NSF International

MEMORANDUM

TO: Joint Committee on Drinking Water Additives – Treatment Chemicals

FROM: Jon DeBoer, Chairperson

DATE: December 28, 2011

SUBJECT: Proposed revision to NSF/ANSI 60 – *Drinking Water Treatment Chemicals – Health Effects* (60i52).

Draft 1 of NSF/ANSI 60 issue 52 is being forwarded to the Joint Committee for balloting. Please review the changes proposed to this standard and **submit your ballot by January 18, 2011** via the NSF Online Workspace.

Purpose

The proposed revision is to update the normative drinking water criteria listed under Tables D1-D4 of NSF/ANSI 60.

Background

The following updates are being proposed:

Table D1: Three references to the regulatory information were revised and Footnote 1 references were updated to reflect the latest revision of the U. S. Code of Federal Regulations, Title 40 (Protection of Environment), and the websites where the documents may be found.

Table D2: Chemicals were added based on external peer review by the NSF Health Advisory Board, and Footnote 2 was added to clarify use of the action levels when results for related chemicals are totaled.

Table D3: Chemicals were added and/or edited from the USEPA IRIS database, and Footnote 5 was added to clarify use of the action levels when results for related chemicals are totaled.

Table D4: Chemicals were added to the table and/or moved to another table, as a result of having a risk assessment performed and externally peer reviewed.

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

Chairperson, Joint Committee
c/o Monica Leslie
Joint Committee Secretariat
NSF International
Tel: (734) 827-5643
E-mail mleslie@nsf.org

[Note – the changes are seen below using strikeout for removal of old text and gray highlights to show the suggested text. ONLY the highlighted text is within the scope of this ballot. **Professional editing (e.g., formatting, style consistency, punctuation) takes place once the document has been approved.**]

NSF/ANSI Standard
for Drinking Water Treatment Chemicals – Health Effects

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Annex D
(normative)

Normative drinking water criteria

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Table D1 – U.S. Environmental Protection Agency and Health Canada NSF/ANSI 60 drinking water criteria

Contaminant (reference)[1]	Drinking water regulatory level (MCL/MAC) (mg/L)	Single product allowable concentration (SPAC) (mg/L)
Organics/pesticides		
acrylamide (as a monomer in drinking water treatment polymers) (40 CFR §141.111, §141.110)	TT[2] (0.05% dosed at 1 ppm, or equivalent)	TT[2] (0.05% dosed at 1 ppm, or equivalent)
alachlor (40 CFR §141.60, §141.61)	0.002	0.0002
aldicarb aldicarb sulphone aldicarb sulphoxide (40 CFR §141.60, §141.61)	0.007	0.0007
aldrin / dieldrin issue date: 10/94	0.0007	0.00007
atrazine issue date: 04/93	0.003	0.0003
atrazine and metabolites issue date: 04/93	0.005	0.0005
azinphos-methyl issue date: 02/86	0.02	0.002
bendiocarb issue date: 02/86	0.04	0.004
benzene (40 CFR §141.60, §141.61)	0.005	0.0005
benzo(a)pyrene (PAH) (40 CFR §141.60, §141.61)	0.0002	0.00002

Table D1 – U.S. Environmental Protection Agency and Health Canada NSF/ANSI 60 drinking water criteria

Contaminant (reference)[1]	Drinking water regulatory level (MCL/MAC) (mg/L)	Single product allowable concentration (SPAC) (mg/L)
Organics/pesticides		
bromodichloromethane – see trihalomethanes (total)	N/A	N/A
bromoform – see trihalomethanes (total)	N/A	N/A
bromoxynil issue date: 03/87	0.005	0.0005
carbaryl issue date: 02/86	0.09	0.009
carbofuran (40 CFR §141.60, §141.61)	0.04	0.004
carbon tetrachloride (40 CFR §141.60, §141.61)	0.005	0.0005
chlordane (40 CFR §141.60, §141.61)	0.002	0.0002
chlorodibromomethane see trihalomethanes (total)	N/A	N/A
chloroform see trihalomethanes (total)	N/A	N/A
chlorpyrifos issue date: 02/86	0.09	0.009
cyanazine issue date: 02/86	0.01	0.001
cyanobacterial toxin (microcystin-LR) issue date: 04/02	0.0015	0.00015
2,4-D (40 CFR §141.60, §141.61)	0.07	0.007
dalapon (40 CFR §141.60, §141.61)	0.2	0.02
diazinon issue date: 02/86	0.02	0.002
dibromo-3-chloropropane (1,2-) (40 CFR §141.60, §141.61)	0.0002	0.00002
dicamba issue date: 03/87	0.12	0.012
dichlorobenzene o- (40 CFR §141.60, §141.61)	0.6	0.06
dichlorobenzene m- (see o-dichlorobenzene)	0.6	0.06

Table D1 – U.S. Environmental Protection Agency and Health Canada NSF/ANSI 60 drinking water criteria

Contaminant (reference)[1]	Drinking water regulatory level (MCL/MAC) (mg/L)	Single product allowable concentration (SPAC) (mg/L)
Organics/pesticides		
dichlorobenzene p- (40 CFR §141.60, §141.61)	0.075	0.0075
dichloroethane (1,2-) (40 CFR §141.60, §141.61)	0.005	0.0005
dichloroethylene (1,1-) (40 CFR §141.60, §141.61)	0.007	0.0007
dichloroethylene (cis-1,2-) (40 CFR §141.60, §141.61)	0.07	0.007
dichloroethylene (trans-1,2) (40 CFR §141.60, §141.61)	0.1	0.01
dichloromethane (40 CFR §141.60, §141.61)	0.005	0.0005
dichloropropane (1,2-) (40 CFR §141.60, §141.61)	0.005	0.0005
diclofop-methyl issue date: 03/87	0.009	0.0009
di(2-ethylhexyl)adipate (40 CFR §141.60, §141.61)	0.4	0.04
di(2-ethylhexyl)phthalate (PAE) (40 CFR §141.60, §141.61)	0.006	0.0006
dimethoate issue date: 02/86	0.020	0.002
dinoseb (40 CFR §141.60, §141.61)	0.007	0.0007
diquat (40 CFR §141.60, §141.61)	0.02	0.002
diuron issue date: 03/87	0.15	0.015
endothall (40 CFR §141.60, §141.61)	0.1	0.01
endrin (40 CFR §141.60, §141.61)	0.002	0.0002
epichlorohydrin (as a monomer in drinking water treatment polymers) (40 CFR §141.111, §141.110)	TT[2] (0.01% dosed at 20 ppm, or equivalent)	TT[2] (0.01% dosed at 20 ppm, or equivalent)
ethylbenzene (40 CFR §141.60, §141.61)	0.7	0.07
ethylene dibromide (EDB) (40 CFR §141.60, §141.61)	0.00005	0.000005
glyphosate (40 CFR §141.60, §141.61)	0.7	0.07

Table D1 – U.S. Environmental Protection Agency and Health Canada NSF/ANSI 60 drinking water criteria

Contaminant (reference)[1]	Drinking water regulatory level (MCL/MAC) (mg/L)	Single product allowable concentration (SPAC) (mg/L)
Organics/pesticides		
heptachlor (40 CFR §141.60, §141.61)	0.0004	0.00004
heptachlor epoxide (40 CFR §141.60, §141.61)	0.0002	0.00002
hexachlorobenzene (40 CFR §141.60, §141.61)	0.001	0.0001
hexachlorocyclopentadiene (40 CFR §141.60, §141.61)	0.05	0.005
lindane (40 CFR §141.60, §141.61)	0.0002	0.00002
malathion issue date: 02/86	0.19	0.019
methoxychlor (40 CFR §141.60, §141.61)	0.04	0.004
metolachlor issue date: 02/86	0.05	0.005
metribuzin issue date: 02/86	0.08	0.008
monochlorobenzene (40 CFR §141.60, §141.61)	0.1	0.01
nitrilotriacetic acid issue date: 01/90	0.4	0.04
oxamyl (Vydate) (40 CFR §141.60, §141.61)	0.2	0.02
paraquat (as dichloride) issue date: 02/86	0.01	0.001
parathion issue date: 02/86	0.05	0.005
pentachlorophenol (40 CFR §141.60, §141.61)	0.001	0.0001
phorate issue date: 02/86	0.002	0.0002
picloram issue date: 06/88	0.19	0.019
polychlorinated biphenyls (PCB) (40 CFR §141.60, §141.61)	0.0005	0.00005
simazine (40 CFR §141.60, §141.61)	0.004	0.0004
styrene (40 CFR §141.60, §141.61)	0.1	0.01
2,3,7,8-TCDD (dioxin) (40 CFR §141.60, §141.61)	3E-08	3E-09

Table D1 – U.S. Environmental Protection Agency and Health Canada NSF/ANSI 60 drinking water criteria

Contaminant (reference)[1]	Drinking water regulatory level (MCL/MAC) (mg/L)	Single product allowable concentration (SPAC) (mg/L)
Organics/pesticides		
terbufos issue date: 01/87	0.001	0.0001
tetrachloroethylene (40 CFR §141.60, §141.61)	0.005	0.0005
2,3,4,6-tetrachlorophenol issue date: 02/87	0.1	0.01
toluene (40 CFR §141.60, §141.61)	1	0.1
toxaphene (40 CFR §141.60, §141.61)	0.003	0.0003
2,4,5-TP (40 CFR §141.60, §141.61)	0.05	0.005
trichlorobenzene (1,2,4-) (40 CFR §141.60, §141.61)	0.07	0.007
trichloroethane (1,1,1-) (40 CFR §141.60, §141.61)	0.2	0.02
trichloroethane (1,1,2-) (40 CFR §141.60, §141.61)	0.005	0.0005
trichloroethylene (40 CFR §141.60, §141.61)	0.005	0.0005
2,4,6-trichlorophenol issue date: 02/87	0.005	0.0005
trifluralin issue date: 02/89	0.045	0.0045
trihalomethanes (total) bromodichloromethane bromoform chlorodibromomethane chloroform (40 CFR §141.64)	0.08 — — — —	0.008 — — — —
vinyl chloride (40 CFR §141.60, §141.61)	0.002	0.0002
xylenes (total) (40 CFR §141.60, §141.61)	10	1
Regulated metals		
antimony (40 CFR §141.60, §141.62)	0.006	0.0006
arsenic ~~issue date: 10/01~~ (40 CFR §141.60, §141.62)	0.010	0.001
barium (40 CFR §141.60, §141.62)	2	0.2

Table D1 – U.S. Environmental Protection Agency and Health Canada NSF/ANSI 60 drinking water criteria

Contaminant (reference)[1]	Drinking water regulatory level (MCL/MAC) (mg/L)	Single product allowable concentration (SPAC) (mg/L)
Regulated metals		
beryllium (40 CFR §141.60, §141.62)	0.004	0.0004
boron Health Canada issue date: 09/1990	5	0.5
cadmium (40 CFR §141.60, §141.62)	0.005	0.0005
chromium (total) (40 CFR §141.60, §141.62)	0.1	0.01
copper (40 CFR §141.80; 65 FR 1950)	TT[2] (action level 1.3 mg/L)	0.13
lead (at tap) (40 CFR §141.80; 65 FR 1950)	TT[2] (action level 0.015 mg/L)	0.0015
mercury (inorganic) (40 CFR §141.60, §141.62)	0.002	0.0002
selenium (40 CFR §141.60, §141.62)	0.05	0.005
thallium (40 CFR §141.60, §141.62)	0.002	0.0002
Other inorganics		
asbestos (40 CFR §141.60, §141.62)	7[3] MFL	0.7 MFL
bromate (40 CFR §141.64)	0.01	0.005[4]
chloramines (total as Cl_2) (40 CFR §141.65)	4[5]	0.4
chlorine (free as Cl_2) (40 CFR §141.65)	4[5]	0.4
chlorine dioxide (as ClO_2) (40 CFR §141.65)	0.8[5]	0.08
chlorite (40 CFR §141.64)	1	0.1
cyanide (as free cyanide) (40 CFR §141.60, §141.62)	0.2	0.02
fluoride (40 CFR §141.60, §141.62)	1.2[6]	1.2 as a direct additive[6] 0.12 as a contaminant
haloacetic acids (total) (40 CFR §141.64)	0.06	0.006
nitrate (as N) (40 CFR §141.60, §141.62)	10	1
nitrite (as N) (40 CFR §141.60, §141.62)	1	0.1

Table D1 – U.S. Environmental Protection Agency and Health Canada NSF/ANSI 60 drinking water criteria

Contaminant (reference)[1]	Drinking water regulatory level (MCL/MAC) (mg/L)	Single product allowable concentration (SPAC) (mg/L)
Other inorganics		
nitrate + nitrite (both as N) (40 CFR §141.60, §141.62)	10	1
Radionuclides		
beta particle and photon activity (40 CFR §141.16)	4 mrem/y	0.4 mrem/y
gross alpha particle activity (40 CFR §141.15)	15 pCi/L	1.5 pCi/L
combined radium 226 and 228 (40 CFR §141.15)	5 pCi/L	0.5 pCi/L
uranium Health Canada issue date: 10/1999	0.02 mg/L 13 pCi/L	0.002 mg/L 1.3 pCi/L

[1] The references for criteria based on U. S. primary drinking water regulations are from the U. S. Code of Federal Regulations, Title 40 (Protection of Environment), revised as of July 1, 2011. This document is available on-line at http://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 http://hc-sc.gc.ca/ewh-semt/pubs/water-eau/index-eng.php#tech_doc.

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[2] TT - Treatment technique.

[3] MFL = Million fibers per liter, with fiber length > 10 microns.

[4] Revisions to bromate requirements of this section have been made and are located in Annex G of this Standard. Please refer to that annex for additional details. The revisions contained in Annex G are informational at this time and are scheduled to be incorporated into this section January 1, 2013.

[5] Value represents the maximum residual disinfectant level (MRDL).

[6] "Recommendations for Using Fluoride to Prevent and Control Dental Caries in the United States," August 17, 2001 / Morbidity & Mortality Weekly Report 50 (RR14); 1-42.

– concluded –

Reason: Updated regulatory information for 3 references and Footnote 1 references.

Table D2 – NSF International peer-reviewed drinking water criteria

Substance	CAS #	Total allowable concentration (TAC) mg/L	Single product allowable concentration (SPAC) mg/L	Source of supporting documentation
Inorganics				
aluminum	7429-90-5	9	2	NSF action level[1] External peer review date: 05/10/2011
bromine bromide	7726-95-6 24959-67-9	10 (total[2])	1 (total[2])	NSF action level[1] External peer review date: 09/21/2011
iodine	7553-56-2	0.3	0.1	NSF action level[1] External peer review date: 04/25/2002
lanthanum carbonate	587-26-8	4	0.4	NSF action level[1] External peer review date: 10/29/2009
thiocyanate potassium salt sodium salt ammonium salt	333-20-0 540-72-7 1762-95-4	0.2 (total as SCN^-[2])	0.02 (total as SCN^-[2])	NSF action level[1] External peer review date: 09/03/2003
titanium and titanium dioxide	7440-32-6 13463-67-7	90 (total as Ti[2])	9 (total as Ti[2])	NSF action level[1] External peer review date: 09/04/2003
tungsten	7440-33-7	0.01	0.01	NSF action level[1] External peer review date: 04/06/2005
Organics				
acetophenone	98-86-2	0.2	0.02	NSF action level[1] External peer review date: 09/03/2003
adipic acid	124-04-9	30	3	NSF action level[1] External peer review date: 04/06/2005
benzaldehyde	100-52-7	~~0.9~~ 40	~~0.09~~ 4	NSF action level[1] External peer review date: ~~04/15/1999~~ 09/20/2011
benzophenone	119-61-9	0.3	0.03	NSF action level[1] External peer review date: 09/21/2011
benzyl alcohol	100-51-6	3	0.3	NSF action level[1] External peer review date: 04/26/2002
bisphenol A diglycidyl ether bisphenol A diglycideryl ether	1675-54-3 5581-32-8	1 (total[2])	0.1 (total[2])	NSF action level[1] External peer review date: 10/03/2002
1-bromo-3-chloro-5,5-dimethylhydantoin	16079-88-2	50	9	NSF action level[1] External peer review date: 05/05/2010

Table D2 – NSF International peer-reviewed drinking water criteria

Substance	CAS #	Total allowable concentration (TAC) mg/L	Single product allowable concentration (SPAC) mg/L	Source of supporting documentation
Organics				
t-butanol	75-65-0	9	0.9	NSF action level[1] External peer review date: 10/03/2002
di-t-butyl peroxide	110-05-4	0.01	0.01	NSF action level[1] External peer review date: 10/03/2002
n-butyl acetate	123-86-4	1	0.1	NSF action level[1] External peer review date: 04/25/2002
t-butyl acetate	540-88-5	0.6	0.06	NSF action level[1] External peer review date: 04/17/2007
p-tert-butylphenol	98-54-4	0.5	0.05	NSF action level[1] External peer review date: 10/05/2010
γ-butyrolactone	96-48-0	4	0.4	NSF action level[1] External peer review date: 10/04/2002
2-chloro-1,4-benzenediamine	615-66-7	0.3	0.03	NSF action level[1] External peer review date: 04/20/2004
4-chloro-1,2-benzenediamine	95-83-0	0.2	0.02	NSF action level[1] External peer review date: 04/20/2004
4-chloro-1,3-benzenediamine	5131-60-2	0.3	0.03	NSF action level[1] External peer review date: 04/06/2005
4-chlorobenzo-trifluoride	98-56-6	0.3	0.03	NSF action level[1] External peer review date: 04/07/2006
p-chloro-m-cresol	59-50-7	0.7	0.07	NSF action level[1] External peer review date: 04/25/2002
1,2-cyclohexane dicarboxylc acid, di-isononyl ester (DINCH)	474919-59-0 (US) 166412-78-8 (outside US)	5	0.5	NSF action level[1] External peer review date: 10/15/2008
cyclohexanone	108-94-1	30	3	NSF action level[1] External peer review date: 04/26/2002
diacetone alcohol	123-42-2	3	0.3	NSF action level[1] External peer review date: 05/10/2011

Table D2 – NSF International peer-reviewed drinking water criteria

Substance	CAS #	Total allowable concentration (TAC) mg/L	Single product allowable concentration (SPAC) mg/L	Source of supporting documentation
Organics				
1,3-dibromo-5,5-dimethylhydantoin	77-48-5	60	10	NSF action level[1] External peer review date: 05/05/2010
2,2-dibromo-3-nitrilopropionamide	10222-01-2	0.4	0.09	NSF action level[1] External peer review date: 04/20/2004
2,6-dichloro-1,4-benzenediamine	609-20-1	0.02	0.002	NSF action level[1] External peer review date: 04/22/2009
2,4-dichlorobenzoic acid	50-84-0	0.1	0.01	NSF action level[1] External peer review date: 04/21/2004
1,3-dichloro-5,5-dimethylhydantoin	118-52-5	40	7	NSF action level[1] External peer review date: 05/05/2010
diethanolamine	111-42-2	0.1	0.01	NSF action level[1] External peer review date: 04/17/2007
diethylene glycol mono-n-butyl ether	112-34-5	0.6	0.06	NSF action level[1] External peer review date: 10/05/2010
diethylenetriamine	111-40-0	0.3	0.03	NSF action level[1] External peer review date: 09/20/2011
diethyl 2-ethoxysuccinate	17596-10-0	2	0.2	NSF action level[1] External peer review date: 10/29/2009
di(2-ethylhexyl) terephthalate	6422-86-2	1	0.1	NSF action level[1] External peer review date: 04/17/2008
diethyltoluene-diamine, mixed isomers	68479-98-1 75389-89-8	0.0006 (total[2])	0.00006 (total[2])	NSF action level[1] External peer review date: 10/06/2010
dimethyl glutarate	1119-40-0	0.01	0.01	NSF action level[1] External peer review date: 04/22/2009
dimethyl succinate	106-65-0	0.01	0.01	NSF action level[1] External peer review date: 04/22/2009
dimethyl terephthalate	120-61-6	3	0.3	NSF action level[1] External peer review date: 04/23/2009

Table D2 – NSF International peer-reviewed drinking water criteria

Substance	CAS #	Total allowable concentration (TAC) mg/L	Single product allowable concentration (SPAC) mg/L	Source of supporting documentation
Organics				
di(2-propylheptyl) phthalate	53306-54-0	0.4	0.04	NSF action level[1] External peer review date: 10/10/2006
dodecanedioic acid	693-23-2	30	30	NSF action level[1] External peer review date: 10/07/2005
1,2-epoxybutane	106-88-7	0.06	0.006	NSF action level[1] External peer review date: 04/22/2009
ethanolamine	141-43-5	0.6	0.06	NSF action level[1] External peer review date: 04/17/2007
ethylenediamine	107-15-3	10	2	NSF action level[1] External peer review date: 04/06/2005
ethyl t-butyl ether	637-92-3	20	2	NSF action level[1] External peer review date: 10/06/2010
2-ethylhexanoic acid	149-57-5	0.7	0.07	NSF action level[1] External peer review date: 04/06/2005
2-ethylhexanol	104-76-7	0.8	0.08	NSF action level[1] External peer review date: 04/17/2008
fatty acids, C12-21 and C18-unsaturated, 2,2,6,6-tetramethyl-4-piperidinyl esters	167078-06-0	0.05	0.05	NSF action level[1] External peer review date: 05/06/2010
furfural	98-01-1	0.2	0.02	NSF action level[1] External peer review date: 09/03/2003
hexamethylene-diamine	124-09-4	10	1	NSF action level[1] External peer review date: 04/06/2006
1(3H)-isobenzofuranone	87-41-2	0.01	0.01	NSF action level[1] External peer review date: 04/06/2006
laurolactam	947-04-6	0.4	0.04	NSF action level[1] External peer review date: 10/15/2008

Table D2 – NSF International peer-reviewed drinking water criteria

Substance	CAS #	Total allowable concentration (TAC) mg/L	Single product allowable concentration (SPAC) mg/L	Source of supporting documentation
Organics				
melamine	108-78-1	3.0	0.3	NSF action level[1] External peer review date: 04/14/1999
methanol	67-56-1	20	2	NSF action level[1] External peer review date: 04/06/2006
4-methoxy-benzaldehyde	123-11-5	6	0.6	NSF action level[1] External peer review date: 09/20/2011
3-methyl-2-buten-1-ol	556-82-1	0.5	0.05	NSF action level[1] External peer review date: 05/10/2011
2-methyl-3-buten-2-ol 3-methyl-3-buten-1-ol	115-18-4 763-32-6	0.05 (total[2])	0.05 (tota[2])	NSF action level[1] External peer review date: 05/10/2011
methyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl) propionate ~~And~~ 3-(3,5-di-tert-butyl-4-hydroxyphenyl) propionic acid	6386-38-5 20170-32-5	0.02 (total[2])	0.002 (total[2])	NSF action level[1] External peer review date: 04/20/04
4,4'-methylene dianiline	101-77-9	0.0008	0.00008	NSF action level[1] External peer review date: 04/22/2009
4,4'-methylenebis(2,6-diisopropylaniline)	19900-69-7	0.05	0.05	NSF action level[1] External peer review date: 10/29/2009
methyl isoamyl ketone (MIAK)	110-12-3	0.06	0.006	NSF action level[1] External peer review date: 04/25/2002
methyl isobutyl ketone (MIBK)	108-10-1	7	0.7	NSF action level[1] External peer review date: 10/06/2005
mineral oils high viscosity, ≥ 11 centistokes medium and low	8012-95-1 (USP) 8042-47-5 (white)	700 700	70 70	NSF action level[1] External peer review date: 04/24/2004

Table D2 – NSF International peer-reviewed drinking water criteria

Substance	CAS #	Total allowable concentration (TAC) mg/L	Single product allowable concentration (SPAC) mg/L	Source of supporting documentation
viscosity Class I, 8.5-11 centistokes medium and low viscosity Class II, 7.0-8.5 centistokes medium and low viscosity Class III, 3.0-7.0 centistokes		40 1	4 0.1	
N-butylbenzene-sulfonamide	3622-84-2	0.01	0.01	NSF action level[1] External peer review date: 09/20/2011
N,N-dimethylacetamide	127-19-5	2	0.2	NSF action level[1] External peer review date: 10/05/2010
oligomeric cyclic ethers CBEL (total OCE 3-6) OCE-3: 1,6,11-trioxacyclo pentadecane OCE-4: 1,6,11,16-tetraoxacyclo-pentadecane OCE-5: 1,6,11,16,21-pentaoxacyclo-pentadecane OCE-6: 1,6,11,16,21,26-hexaoxacyclo-pentadecane	295-63-6 17043-02-6 56890-57-4 64001-05-4	3 (total[2])	0.4 (total[2])	NSF action level[1] External peer review date: 10/04/2002
phenyl glycidyl ether	122-60-1	0.006	0.0006	NSF action level[1] External peer review date: 10/03/2002
poly(dimethyl diallyl ammonium chloride) (polyDADMAC)	26062-79-3	5	2	NSF action level[1] External peer review date: 10/06/2010
Organics				
di-propylene glycol n-butyl ether	29911-28-2	2	0.2	NSF action level[1] External peer review date: 10/03/2002

Table D2 – NSF International peer-reviewed drinking water criteria

Substance	CAS #	Total allowable concentration (TAC) mg/L	Single product allowable concentration (SPAC) mg/L	Source of supporting documentation
propylene glycol n-butyl ether	5131-66-8	2	0.2	NSF action level[1] External peer review date: 10/03/2002
terephthalic acid	100-21-0	3	0.3	NSF action level[1] External peer review date: 10/16/2008
2,2,6,6-tetramethyl-4-piperidinol 2,2,6,6-tetramethyl-4-piperidinone	2403-88-5 826-36-8	0.05 (total[2])	0.05 (total[2])	NSF action level[1] External peer review date: 05/10/2011
tetramethyl-succinonitrile	3333-52-6	0.01	0.01	NSF action level[1] External peer review date: 05/06/2010
tetramethylthiourea	2782-91-4	0.01	0.01	NSF action level[1] External peer review date: 09/20/2011
o-toluidine	95-53-4	0.03	0.003	NSF action level[1] External peer review date: 05/05/2010
triallylisocyanurate	1025-15-6	0.04	0.04	NSF action level[1] External peer review date: 05/06/2010
2,4,4'-trichloro-2'-hydroxydiphenyl ether	3380-34-5	0.5	0.05	NSF action level[1] External peer review date: 10/19/2000
triethanolamine	102-71-6	3	0.3	NSF action level[1] External peer review date: 10/10/2006
triethyl citrate	77-93-0	4	0.4	NSF action level[1] External peer review date: 11/05/2004
triethyl phosphate tripropyl phosphate tributyl phosphate	78-40-0 513-08-6 126-73-8	0.2 (total[2])	0.02 (total[2])	NSF action level[1] External peer review date: 10/10/2006

Table D2 – NSF International peer-reviewed drinking water criteria

Substance	CAS #	Total allowable concentration (TAC) mg/L	Single product allowable concentration (SPAC) mg/L	Source of supporting documentation
2,2,4-trimethyl-1,3-pentanediol diisobutyrate	6846-50-0	0.4 (total[2])	0.04 (total[2])	NSF action level[1] External peer review date: 05/10/2011
2,2,4-trimethyl-1,3-pentanediol monoisobytyrate	25265-77-4 and 18491-15-1			
2,2,4-trimethyl-1,3-pentanediol	144-19-4			
propanoic acid, 2-methyl-, 3-hydroxy-2,2,4-trimethylpentyl ester	77-68-9			
propanoic acid, 2-methyl-, 2,2-dimethyl-1-(2-hydroxy-1-methylethyl)propyl ester	74367-33-2			
propanoic acid, 2-methyl-, 3-hydroxy-2,4,4-trimethylpentyl ester	74367-34-3			
1,3,5-trioxane	110-88-3	0.7	0.07	NSF action level[1] External peer review date: 04/20/04
tris-(2-butoxyethyl) phosphate	78-51-3	0.4	0.04	NSF action level[1] External peer review date: 05/10/2011

[1] NSF action levels have been derived according to the requirements of NSF/ANSI 60 ~~–2000 or 2003e,~~ Annex A.
[2] The total concentration of the specified CAS #s in each grouping shall not exceed the TAC or SPAC.

– concluded –

Reason: Shaded rows reflect chemicals added (one updated - benzaldehyde) based on external peer review by the NSF Health Advisory Board. Footnote 1 was edited to remove the dates. Footnote 2 was added to clarify use of the action levels when results for related chemicals are totaled.

Table D3 – Drinking water criteria based on USEPA guidance concentrations

Substance	CAS #	Total allowable concentration (TAC) mg/L	Single product allowable concentration (SPAC) mg/L	Source of supporting documentation[1, 2, 3]
Inorganics				
chromium III	16065-83-1	10	1	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Agency consensus date: 04/28/1998
chromium VI	18540-29-9	0.02	0.002	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Agency consensus date: 04/28/1998
manganese	7439-96-5	0.3	0.03	Derived from the oral RfD on the USEPA IRIS database, with a 3x modifying factor because of the large contribution from food sources and a default 20% relative source contribution for drinking water. Verification date: 05/12/1995
molybdenum	7439-98-7	0.04	0.004	USEPA Draft Health Advisory issue date: 1993
perchlorate[4] sodium perchlorate potassium perchlorate lithium perchlorate ammonium perchlorate	014797-73-0 7601-89-0 7778-74-7 7791-03-9 7790-98-9	0.015 (total[5])	0.005 (total[5])	USEPA Interim Health Advisory Issue Date: 2008
		0.006 (total[5])	0.002 (total[5])	California MCL
		0.002 (total[5])	0.0007 (total[5])	Massachusetts MCL
silver	7440-22-4	0.1	0.01	USEPA Lifetime Drinking Water Health Advisory Issue date: 1992
strontium	7440-24-6	4	0.4	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Verification date: 06/23/1992

Table D3 – Drinking water criteria based on USEPA guidance concentrations

Substance	CAS #	Total allowable concentration (TAC) mg/L	Single product allowable concentration (SPAC) mg/L	Source of supporting documentation[1, 2, 3]
Organics				
acetone	67-64-1	6	0.6	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Agency consensus date: 05/29/03
acrolein	107-02-8	0.004	0.0004	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Agency consensus date: 05/16/2003
acrylic acid	79-10-7	4	0.4	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. verification date: 02/17/1994
acrylonitrile	107-13-1	0.0006	0.00006	USEPA IRIS $10^{-5}/10^{-6}$ cancer risk levels. verification date: 02/11/1987
benzyl chloride	100-44-7	0.002	0.0002	USEPA IRIS $10^{-5}/10^{-6}$ cancer risk levels. verification date: 03/01/1989
bromochloromethane	74-97-5	0.09	0.009	USEPA Lifetime Drinking Water Health Advisory issue date: 1989
bromomethane	74-83-9	0.01	0.001	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Verification date: 05/26/1988

Table D3 – Drinking water criteria based on USEPA guidance concentrations

Substance	CAS #	Total allowable concentration (TAC) mg/L	Single product allowable concentration (SPAC) mg/L	Source of supporting documentation[1, 2, 3]
Organics				
butylbenzyl phthalate	85-68-7	1	0.1	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Verification date: 06/15/1989
n-butanol	71-36-3	0.7	0.07	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Verification date: 05/14/1986
carbon disulfide	75-15-0	0.7	0.07	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Verification date: 08/05/1985
chloral hydrate	302-17-0	0.7	0.07	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Agency Consensus Date: 11/16/1999
2-chlorotoluene	95-49-8	0.1	0.01	Based on the oral RfD and lifetime drinking water health advisory in the USEPA 2011 Edition of the Drinking Water Standards and Health Advisories
4-chlorotoluene	106-43-4	0.1	0.01	Based on the oral RfD and lifetime drinking water health advisory in the USEPA 2011 Edition of the Drinking Water Standards and Health Advisories
1,4-dibromobenzene	106-37-6	0.07	0.007	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Agency Consensus Date: 05/15/1986

Table D3 – Drinking water criteria based on USEPA guidance concentrations

Substance	CAS #	Total allowable concentration (TAC) mg/L	Single product allowable concentration (SPAC) mg/L	Source of supporting documentation[1, 2, 3]
1,2-dibromoethane	106-93-4	0.0002	0.00002	USEPA IRIS $10^{-5}/10^{-6}$ cancer risk levels. Agency Completion Date: 07/26/2004
dichloroacetic acid	79-43-6	0.007	0.0007	USEPA IRIS $10^{-5}/10^{-6}$ upper bound risk levels. Agency Consensus Date: 08/20/2003
di-n-butyl phthalate	84-74-2	0.7	0.07	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Verification date: 01/22/1986
1,3-dichloropropene mixed isomers cis- trans-	542-75-6 10061-01-5 10061-02-6	0.004 (total[5])	0.0004 (total[5])	USEPA IRIS $10^{-5}/10^{-6}$ cancer risk levels. Agency Consensus Date: 04/20/2000
diethyl phthalate	84-66-2	6	0.6	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Verification date: 07/16/1987
2,4-dimethylphenol	105-67-9	0.1	0.01	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Verification date: 02/21/1990
2,6-dimethylphenol	576-26-1	0.004	0.0004	Derived from the oral RfD on the USEPA IRIS database with an default 20% relative source contribution for drinking water. verification date: 01/22/1986
3,4-dimethylphenol	95-65-8	0.007	0.0007	Derived from the oral RfD on the USEPA IRIS database with an default 20% relative source contribution for drinking water. verification date: 01/22/1986
~~dimethylterephthalate~~	~~120-61-6~~	~~0.7~~	~~0.07~~	~~Derived from the oral RfD on~~

Table D3 – Drinking water criteria based on USEPA guidance concentrations

Substance	CAS #	Total allowable concentration (TAC) mg/L	Single product allowable concentration (SPAC) mg/L	Source of supporting documentation[1, 2, 3]
				~~the USEPA IRIS database with a default 20% relative source contribution for drinking water. Verification date: 10/09/1985~~
diphenylamine	122-39-4	0.2	0.02	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Verification date: 07/22/1986
1,4-dithiane	505-29-3	0.07	0.007	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Verification date: 06/24/1992
1,4-dioxane	123-91-1	0.03	0.003	USEPA IRIS $10^{-5}/10^{-6}$ cancer risk levels Verification date: 02/03/1988
ethylene glycol	107-21-1	10	1	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. verification date: 03/19/1987
ethylene glycol monobutyl ether	111-76-2	4	0.4	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Agency Consensus Date: 11/16/1999
formaldehyde	50-00-0	1	0.1	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. verification date: 06/20/1990
1,2,3,4,6,7,8-hepta-chlorodibenzo-p-dioxin	35822-46-9	0.000003	0.0000003	Toxic Equivalency Factor: 0.01
1,2,3,4,6,7,8-hepta-chlorodibenzofuran	67562-39-4	0.000003	0.0000003	Toxic Equivalency Factor: 0.01
1,2,3,4,7,8,9-hepta-	55673-89-7	0.000003	0.0000003	Toxic Equivalency Factor:

Table D3 – Drinking water criteria based on USEPA guidance concentrations

Substance	CAS #	Total allowable concentration (TAC) mg/L	Single product allowable concentration (SPAC) mg/L	Source of supporting documentation[1, 2, 3]
chlorodibenzofuran				0.01
hexabromobenzene	87-82-1	0.01	0.001	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. verification date: 11/06/1985
1,2,3,4,7,8-hexachloro-dibenzo-p-dioxin	39227-28-6	0.0000003	0.00000003	Toxic Equivalency Factor: 0.1
1,2,3,7,8,9-hexachloro-dibenzo-p-dioxin	19408-74-3	0.0000003	0.00000003	Toxic Equivalency Factor: 0.1
1,2,3,6,7,8-hexachloro-dibenzo-p-dioxin	57653-85-7	0.0000003	0.00000003	Toxic Equivalency Factor: 0.1
1,2,3,4,7,8-hexachloro-dibenzofuran	70648-26-9	0.0000003	0.00000003	Toxic Equivalency Factor: 0.1
1,2,3,7,8,9-hexachloro-dibenzofuran	72918-21-9	0.0000003	0.00000003	Toxic Equivalency Factor: 0.1
1,2,3,6,7,8-hexachloro-dibenzofuran	57117-44-9	0.0000003	0.00000003	Toxic Equivalency Factor: 0.1
2,3,4,6,7,8-hexachloro-dibenzofuran	60851-34-5	0.0000003	0.00000003	Toxic Equivalency Factor: 0.1
isopropylbenzene (cumene)	98-82-8	0.7	0.07	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Agency Consensus Date: 06/06/1997
maleic anhydride	108-31-6	0.7	0.07	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Verification date: 03/24/1988

Table D3 – Drinking water criteria based on USEPA guidance concentrations

Substance	CAS #	Total allowable concentration (TAC) mg/L	Single product allowable concentration (SPAC) mg/L	Source of supporting documentation[1, 2, 3]
methyl ethyl ketone (MEK)	78-93-3	4	0.4	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Agency Consensus Date: 09/10/2003
methyl mercury	22967-92-6	0.0007	0.00007	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Verification date: 06/19/2001
methyl methacrylate	80-62-6	10	1	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Agency Consensus Date: 11/25/1997
2-methyl naphthalene	91-57-6	0.03	0.003	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Agency Consensus Date: 12/11/2003
naphthalene	91-20-3	0.1	0.01	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Agency Consensus Date: 07/01/1998
nitroguanidine	556-88-7	0.7	0.07	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Verification date: 05/17/1989
N-nitroso-di-n-butylamine	924-16-3	0.00006	0.000006	USEPA IRIS $10^{-5}/10^{-6}$ cancer risk levels. Verification date: 10/29/1986

Table D3 – Drinking water criteria based on USEPA guidance concentrations

Substance	CAS #	Total allowable concentration (TAC) mg/L	Single product allowable concentration (SPAC) mg/L	Source of supporting documentation[1, 2, 3]
N-nitroso-N-methylethylamine	10595-95-6	0.00002	0.000002	USEPA IRIS $10^{-5}/10^{-6}$ cancer risk levels. Verification date: 02/11/1987
N-nitroso-di-N-propylamine	621-64-7	0.00005	0.000005	USEPA IRIS $10^{-5}/10^{-6}$ cancer risk levels. Verification date: 02/11/1987
N-nitrosodiethanolamine	1116-54-7	0.0001	0.00001	USEPA IRIS $10^{-5}/10^{-6}$ cancer risk levels. Verification date: 01/28/1987
N-nitrosodiethylamine	55-18-5	0.000002	0.0000002	USEPA IRIS $10^{-5}/10^{-6}$ cancer risk levels. Verification date: 10/29/1986
N-Nitrosodimethylamine	62-75-9	0.000007	0.0000007	USEPA IRIS $10^{-5}/10^{-6}$ cancer risk levels. verification date: 10/29/1986
N-nitrosodiphenylamine	86-30-6	0.07	0.007	USEPA IRIS $10^{-5}/10^{-6}$ cancer risk levels. Verification date: 02/11/1987
N-nitrosopyrrolidine	930-55-2	0.0002	0.00002	USEPA IRIS $10^{-5}/10^{-6}$ cancer risk levels. Verification date: 10/14/1986
1,2,3,4,6,7,8,9-octa-chlorodibenzo-p-dioxin	3268-87-9	0.0003	0.00003	Toxic Equivalency Factor: 0.0001
1,2,3,4,6,7,8,9-octachlorodibenzofuran	39001-02-0	0.0003	0.00003	Toxic Equivalency Factor: 0.0001
1,2,3,7,8-penta-chlorodibenzo-p-dioxin	40321-76-4	0.00000003	0.000000003	Toxic Equivalency Factor: 1
1,2,3,7,8-penta-chlorodibenzofuran	57117-41-6	0.0000006	0.00000006	Toxic Equivalency Factor: 0.05
2,3,4,7,8- penta-chlorodibenzofuran	57117-31-4	0.00000006	0.000000006	Toxic Equivalency Factor: 0.5
pentachloronitrobenzene	82-68-8	0.02	0.002	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Verification date: 04/15/1987

Table D3 – Drinking water criteria based on USEPA guidance concentrations

Substance	CAS #	Total allowable concentration (TAC) mg/L	Single product allowable concentration (SPAC) mg/L	Source of supporting documentation[1, 2, 3]
phenol	108-95-2	2	0.2	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Agency Consensus Date: 08/28/2002
m-phenylenediamine	108-45-2	0.04	0.004	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Verification date: 02/26/1986
phthalic anhydride	85-44-9	10	1	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Verification date: 02/24/1988
propylene oxide	75-56-9	0.001	0.0001	USEPA IRIS $10^{-5}/10^{-6}$ cancer risk levels. verification date: 04/05/1990
pyridine	110-86-1	0.007	0.0007	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Verification date: 08/13/1987
quinoline	91-22-5	0.0001	0.00001	USEPA IRIS $10^{-5}/10^{-6}$ cancer risk levels. Agency Consensus Date: 09/21/2001
sodium diethyldithiocarbamate	148-18-5	0.2	0.02	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Verification date: 10/09/1985
2,3,7,8-tetra-chlorodibenzo-p-dioxin	1746-01-6	0.00000003	0.000000003	Toxic Equivalency Factor: 1
2,3,7,8-tetrachlorodibenzofuran	51207-31-9	0.0000003	0.00000003	Toxic Equivalency Factor: 0.1

Table D3 – Drinking water criteria based on USEPA guidance concentrations

Substance	CAS #	Total allowable concentration (TAC) mg/L	Single product allowable concentration (SPAC) mg/L	Source of supporting documentation[1, 2, 3]
1,1,1,2-tetrachloroethane	630-20-6	0.01	0.001	USEPA IRIS $10^{-5}/10^{-6}$ cancer risk levels. verification date: 05/04/1988
1,1,2,2-tetrachloroethane	79-34-5	0.002	0.0002	USEPA IRIS $10^{-5}/10^{-6}$ cancer risk levels. verification date: 06/26/1986
1,2,4-tribromobenzene	615-54-3	0.04	0.004	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Verification date: 05/15/1986
tributyltin oxide	56-35-9	0.002	0.0002	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Agency Consensus date: 07/02/1997
trichlorofluoromethane	75-69-4	2	0.2	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Verification date: 05/31/1985
1,2,3-trichloropropane	96-18-4	0.04	0.004	USEPA Lifetime Drinking Water Health Advisory issue date: 1989
1,3,5-trinitrobenzene	99-35-4	0.2	0.02	Derived from the oral RfD on the USEPA IRIS database with a default 20% relative source contribution for drinking water. Verification date: 08/27/1997

Table D3 – Drinking water criteria based on USEPA guidance concentrations

Substance	CAS #	Total allowable concentration (TAC) mg/L	Single product allowable concentration (SPAC) mg/L	Source of supporting documentation[1, 2, 3]

[1] Criteria are derived from the oral RfD on the USEPA IRIS database as follows:

Oral RfD (mg /kg-d) x (70 kg /2 L/d) x relative source contribution factor = TAC (mg/L)

where:
70 kg = assumed adult body weight
2 L/d = assumed adult water consumption
relative source contribution 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.

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

[3] 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 USEPA 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.

U.S. 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>

[4] Compliance to Single Product Allowable Concentrations based on US State or other regulatory levels may be demonstrated by establishing the SPAC as 1/3 of the regulatory level.

[5] The total concentration of the specified CAS #s in each grouping shall not exceed the TAC or SPAC.

Reason: Shaded rows reflect chemicals added/edited from the USEPA IRIS database. Dimethylterephthalate was moved to Table 2. Footnote 5 was added to clarify use of the action levels when results for related chemicals are totaled.

Table D4 – Threshold of evaluation chemicals[1]

Substance	CAS #
Inorganics	
cerium	007440-45-1
gallium	007440-55-3
hafnium	007440-58-6
palladium	007440-05-3
rhenium	007440-15-5
ruthenium	007440-18-8
tantalum	007440-25-7
yttrium	007440-65-5
Organics	
acenaphthylene	000208-96-8
acetamide, 2,2-dibromo	000598-70-9
acetic acid, 2-cyano-	000372-09-8
acetic acid, propyl ester	000109-60-4
acetone, acetyl	000123-54-6
acetophenone, 2,2-dimethoxy-2-phenyl-	024650-42-8
acetophenone, p-isopropyl-	000645-13-6
acetophenone, 2'-methyl-	000577-16-2
acetophenone, 4-methyl	000122-00-9
acetophenone, alpha-hydroxy-	000582-24-1
acetophenone, 3'-methyl-	000585-74-0
acetophenone, 4'-isopropenyl	005359-04-6
acetophenone, 4'-hydroxy-	000099-93-4
aconitic acid, tributyl ester	007568-58-3
acridine	000260-94-6
acrylic acid, 2-cyano-, ethyl ester	007085-85-0
adipic acid, monomethyl ester	000627-91-8
alcohols, C12-C15, ethoxylated propoxylated	068551-13-3
alkenes, C6-10, hydroformylation products, high boiling	068526-82-9
allyl ether	000557-40-4
allyl phenol ether	001746-13-0
aminopiperidine, 4, 2,2,6,6-tetramethyl-	036768-62-4
aminoundecanoic acid, 12-	000693-57-2
ammonium chloride, octadecyldimethyl{3-(trimethoxysilyl)propyl}	027668-52-6
amphetamine	000300-62-9
aniline, 2,6-diethyl-	000579-66-8
aniline, N-ethyl-	000103-69-5
aniline, 2-ethyl-	000578-54-1
aniline, 3-ethyl-	000587-02-0
aniline, 2-ethyl-6-methyl-	024549-06-2
aniline, 4-ethyl-	000589-16-2
aniline, 2-propyl-	001821-39-2
aniline, 4-n-propyl-	002696-84-6
aniline, 4-nitro-	000100-01-6
benzaldehyde azine	000588-68-1
benzaldehyde, 3,5-di-tert-butyl-4-hydroxy-	001620-98-0

Table D4 – Threshold of evaluation chemicals[1]

Substance	CAS #
benzaldehyde, 4-hydroxy-3-methoxy (Vanillin)	000121-33-5
benzaldehyde, 3,5-dimethoxy-4-hydroxy-	000134-96-3
benzaldehyde, 2,6-dimethyl-	001123-56-4
benzaldehyde, 3,5-dimethyl-	005799-95-3
benzaldehyde, 2-hydroxy-	000090-02-8
benzaldehyde, 2-hydroxy-4-methoxy	000673-22-3
benzaldehyde, hydroxymethoxy-	106799-60-4
benzaldehyde, 2-methyl-	000529-20-4
benzaldehyde, 3-methyl-	000620-23-5
benzaldehyde, 4-methyl-	000104-87-0
benzaldehyde, 2-, 3-, 4-methyl- mixed isomers	001334-78-7
benzaldehyde, tert-butylmethyl-	066949-23-3
benzaldehyde, 2,4,5-trimethyl-	005779-72-6
benzaldehyde, 2,4,6-trimethyl-	000487-68-3
benzanilide	000093-98-1
benzene, 1-butylheptyl-	004537-15-9
benzene, 1-butylnonyl-	004534-50-3
benzene, 1-butyloctyl-	002719-63-3
benzene, 1-chloro-2-(trifluoromethyl)-	000088-16-4
benzene, 1-chloro-3-(trifluoromethyl)-	000098-15-7
benzene, cyclopropyl-	000873-49-4
benzene, 1,2,3-trichloro-	000087-61-6
benzene, (1,1-dimethylethoxy)-	006669-13-2
benzene, 1,1'-[(1-propenylthio)methylene]bis-, (Z)-	056195-66-5
benzene, 1-ethenyl-2-methyl-	000611-15-4
benzene, 1-ethenyl-3-methyl-	000100-80-1
benzene, 1-ethenyl-4-methyl-	000622-97-9
benzene, 2-ethoxyethenyl-	017655-74-2
benzene, 1-ethyldecyl-	002400-00-2
benzene, 1-ethylnonyl-	004536-87-2
benzene, 1-ethylundecyl-	004534-52-5
benzene, 1-hexylheptyl-	002400-01-3
benzene, (2-methoxy-1-methylethyl)-	065738-46-7
benzene, 1-methyldecyl-	004536-88-3
benzene, 1-methyldodecyl-	004534-53-6
benzene, 1-methylundecyl-	002719-61-1
benzene, divinyl-	001321-74-0
benzene, (1-methoxy-1-methylethyl)-	000935-67-1
benzene, 1,1-oxybis-	000101-84-8
benzene, 1,3-dimethyl-5-isopropyl-	004706-90-5
benzene, 4,6-diisopropyl-1,3-dimethyl-	005186-68-5
benzene, 1-pentylheptyl-	002719-62-2
benzene, 1-propenyl-	000637-50-3
benzene, 2-propenyl-	000300-57-2
benzene, 1-propyldecyl-	004534-51-4
benzene, 1-propylnonyl-	002719-64-4

Table D4 – Threshold of evaluation chemicals[1]

Substance	CAS #
benzene, 1-propyloctyl-	004536-86-1
benzene, trans-1-propenyl-	000873-66-5
benzeneacetaldehyde	000122-78-1
benzeneacetic acid, alpha-oxo-, methyl ester	015206-55-0
benzeneamine, 4-(1-methylethyl)-N-phenyl-	005650-10-2
benzenediamine, ar,ar-diethyl-ar-methyl	068479-98-1
benzenediamine, 5-chloro-1,3-	033786-89-9
benzenedicarboxylic acid, 1,2-, bis(2-propylpentyl) ester	070910-37-1
benzenedimethanol, a,a,a',a'-tetramethyl-1,4-	002948-46-1
benzenedimethanol, a,a,a',a'-tetramethyl-1,3-	001999-85-5
benzenemethanamine, 1,3-	001477-55-0
benzenemethanamine, N-(phenylmethylene)-	000780-25-6
benzenemethanol, alpha-methyl-, -(R)-	001517-69-7
benzenemethanol, alpha-methyl-, -(S)-	001445-91-6
benzenemethanol, 4-(1-methylethyl)-	000536-60-7
benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-	020170-32-5
benzenesulfonamide, 4-methyl-	000070-55-3
benzenesulfonyl isocyanate, 4-methyl	004083-64-1
benzenetricarboxylic acid, 1,2,4-	000528-44-9
benzimidazolone, 3-methyl-2-	001849-01-0
benzimidazolone, 4-methyl-	019190-68-2
benzisothiazolin-3-one	002634-33-5
benzofuran, methyl-	025586-38-3
benzoic acid, 2-cyano-	003839-22-3
benzoic acid, 2,5-dichloro-	000050-79-3
benzoic acid, 3,4-dichloro-	000051-44-5
benzoic acid, mixed isomers (2,4- or 2,5-dichloro-)	035915-19-6
benzoic acid, diester with diethylene glycol	000120-55-8
benzoic acid, m-methyl-	000099-04-7
benzoic acid, o-methyl-	000118-90-1
benzoic acid, p-methyl-	000099-94-5
benzoic acid, 4-tert-butyl-	000098-73-7
benzonitrile	000100-47-0
benzoquinone, 2,6-dimethyl-1,4-	000517-61-7
benzoquinone, 2,6-di-t-butyl-	000719-22-2
benzoquinone, 2,5-di-tert-pentyl-p-	004584-63-8
~~Benzothiazole~~ *(moved to Table E1)*	~~000095-16-9~~
benzothiazole, 2-(cyclohexylamino)-	028291-75-0
benzothiazole, ethylamino-	028291-69-2
benzothiazole, 2-(methylmercapto)-	000615-22-5
benzothiazole, 2-methyl-	000120-75-2
benzothiazole, 2-methoxy-	063321-86-8
benzothiazole, 2-(morpholinothio)-	000102-77-2
benzothiazole-2-thione, N-methyl-	002254-94-6
benzotriazole	000095-14-7
benzotriazole, 2-(2-hydroxy-5-methyl-phenyl)-	002440-22-4

Table D4 – Threshold of evaluation chemicals[1]

Substance	CAS #
benzothiazolinone, 2-	000934-34-9
benzotropilidene, 3,4-	000264-09-5
benzoxazole, N-methyl-2-	019776-98-8
benzyl ethyl ether	000539-30-0
benzyl alcohol, 4-ethoxy	006214-44-4
benzyl alcohol, alpha, alpha, 4-trimethyl-	001197-01-9
benzyl alcohol, a,a-dimethyl-p-isopropyl-	003445-42-9
benzylamine	000100-46-9
benzylamine, N,N-dimethyl-	000103-83-3
benzyldiphenylphosphine oxide	002959-74-2
benzyltriphenylphosphonium	015853-35-7
benzyltriphenylphosphonium, salt with 4,4'-(2,2,2-trifluoro-1-(trifluoromethyl) ethylidene)bis(phenol) (1:1)	075768-65-9
binaphthyl sulfone	032390-26-4
bisphenol A bis(polypropylene glycol) ether	037353-75-6
bisphenol F, 2,4-	002467-03-0
bisphenol F diglycidyl ether	002095-03-6
borneol	000507-70-0
bromobenzene	000108-86-1
bromophenol	032762-51-9
bromophenol, 2-	000095-56-7
bromophenol, 3-	000591-20-8
bromophenol, 4-	000106-41-2
1-butanamine,N,N-dibutyl-	000102-82-9
butanedioic acid	000110-15-6
butanediol diglycidyl ether, 1,4-	002425-79-8
butanediol dimethacrylate, 1,4-	002082-81-7
butane, 2-ethoxy-2-methyl-	000919-94-8
butanenitrile	000109-74-0
butanetricarboxylic acid, 2-phosphono-, 1,2,4-	037971-36-1
butanoic acid	000107-96-2
butanoic acid, 3,3-dimethyl-	001070-83-3
butanone, 4-(4-hydroxyphenyl)-2-	005471-51-2
butanone, 1-phenyl-2-	001007-32-5
buten-1-ol, 2-methyl-2-	004675-87-0
~~buten-1-ol, 3-methyl-2-~~ *(moved to Table D2)*	~~000556-82-1~~
~~buten-1-ol, 3-methyl-3-~~ *(moved to Table D2)*	~~000763-32-6~~
butenal, methyl-	001115-11-3
butene, 2,3-dichloro-2-methyl-	000507-45-9
butenoic acid, trans-2-	000107-93-7
butenoic acid, 2-	003724-65-0
butenoic acid, 3-	000625-38-7
butyl isocyanate, n-	000111-36-4
butylamine, N-butylidene	004853-56-9
caprolactone	000502-44-3
carbodiimide, di-t-butyl-	000691-24-7

Table D4 – Threshold of evaluation chemicals[1]

Substance	CAS #
carbonic acid, diisopropyl ester	006482-34-4
castor oil, hydrogenated, ethoxylated	061788-85-0
chloroethane, 1-butoxy-2-	010503-96-5
chloroiodomethane	000593-71-5
~~chlorotoluene, p-~~ *(moved to Table D3)*	~~000106-43-4~~
cinnamate, 2-ethylhexyl-4-methoxy-	005466-77-3
cresol, alpha-ethoxy-p-	057726-26-8
cresol, 2-tert-butyl-m-	013037-79-1
cyanamide, diethyl-	000617-83-4
cyanostyrene, α	000495-10-3
cyanovaleric acid, 4-	unknown
cyclododecane	000294-62-2
cyclohexadecane	000295-65-8
cyclohexadiene-1-one, 2,6-(1,1-dimethylethyl)-4-methylene-2,5-	002607-52-5
cyclohexadiene-1-one, 2,6-di-tert-butyl-4-hydroxy-4-methyl-2,5-	010396-80-2
cyclohexanamine, 4,4'-methylene-bis-	001761-71-3
cyclohexanamine, N-methyl-	000100-60-7
cyclohexanamine, N-cyclohexyl-	000101-83-7
cyclohexanamine, N,N-dimethyl-	000098-94-2
cyclohexenecarbonitrile	027456-25-3
cyclohexanedimethanamine, 1,3-	002579-20-6
cyclohexane, cis-1-methyl-4-isopropyl-	006069-98-3
cyclohexane, 1-isopropyl-4-methyl-	000099-82-1
cyclohexanemethanol, trans-alpha,alpha,4-trimethyl-	005114-00-1
cyclohexane, methyl-	000108-87-2
Cyclohexanol	000108-93-0
cyclohexanol, 3-methyl-	000591-23-1
cyclohexanol, trimethyl-	001321-60-4
cyclohexanol, 4-tert-butyl-	000098-52-2
cyclohexanone, 2-hydroxy	000533-60-8
cyclohexanone, 2-(1-hydroxycyclohexyl)-	028746-99-8
cyclohexen-1-one, 3-methyl-2-	001193-18-6
cyclohexene, 4-cyano also (1-cyano-3-cyclohexene)	000100-45-8
cyclohexyl isocyanate	003173-53-3
cyclohexylurea, dimethyl-	031468-12-9
cyclooctadiene, dichloro-	029480-42-0
cyclopentane, trimethyl	030498-64-7
cyclopentylidenecyclopentan-2-one	000825-25-2
cyclopentanol, 2-methyl-	024070-77-7
cyclopentanone	000120-92-3
cyclopentylcyclopentanone, 2-	004884-24-6
decadien-1-al, trans,trans-2,4-	025152-84-5
decadienal, 2,4-	002363-88-4
decamethylcyclopentasiloxane	000541-02-6
decanamide, N,N-dimethyl-	014433-76-2
decane, 1,10-diamino	000646-25-3

Table D4 – Threshold of evaluation chemicals[1]

Substance	CAS #
decanedioic acid, bis(2,2,6,6-tetramethyl-4-piperidinyl)-	052829-07-9
decanedioic acid, dimethyl ester	000106-79-6
decane, 1-methyl-3,5,7-triaza-1-azoniatricyclo(3.3.1.1(3,7))	076902-90-4
decanoic acid, methyl ester	000110-42-9
decylamine, n-	002016-57-1
dehydroabietic acid	001740-19-8
dehydroacetic acid	000520-45-6
di-o-tolylguanidine, 1,3-	000097-39-2
diazacyclotetradecane-2,9-dione, 1,8-	056403-09-9
dibenzylamine	000103-49-1
dibenzyl ether	000103-50-4
dibutyl cyanamide, N,N-	002050-54-6
1,3-dicyclohexylurea	002387-23-7
diethylene glycol di-n-butyl ether	000112-73-2
diethylene glycol monomethacrylate homopolymer	027598-43-2
diethyleneglycol monophenyl ether	000104-68-7
diethylurea, 1,3-	000623-76-7
diglycol chlorohydrin	000628-89-7
dihydro-5-pentyl-2(3H)-furanone	000104-61-0
dihydrobenzofuran, 2,3-	000496-16-2
dihydrofuran, 4-methyl-2,3-	034314-83-5
dihydromethoxymethyl oxopyridinecarbonitrile	000524-40-3
dihydromethyl benzimidazolone	005400-75-9
diiodomethane	000075-11-6
dimethyl ditallow ammonium chloride	068783-78-8
~~dimethyl glutarate~~ *(moved to Table D2)*	~~001119-40-0~~
~~dimethyl succinate~~ *(moved to Table D2)*	~~000106-65-0~~
dimethyl thioacetamide	000631-67-4
dimethyl-3,3'-thiobispropionate	004131-74-2
dimethyl-p-benzoquinone, 2,5-	000137-18-8
dimethylaminopyridine	001122-58-3
dimethylbenzaldehyde, 2,4-	015764-16-6
dimethylbenzaldehyde, 2,5	005779-94-2
dimethylbenzaldehyde, 3,4-	005973-71-7
dimethylcyanamide	001467-79-4
dimethyldiphenyl sulphone	005097-12-1
dimethyldithiocarbamate, methyl	003735-92-0
dimethyldodecanamide, N,N-	003007-53-2
dimethylhexane-2,5-diol, 2,5-	000110-03-2
dioctyldiphenylamine	026603-23-6
dioxacyclododecane-7,12-dione, 1,6-	000777-95-7
dioxadithionane, 1,3,6,7-	005980-67-6
dioxane, 4-phenyl-1,3-	000772-00-9
dioxathiocane, 1,3,6-	002094-92-0
dioxolane-1,3, 4-ethyl	029921-38-8
diphenylamine, 4-hydroxy-	000122-37-2

Table D4 – Threshold of evaluation chemicals[1]

Substance	CAS #
diphenyl sulfide	000139-66-2
diphenylamine, 4-(diisopropylamino)	064092-29-1
diphenylethanedione, 1,2-	000134-81-6
dipropylamine, 3,3'-diamino-	000056-18-8
dipropylene glycol dibenzoate	027138-31-4
disulfide, dimethyl	000624-92-0
dithiolane-2-thione, 1,3-	000822-38-8
docosane	000629-97-0
docosenamide (erucamide)	000112-84-5
dodecamethylcyclohexasiloxane	000540-97-6
dodecanamide	001120-16-7
dodecanamine, 1-	000124-22-1
dodecylamine, N,N-dimethyl-	000112-18-5
dodecyl glycidyl ether	002461-18-9
ethane, 1,2-diphenoxy-	000104-66-5
ethan-1-one, 1-(methylphenyl)-	026444-19-9
ethane, 1-(3-hydroxyphenyl)-2-phenyl-	033675-75-1
ethanediamide, N-(2-ethoxyphenyl)-N'-(2-ethylphenyl)-	023949-66-8
ethanol, 2-[2-[2-[2[(1,1,3,3-tetramethylbutyl)phenoxy]ethoxy]ethoxy]-	049796-75-0
ethanol, 2-[2-[2-[(1,1,3,3-tetramethylbutyl)phenoxy]ethoxy]ethoxy]-	058705-51-4
ethanol, 2-[2-[4-(1,1,3,3-tetramethylbutyl)phenoxy]ethoxy]-	002315-61-9
ethanol, 2-(4-methoxyphenoxy) -	005394-57-0
ethanone, 1-(4-hydroxy-3-methoxyphenyl)-	000498-02-2
ethanone, 1-(4-(1-hydroxy-1-methylethyl)phenyl)-	054549-72-3
ethanone, 1-[3-(methoxymethyl)phenyl]-	112766-37-7
ethanone, 1-[4-(methoxymethyl)phenyl]-	022072-50-0
ethyl hydroxyphthalide	000485-26-7
ethylbenzene acetate	000101-97-3
ethylcyclopentanone	004971-18-0
ethylene glycol dimethacrylate	000097-90-5
ethylene glycol monoethyl ether acetate	000111-15-9
ethylhexyl acetate, 2-	000103-09-3
ethylhex-2-en-1-al, 2-	000645-62-5
ethyl-4-ethoxybenzoate	023676-09-7
fenchyl alcohol	001632-73-1
fenchyl alcohol, alpha-	000512-13-0
fenchyl alcohol, alpha-	014575-74-7
fluorenone	000486-25-9
formamide, N,N-diethyl-	000617-84-5
formamide, N-methyl-N-phenyl-	000093-61-8
formamide, N-cyclohexyl-	000766-93-8
formamide, N-(1,1-dimethylethyl)-	002425-74-3
formamide, N,N-dimethylthio-	000758-16-7
formamide, N,N-di-n-butyl-	000761-65-9
formamidine, N,N-dimethyl-N'-cyclohexyl-	003459-75-4
formylcyclopentene, 1-	006140-65-4

Table D4 – Threshold of evaluation chemicals[1]

Substance	CAS #
fumaric acid, diethyl ester	000623-91-6
furan, 2-pentyl-	003777-69-3
furan, tetrahydro-2,2,5,5-tetramethyl-	015045-43-9
furaric acid, bis(2-ethylhexyl) ester	000141-02-6
furfural, 5-methyl	000620-02-0
furylmethylketone, 5-methyl-2-	001193-79-9
geraniol	000106-24-1
glutaraldehyde	000111-30-8
glycidyl ether, 2-methylphenyl-	002210-79-9
guanidine, 1,2,3-triphenyl-	000101-01-9
heneicosane	000629-94-7
heptacosane	000593-49-7
heptadecanoic acid, 16-methyl-, methyl ester	005129-61-3
heptanol, 2-propyl-1-	010042-59-8
heptyl aldehyde, n-	000111-71-7
Hexacosane	000630-01-3
hexadecanamide	000629-54-9
hexanoic acid, 2-ethyl-, methyl ester	000816-19-3
hexanoic acid, methyl ester	000106-70-7
hex-1-ene, 2-ethyl-	001632-16-2
hex-2-en-1-ol, cis-	000928-94-9
hex-2-en-1-ol, trans-	000928-95-0
hex-5-en-1-ol	000821-41-0
hexadecanamide	000629-54-9
hexadecanamide, N,N-dimethyl-	003886-91-7
hexadecene-1	000629-73-2
hexafluoropropene	000116-15-4
hexamethylene oxide	000592-90-5
hexamethylene dibenzamide	005326-21-6
hexamethyleneimine, 1-ethyl-	006763-91-3
hexamethylene oxide	000592-90-5
hexanal, 2-ethyl-	000123-05-7
hexanal	000066-25-1
hexanamine, 2-	005329-79-3
hexane, 2,5-dimethyl-	000592-13-2
hexane-2,5-dione	000110-13-4
hexaoxacyclotriacontane, 1,6,11,16,21,26-	064001-05-4
hexen-2-one, 3-, 3,4-dimethyl-	020685-46-5
hexen-2-one, 4-, 3,4-dimethyl-	053252-21-4
hexen-2-one, 3-methyl-4-	072189-24-3
hexen-2-one, 5-methyl-3-	005166-53-0
hexen-2-one, 5-methyl-5-	003240-09-3
hexyne-2,5-diol, 2,5-dimethyl-3-	000142-30-3
hydrocinnamic acid	006386-38-5
hydroxydiphenylamine, 3-	000101-18-8
hydroxypropyl methacrylate, 2-	000923-26-2

Table D4 – Threshold of evaluation chemicals[1]

Substance	CAS #
icosane	000112-95-8
imidazole, methylphenyl-	000670-91-7
indan-1-ol	006351-10-6
indan-1-one	000083-33-0
indene, 1H-, 2,3-dihydro-1-methyl-	000767-58-8
indene, 1H-, 2,3-dihydro-4-methyl-	000824-22-6
indene, 1H-, 2,3-dihydro-5-methyl-	000874-35-1
indene, 2,3-dihydro- also (2,3-dihydro-1H-)	000496-11-7
Indene	000095-13-6
isoalkanes, C9-C12	090622-57-4
isobutylene	000115-11-7
isobutyramide	000563-83-7
isobutyric acid	000079-31-2
isobutyronitrile	000078-82-0
isocrotonic acid	000503-64-0
isoindole, 2H-, 4,7-dione	056460-94-7
isophorone diamine	002855-13-2
isovanillin	000621-59-0
~~laurolactam~~ (Moved to Table D2)	~~000947-04-6~~
maleic anhydride, 2,3-dimethyl-	000766-39-2
menthane, 1,2:8,9-diepoxy-	000096-08-2
mephenesin	000059-47-2
methacrylate, lauryl-	000142-90-5
methacrylic acid, 2-hydroxyethyl ester	000868-77-9
methacrylic acid, 3-(trimethylsilyl)propyl ester	002530-85-0
methane, chlorodifluoro-	000075-45-6
methane, di-t-butoxy	002568-93-6
methane, di-t-butyl-	001070-87-7
methoxybenzene	000100-66-3
methyl anthranilate	000134-20-3
methyl-1 bicyclo[4.2.0]octa-1,3,5-triene, 3-	022250-74-4
methylcarbamate, methyl N-butyl-N-	054644-60-9
methylcoumarin, 7-diethylamino-4-	000091-44-1
methyl (Z)-octadec-11-enoate	001937-63-9
methyl palmitate	000112-39-0
methyl laurate	000111-82-0
methyl salicylate	000119-36-8
methyl stearate	000112-68-1
methyl-4-isopropyl cyclohexane, trans-1-	001678-82-6
methyldiethyl carbamate	004652-44-2
methylene bis(4-methyl-6-tertbutyl-phenol), 2,2'	000119-47-1
2,2'-methylenediphenol	002467-02-9
4,4'-methylenediphenol	000620-92-8
methylenephenethyl alcohol, beta-	006006-81-1
methylindene	029036-25-7
methyl nadic anhydride	025134-21-8

Table D4 – Threshold of evaluation chemicals[1]

Substance	CAS #
methylpiperidine,1-	000626-67-5
methylthioacetonitrile	035120-10-6
morpholine, methyl-	000109-02-4
morpholine, 4-dodecyl-	001541-81-7
morpholinecarbaldehyde, 4-	004394-85-8
morpholinecarboxamide, N-cyclohexyl-4-	003417-54-7
morpholinepropanenitrile, 4-	004542-47-6
N-butyl formamide	000871-71-6
N-isopropyl-2-methyl-2-propyl-1,3-propanediol dicarbamate	000078-44-4
naphthylenamine, N-phenyl-2-	000135-88-6
naphthalene, dimethyl-	028804-88-8
naphthalene, 1,2-dimethyl-	000573-98-8
naphthalene, 1,3-dimethyl-	000575-41-7
naphthalene, 1,4-dimethyl-	000571-58-4
naphthalene, 1,5-dimethyl-	000571-61-9
naphthalene, 1,7-dimethyl-	000575-37-1
naphthalene, 1,8-dimethyl-	000569-41-5
naphthalene, 2,3-dimethyl-	000581-40-8
naphthalene, 2,6-dimethyl-	000581-42-0
naphthalene, 2,7-dimethy-l	000582-16-1
naphthalene, 1-ethyl-	001127-76-0
naphthalene, 2-ethyl-	000939-27-5
naphthalene, ethyl	027138-19-8
nonacosane	000630-03-5
nonanal	000124-19-6
nonanal, 2-oxo-	002363-87-3
nonanoic acid, 9-oxo-	002553-17-5
nonanoic acid, n-	000112-05-0
norbornene, 5-ethylidene-2-	016219-75-3
octacosane	000630-02-4
octadecadienoic acid, (Z,Z)-9,12- , butyl ester	002634-45-9
octadecane, n-	000593-45-3
octadecenoic acid, 6(Z), methyl ester	002777-58-4
octadecenoic acid, 6-, methyl ester	052355-31-4
octadecenoic acid, 7-, methyl ester	057396-98-2
octadecenoic acid, 8-, methyl ester	002345-29-1
octadecenoic acid, 9(E)-, methyl ester	001937-62-8
octadecenoic acid, 9(Z)-, methyl ester	000112-62-9
octadecenoic acid, 9-, methyl ester	002462-84-2
octadecenoic acid, 10-, methyl ester	013481-95-3
octadecanamide	000124-26-5
octadecenamide	000301-02-0
octadecene, 1-	000112-88-9
octadien-1-ol, 3,7-dimethyl-2,6-	000624-15-7
octadien-2-ol, 2,6-dimethyl-5,7-	005986-38-9
octadien-3-ol, 2,6-dimethyl-1,7-	022460-59-9

Table D4 – Threshold of evaluation chemicals[1]

Substance	CAS #
octadien-3-ol, 3,7-dimethyl-1,6-	000078-70-6
octadien-3-ol, 3,7-dimethyl-4,6-	018479-54-4
octanal	000124-13-0
octanoate, methyl-	000111-11-5
octaphenyl pentaethylene glycol ether, tert-	038621-31-7
oct-2-enoic acid	001470-50-4
octen-3-ol, 1-	003391-86-4
octylphenoxypentaethoxyethanol, tert-	037809-81-7
oleate, n-butyl-	000142-77-8
oxabicyclo (4.1.0) heptane-3-carboxylic acid, 7-	002386-87-0
oxamide, di-tert-butyl-	037486-48-9
oxaspirodecadienedione, di-(t-butyl)	082304-66-3
oxirane, [(dodecyloxy)methyl]-	002461-18-9
oxononan-1-al, 4-	074327-29-0
oxybis(propanenitrile)	001656-48-0
palmitate, isopropyl-	000142-91-6
palmitic acid, n-butyl ester	000111-06-8
pentacosane	000629-99-2
pentane, 1-amino	000110-58-7
pentanediol, 2,2,4-trimethyl-1,3-	000144-19-4
pentanedione, 1-phenyl-1,4-	000583-05-1
pentanenitrile	000110-59-8
pentaoxacyclopentacosane, 1,6,11,16,21-	056890-57-4
pentaoxahexadecanol	023778-52-1
pentenal, trans-2-	001576-87-0
penten-2-ol, 3-	001569-50-2
penten-2-one, 3,4-dimethyl-3-	000684-94-6
perfluorooctanoic acid	000335-67-1
peroxide, tert-butyl-	000110-05-4
phenanthrene	000085-01-8
phenetidine, o-	000094-70-2
phenol, 4-ethoxy-	000622-62-8
phenol, o-(1-phenylethyl)-	004237-44-9
phenol, (phenylethyl)-	051937-33-8
phenol, o-(alpha, alpha-dimethylbenzyl)-	018168-40-6
phenol, p-(alpha, alpha-dimethylbenzyl)-	000599-64-4
phenol, p-phenylethyl-	006335-83-7
phenol, 4-(2-propenyl)-	000501-92-8
phenol, 3,5-dibenzyl-2,4,6-trimethyl-	unknown
phenol, 2,6-di-t-butyl-4-methoxy-	000489-01-0
phenol, 2,2'-methylenebis (6-tert-butyl)-4-ethyl-	000088-24-4
phenol, 2,4,6-tris(dimethylaminomethyl)-	000090-72-2
phenol, 4-(1-phenylethyl)-	001988-89-2
phenol, 2-allyl-	001745-81-9
phenothiazine	000092-84-2
phenoxypropanol, 1- (or 2-)	041593-38-8

Table D4 – Threshold of evaluation chemicals[1]

Substance	CAS #
phenyl isothiocyanate	000103-72-0
phenyl-1-buten-4-ol, 4-	000936-58-3
phenylbutane, 2-	000135-98-8
phenylene) bis-ethanone, 1,1'-(1,4-	001009-61-6
phenylene) bis-ethanone, 1,1'-(1,3-	006781-42-6
phenylenediamine, N,N-bis(1,3-dimethylbutyl)-N'-phenyl-p-	019929-72-7
2,2'-p-phenylenedioxydiethanol	000104-38-1
phenylethanol, 2-	000060-12-8
(phenylimino) cyclohexadiene	002406-04-4
phenylindan, 1,1,3-trimethyl-3-	003910-35-8
phorone	000504-20-1
phosphate, diphenyl-2-ethylhexyl-	001241-94-7
phosphinic acid, P-phenyl-, Na salt	004297-95-4
phosphonic acid, (nitrilotris(methylene))tri-, pentasodium	002235-43-0
pinanol	000473-54-1
pinanol (or cis-2-pinanol)	004948-28-1
pinanol, trans-2-	004948-29-2
pinocampheol (also pinocamphone)	000547-60-4
piperazine, 1-(2-aminoethyl)-	000140-31-8
piperidine, 1-formyl	002591-86-8
piperidine, 2-propyl-	000458-88-8
piperidene, 2,2,6,6-tetramethyl-	000768-66-1
piperidinol, 1,2,2,6,6-pentamethyl-4-	002403-89-6
~~piperidinol, 2,2,6,6-tetramethyl-4-~~ *(moved to Table D2)*	~~002403-88-5~~
piperidone, 2-	000675-20-7
poly(oxy-1,2-ethanediyl), a-isotridecyl-w-hydroxy-, phosphate	073038-25-2
propanal, 2,2-dimethyl-3-hydroxy-	000597-31-9
propanal, 3-phenyl	000104-53-0
propanaminium chloride, N,N,N-trimethyl-3-((1-oxo-2-propenyl)amino)-1-	045021-77-0
propane, 1,1-dimethoxy-2-methyl	041632-89-7
propanediol, 2-ethyl-2-butyl-1,3-	000115-84-4
propanenitrile, 3-(diethylamino)-	005351-04-2
propanenitrile, 3,3'-oxybis-	001656-48-0
propanenitrile, 3,3'-thiobis-	000111-97-7
propanoic acid, 2-methyl-, 1-(1,1-dimethylethyl)-2-methyl-1,3-propanediyl ester	074381-40-1
propanoic acid, 3-ethoxy-, ethyl ester	000763-69-9
propanoic acid, ethyl ester	000105-37-3
propanoic acid, 2,2-dimethyl-	000075-98-9
~~propanoic acid, 2-methyl-, 3-hydroxy-2,4,4-trimethylpentyl ester~~ *(moved to Table D2)*	~~000077-68-9~~
~~propanoic acid, 2-methyl-, 3-hydroxy-2,4,4-trimethylpentyl ester~~ (moved to Table D2)	~~074367-34-3~~
~~propanoic acid, 2-methyl, 2,2-dimethyl-1-(2-hydroxy-1-methylethyl)propyl ester~~ *(moved to Table D2)*	~~074367-33-2~~
propanol, 1-amino-2 -	000078-96-6

Table D4 – Threshold of evaluation chemicals[1]

Substance	CAS #
propanol, 1-[4-(1,1-dimethylethyl)phenoxy]-2-	002416-30-0
propanol, 1-phenoxy 2-	000770-35-4
propanol, phenyl	000093-54-9
propanol, phenyl-1-	001335-12-2
~~propanol, 2-phenyl-2-~~ *(moved to Table E1)*	~~000617-94-7~~
propanol, 1-propoxy-2-	001569-01-3
propanone, 1-phenyl-1-	000093-55-0
Organics	
propanone, 1-, 2-hydroxy-2-methyl-1-phenyl-	007473-98-5
propenamide, 3-(2-methylphenyl)-2-	146669-23-0
propenoic acid, 2-methyl-, 1-methyl-1,3-propanediyl ester, 2-	001189-08-8
propenoic acid, 2-methyl-2-, polymer with octadecyl-2-methyl-2-propenoate	027401-06-5
propenone, (dihydroxy methoxyphenyl) phenyl-	018956-15-5
pyrazine, 2-methyl-	000109-08-0
pyrene	000129-00-0
pyridine, 2-ethyl-	000100-71-0
pyridine, 2-methyl-	000109-06-8
pyridine, 3-methyl-	000108-99-6
pyridine, 4-methyl-	000108-89-4
pyridine, 2,3-dimethyl-	000583-61-9
pyridine, 2,4-dimethyl-	000108-47-4
pyridine, 2,5-dimethyl-	000589-93-5
pyridine, 2,6-dimethyl-	000108-48-5
pyridine, 3,4-dimethyl-	000583-58-4
pyridine, 3,5-dimethyl-	000591-22-0
pyridine, trimethyl-	029611-84-5
pyridine, 2,4,6-trimethyl-	000108-75-8
pyridine, 1,2,3,4-tetrahydro-1,2,2,6-tetramethyl-	063867-76-5
pyridine, 1,2,3,6-tetrahydro-1,2,3,4-tetramethyl-	090949-18-1
pyridine, 1,2,3,6-tetrahydro-1,2,4,5-tetramethyl-	090949-19-2
pyridine, 1,2,3,6-tetrahydro-1,2,4,6-tetramethyl-, cis-	023513-16-8
pyridine, 1,2,3,6-tetrahydro-1,3,3,6-tetramethyl-	122913-54-6
pyridine, 1,2,3,6-tetrahydro-1,4,5,6-tetramethyl-	090949-20-5
pyridine, 1,2,3,6-tetrahydro-2,2,2,6-tetramethyl-	001124-69-2
pyridine, 1,2,5,6-tetrahydro-2,2,5,5-tetramethyl-	155904-89-5
pyridine, 2,3,4,5-tetrahydro-2,2,4,6-tetramethyl-	200561-41-7
pyridine, 2,3,5-trimethyl-	000695-98-7
pyridine, 2,3,6-trimethyl-	001462-84-6
pyrrolidine	000123-75-1
pyrrolidinone, 1-decyl-2-	055257-88-0
pyrrolidinone, 1-dodecyl-2-	002687-96-9
pyrrolo(1,2-a)pyrazine-1,4-dione, hexahydro-3-(2-methylpropyl)-	005654-86-4
quaternary ammonium, ditallow dimethyl chloride	061789-80-8
quinoline, 3,4-dihydro-2,4,4-trimethyl-	063177-93-5
sodium p-sulfophenyl methallyl ether	001208-67-9
soya alkylamines, ethoxylated	061791-24-0

Table D4 – Threshold of evaluation chemicals[1]

Substance	CAS #
squalene	000111-02-4
squalene	007683-64-9
stearic acid, butyl ester	000123-95-5
styrene, alpha-methyl-	000098-83-9
styrene, methyl- (mixed isomers)	025013-15-4
succinic acid, diethyl ester	000123-25-1
sulfonylbis(4-methyl)-benzene, 1,'	000599-66-6
terpineol, alpha-	000098-55-5
tert-butylamine	000075-64-9
tetracosane	000646-31-1
tetradecamethylcycloheptasiloxane	000107-50-6
tetradecanamide	000638-58-4
tetradecanamine, 1-	002016-42-4
tetradecane	001120-36-1
tetraethyleneglycol di-(2-ethylhexoate)	018268-70-7
tetraethyleneglycol dimethacrylate	000109-17-1
tetrahydrofuran, diphenyl-	050637-09-7
tetrahydrofurfuryl alcohol	000097-99-4
tetrahydropyridine, 2,3,4,5-	000505-18-0
tetramethyl urea	000632-22-4
tetramethyldec-5-yne-4,7-diol, 2,4,7,9-	000126-86-3
tetramethyldecynediol	001333-17-1
2,6,10,14-tetramethylhexadecane	000638-36-8
tetramethylpyrazine, 2,3,5,6-	001124-11-4
~~tetramethylsuccinonitrile~~ *(moved to Table D2)*	~~003333-52-6~~
tetraoxacycloeicosane, 1,6,11,16-	017043-02-6
Organics	
tetrathiacyclooctadecane, 1,3,10,12-tetraoxa-6,7,15,16-	099634-55-6
4,4'-thiobis-(6-t-butyl-o-cresol)	000096-66-2
1,4-thoxane	015980-15-1
toluene, 2,6-diamino-	000823-40-5
toluenesulfonamide, N-ethyl-4-	000080-39-7
toluenesulfonic acid, p-, butyl ester	000778-28-9
toluidine, N,N-diethyl-p-	000613-48-9
triallyl cyanurate	000101-37-1
~~tributoxyethyl phosphate~~ *(moved to Table D2)*	~~000078-51-3~~
tributylphosphine oxide	000814-29-9
trichloroaniline, 2,4,5-	000636-30-6
trichloroaniline, 2,3,4-	000634-67-3
trichlorotrifluoroethane	026523-64-8
tricosane, also (n-tricosane)	000638-67-5
tridecane, 6-phenyl-	004534-49-0
triethylamine	000121-44-8
triethyleneglycol dimethacrylate	000109-16-0
triethylsilanol	000597-52-4
trimethylcyclohexanone	050874-76-5

Table D4 – Threshold of evaluation chemicals[1]

Substance	CAS #
trimethylolpropane trimethacrylate	003290-92-4
trioxane, 1,3,5-trimethyl-	000123-63-7
trioxepane, 1,3,5-	005981-06-6
triphenylphosphate	000115-86-6
triphenylphosphine oxide	000791-28-6
triphenylphosphine sulfide	003878-45-3
tropic acid	000552-63-6
undecanoic acid	000112-37-8
urea, N,N-bis-(1,1-dimethylethyl)-	005336-24-3
urea, 1,3-diphenyl-	000102-07-8
urea, 1,1,3,3-tetrabutyl-	004559-86-8
urea, N,N',N'-trimethyl-	000623-14-4
valeronitrile, 2,4-dimethyl-	034372-09-3
vinylidine fluoride	000075-38-7
xylenol, 4-tert-butyl-2,6-	000879-97-0
xylenol, 6-tert-butyl-3,4-	001445-23-4
xylenol, 6-tert-butyl-1,4-	001879-09-0

[1] For the chemicals listed in this table, the evaluation criteria are 0.003 mg/L under static conditions, and 0.0003 mg/L under flowing conditions.

– concluded

Reason: Shaded rows reflect chemicals added to the table. Strikethrough rows reflect chemicals moved to another table, generally as a result of having a risk assessment performed and externally peer reviewed.