to SPACs based on US State or other regulatory levels may be demonstrated by establishing the SPAC as $^1/_3$ of the regulatory level.
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hexane, 2,3,4-trimethyl	16747-26-5	0.003	0.0003	0.01	TOE	—
methomyl	16752-77-5	0.2	0.02	0.9	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03	

Table 4.1
Drinking water criteria

Substance	CAS#	MCL/MAC or TAC (mg/L)	SPAC (mg/L)	STEL (mg/L)	Source of supporting documentation [1, 2, 3, 4, 5, 6, 7]	Additional information
fluoride	16984-48-8	1.0	1.0 (direct additive) 0.1 (contaminant)	—	US CDC Recommended Operational Control Range for Optimal Fluoride Concentration in Community Water Systems, 83 Fed Reg 32666-32667 (July, 2018)	Operational control range of 0.6 mg/L to 1.0 mg/L recommended to meet target level of 0.7 mg/L for prevention of tooth decay, and to reduce the risk of dental fluorosis. 83 Fed Reg 32666-32667 (July, 2018)
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ethanone, 1-[4-(methoxymethyl)phenyl]-	22072-50-0	0.003	0.0003	0.01	TOE	—
fenamiphos	22224-92-6	0.0007	0.00007	0.0035	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03	
methyl-1 bicyclo[4.2.0]octa-1,3,5-triene, 3-	22250-74-4	0.003	0.0003	0.01	TOE	—
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Table 4.1
Drinking water criteria

Substance	CAS#	MCL/MAC or TAC (mg/L)	SPAC (mg/L)	STEL (mg/L)	Source of supporting documentation [1, 2, 3, 4, 5, 6, 7]	Additional information
styrene, methyl- (mixed isomers)	25013-15-4	0.003	0.0003	0.01	TOE	—
bentazon	25057-89-0	0.2	0.02	1	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03	
methyl nadic anhydride	25134-21-8	0.05 (total)	0.05 (total)	0.05 (total)	NSF action level. External peer review date: 2012-10-17	Detections shall be summed with the following chemicals: CAS# 85-42-7, CAS# 85-43-8, CAS# 11070-44-3, and CAS# 25550-51-0.
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benzenediamine, 5-chloro-1,3-	33786-89-9	0.003	0.0003	0.01	TOE	—
tebuthiuron	34014-18-1	0.5	0.05	2	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03	
4-butoxy-1-butene	34061-76-2	0.003	0.0003	0.01	TOE	—
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metolachlor	51218-45-2	0.05	0.005	—	Health Canada MAC. Issue date: 1986-02	—
hexazinone	51235-04-2	0.4	0.04	2	US EPA Lifetime Drinking Water Health Advisory Verification date: 2018-03	

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Drinking water criteria

Substance	CAS#	MCL/MAC or TAC (mg/L)	SPAC (mg/L)	STEL (mg/L)	Source of supporting documentation [1, 2, 3, 4, 5, 6, 7]	Additional information
polyepoxysuccinic acid	51274-37-4	0.003	0.0003	0.01	TOE	—
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phenyl (1-phenyl-2-propyl) thioether	62252-49-7	0.003	0.0003	0.01	TOE	—
acifluorfen sodium	62476-59-9	0.01	0.001	0.1	Adjusted to the 10^{-5} (TAC) and 10^{-6} (SPAC) cancer risk levels from the US EPA Drinking Water Health Advisory 10^{-4} cancer risk level. Verification date: 2018-03	
4-isopropyl-1,3-cyclohexanedione	62831-62-3	0.003	0.0003	0.01	TOE	—
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tri(1,2-propyleneglycol) monoethylether	unavailable	0.003	0.0003	0.01	TOE	—
dinitrotoluene (2,6 & 2,4)	unavailable	0.0005 (total)	0.00005 (total)	0.005 (total)	Adjusted to the 10^{-5} (TAC) and 10^{-6} (SPAC) cancer risk levels from the US EPA Drinking Water Health Advisory 10^{-4} cancer risk level. Verification date: 2018-03	

[1] The references for criteria based on US primary drinking water regulations are from the US Code of Federal Regulations, Title 40 (Protection of Environment), revised as of July 1, 2011. This document is available on-line at <www.gpo.gov/fdsys/browse/collectionCfr.action?collectionCode=CFR>. Issue dates are given for criteria based on Health Canada guidelines. Additional information on the guidelines for these chemicals is available at <hc-sc.gc.ca/ewh-semt/pubs/water-eau/index-eng.php#tech_doc.>.

[2] NSF action levels have been derived according to the requirements of Section 3.

Table 4.1
Drinking water criteria

Substance	CAS#	MCL/MAC or TAC (mg/L)	SPAC (mg/L)	STEL (mg/L)	Source of supporting documentation [1, 2, 3, 4, 5, 6, 7]	Additional information

[3] Criteria are derived from the oral RfD on the U.S. EPA IRIS database as follows:

Oral RfD (mg/kg-d) × (70 kg/2 L/d) × RSC factor = TAC (mg/L)

Where:

70 kg = assumed adult body weight
2 L/d = assumed adult water consumption
RSC factor = percentage of daily exposure to the substance represented by drinking water (default value is 20%)

Other criteria have been used directly, unless otherwise noted.

[4] The IRIS verification date represents the date the oral RfD or the cancer risk assessment was peer reviewed by the U.S. EPA. Refer to the online IRIS database for the complete update and revision history of the IRIS files. <www.epa.gov/IRIS>

[5] Toxic equivalency factors (TEFs) have been established as a means to compare the potency of 2,3,7,8-tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD) to individual congeners of polychlorinated dibenzo-p-dioxins (PCDDs), polychlorinated dibenzofurans (PCDFs), and polychlorinated biphenyls (PCBs). The U.S. EPA uses an approach to dioxin risk assessment methodology in which levels of dioxins and furans are analytically determined, the concentration of each congener is multiplied by its respective TEF value, and all the products are totaled to a single 2,3,7,8-TCDD equivalent.
Van den Berg et al., 1998. Toxic Equivalency Factors (TEFs) for PCBs, PCDDs, PCDFs for Humans and Wildlife. Environmental Health Perspectives 106(12):775:792.

US Environmental Protection Agency. 2000. Chapter 9: Toxic Equivalency Factors (TEFs) for Dioxin and Related Compounds. From Exposure and Human Health Risk Assessment of 2,3,7,8-Tetrachlorodibenzo-p-Dioxin (TCDD) and Related Compounds. Part II: Health Assessment for 2,3,7,8-Tetrachlorodibenzo-p-dioxin (TCDD) and Related Compounds. NCEA-I-0386. September 2000. SAB Review Draft. <www.epa.gov/ncea/pdfs/dioxin/part2/fm-chap9.pdf>

[6] For the chemicals listed in this table under the threshold of evaluation (TOE), the evaluation criteria are 0.003 mg/L under static conditions, and 0.0003 mg/L under flowing conditions. If any of these chemicals are detected at concentrations exceeding the TOE, toxicity data shall be reviewed to determine whether specific TAC and SPAC values can be established, prior to using TOE to determine compliance with the standard.

[7] Effective April 17, 2013, CSA Group, NSF International, IAPMO R&T, UL, and the Water Quality Association use harmonized procedures outlined in Section 3 (previously Annex A of NSF/ANSI/CAN 60 and NSF/ANSI/CAN 61) to develop action levels for unregulated drinking water contaminants. The Joint Peer Review Steering Committee (JPRSC) was established by the aforementioned certifying agencies to consolidate current pass/fail criteria and to harmonize the external per review process for future risk assessments. As part of the consolidation process, pass/fail criteria may be adopted following consensus approval of the members of the JPRSC. Sources of the pass/fail criteria approved by the JPRSC may include risk assessments submitted by each certifying agency as well as assessments based upon authoritative agencies
(i.e., U.S. EPA, Health Canada).

[8] TT = treatment technique. For NSF/ANSI/CAN 61 only, the lead and copper rule requirement that defines corrosion control optimization for large systems is based on

Table 4.1
Drinking water criteria

Substance	CAS#	MCL/MAC or TAC (mg/L)	SPAC (mg/L)	STEL (mg/L)	Source of supporting documentation [1, 2, 3, 4, 5, 6, 7]	Additional information

the difference between the 90th percentile lead level and the source water lead concentration being less that the practical quantitation level of 5 ppb (Code of Federal Regulations 40 C.F.R. – Part 141.81(b)(3)).

[9] For NSF/ANSI/CAN 61, Section 9 products other than supply stops, flexible plumbing connectors, and miscellaneous components, a Q statistic value of 5 µg or 1 µg of lead is used as the evaluation criterion when the product is evaluated to the requirements of Section 9.5.1, or Section 9.5.1.1.1, respectively. For supply stops, flexible plumbing connectors, and miscellaneous Section 9 devices, a Q statistic value of 3 µg or 0.5 µg of lead is used as the evaluation criterion when the product is evaluated to the requirements of Section 9.5.1, or Section 9.5.1.1.1, respectively.

[10] Limitations in analytical methods may preclude detection at levels sufficient to report these compounds at or below the SPAC. To the maximum extent possible, testing laboratories shall seek the lowest detection limits via both sample exposure and analysis.