



Fact Sheet: Fifth Contaminant Candidate List (CCL 5)

EPA has published the Contaminant Candidate List 5 (CCL 5). The final CCL 5 includes 66 chemicals, 3 chemical groups and 12 microbial contaminants which are known or anticipated to occur in public water systems. The CCL 5 includes contaminants used in commerce, pesticides, waterborne pathogens, disinfection byproducts, and biological toxins. In developing the CCL 5, EPA implemented improvements to the CCL process to better identify, screen, and classify potential drinking water contaminants. These improvements resulted in a CCL 5 that can better support prioritization of contaminants for regulatory decisions and research efforts.

Questions and Answers

What is the drinking water Contaminant Candidate List?

The drinking water Contaminant Candidate List (CCL) is a list of contaminants that are currently not subject to any proposed or promulgated national primary drinking water regulations but are known or anticipated to occur in public water systems. Contaminants listed on the CCL may require future regulation under the Safe Drinking Water Act (SDWA). EPA uses the CCL to identify priority contaminants for regulatory decision making and information collection needs.

How often is the CCL published?

The SDWA, as amended in 1996, directs EPA to publish a CCL every five years. The agency published the first CCL (CCL 1) in March 1998, the second CCL (CCL 2) in February 2005, the third CCL (CCL 3) in October 2009, and the fourth CCL (CCL 4) in November 2016.

What contaminants are included on the CCL 5?

The chemical and microbial contaminants included on CCL 5 are listed in the tables below.

Final Drinking Water Contaminant Candidate List 5- Chemical Contaminants

Chemical Name	CASRN¹	DTXSID²
1,2,3-Trichloropropane	96-18-4	DTXSID9021390
1,4-Dioxane	123-91-1	DTXSID4020533
17-alpha ethynyl estradiol	57-63-6	DTXSID5020576
2,4-Dinitrophenol	51-28-5	DTXSID0020523
2-Aminotoluene	95-53-4	DTXSID1026164

Chemical Name	CASRN¹	DTXSID²
2-Hydroxyatrazine	2163-68-0	DTXSID6037807
6-Chloro-1,3,5-triazine-2,4-diamine	3397-62-4	DTXSID1037806
Acephate	30560-19-1	DTXSID8023846
Acrolein	107-02-8	DTXSID5020023
alpha-Hexachlorocyclohexane	319-84-6	DTXSID2020684
Anthraquinone	84-65-1	DTXSID3020095
Bensulide	741-58-2	DTXSID9032329
Bisphenol A	80-05-7	DTXSID7020182
Boron	7440-42-8	DTXSID3023922
Bromoxynil	1689-84-5	DTXSID3022162
Carbaryl	63-25-2	DTXSID9020247
Carbendazim (MBC)	10605-21-7	DTXSID4024729
Chlordecone (Kepone)	143-50-0	DTXSID1020770
Chlorpyrifos	2921-88-2	DTXSID4020458
Cobalt	7440-48-4	DTXSID1031040
Cyanotoxins ³	Multiple	Multiple
Deethylatrazine	6190-65-4	DTXSID5037494
Desisopropyl atrazine	1007-28-9	DTXSID0037495
Desvenlafaxine	93413-62-8	DTXSID40869118
Diazinon	333-41-5	DTXSID9020407
Dicrotophos	141-66-2	DTXSID9023914
Dieldrin	60-57-1	DTXSID9020453
Dimethoate	60-51-5	DTXSID7020479
Disinfection byproducts (DBPs) ⁴	Multiple	Multiple
Diuron	330-54-1	DTXSID0020446
Ethalfuralin	55283-68-6	DTXSID8032386
Ethoprop	13194-48-4	DTXSID4032611
Fipronil	120068-37-3	DTXSID4034609
Fluconazole	86386-73-4	DTXSID3020627
Flufenacet	142459-58-3	DTXSID2032552
Fluometuron	2164-17-2	DTXSID8020628
Iprodione	36734-19-7	DTXSID3024154
Lithium	7439-93-2	DTXSID5036761
Malathion	121-75-5	DTXSID4020791
Manganese	7439-96-5	DTXSID2024169
Methomyl	16752-77-5	DTXSID1022267
Methyl tert-butyl ether (MTBE)	1634-04-4	DTXSID3020833
Methylmercury	22967-92-6	DTXSID9024198

Chemical Name	CASRN¹	DTXSID²
Molybdenum	7439-98-7	DTXSID1024207
Nonylphenol	25154-52-3	DTXSID3021857
Norflurazon	27314-13-2	DTXSID8024234
Oxyfluorfen	42874-03-3	DTXSID7024241
Per- and polyfluoroalkyl substances (PFAS) ⁵	Multiple	Multiple
Permethrin	52645-53-1	DTXSID8022292
Phorate	298-02-2	DTXSID4032459
Phosmet	732-11-6	DTXSID5024261
Phostebupirim	96182-53-5	DTXSID1032482
Profenofos	41198-08-7	DTXSID3032464
Propachlor	1918-16-7	DTXSID4024274
Propanil	709-98-8	DTXSID8022111
Propargite	2312-35-8	DTXSID4024276
Propazine	139-40-2	DTXSID3021196
Propoxur	114-26-1	DTXSID7021948
Quinoline	91-22-5	DTXSID1021798
Tebuconazole	107534-96-3	DTXSID9032113
Terbufos	13071-79-9	DTXSID2022254
Thiamethoxam	153719-23-4	DTXSID2034962
Tri-allate	2303-17-5	DTXSID5024344
Tribufos	78-48-8	DTXSID1024174
Tributyl phosphate	126-73-8	DTXSID3021986
Trimethylbenzene (1,2,4-)	95-63-6	DTXSID6021402
Tris(2-chloroethyl) phosphate (TCEP)	115-96-8	DTXSID5021411
Tungsten	7440-33-7	DTXSID8052481
Vanadium	7440-62-2	DTXSID2040282

¹ Chemical Abstracts Service Registry Number (CASRN) is a unique identifier assigned by the Chemical Abstracts Service (a division of the American Chemical Society) to every chemical substance (organic and inorganic compounds, polymers, elements, nuclear particles, etc.) in the open scientific literature. It contains up to 10 digits, separated by hyphens into three parts.

² Distributed Structure Searchable Toxicity Substance Identifiers (DTXSID) is a unique substance identifier used in EPA's CompTox Chemicals database, where a substance can be any single chemical, mixture or polymer.

³ Toxins naturally produced and released by some species of cyanobacteria (previously known as "blue-green algae"). The group of cyanotoxins includes, but is not limited to: anatoxin-a, cylindrospermopsin, microcystins, and saxitoxin.

⁴ This group includes 23 unregulated DBPs.

⁵ For the purpose of CCL 5, the structural definition of per- and polyfluoroalkyl substances (PFAS) includes chemicals that contain at least one of these three structures (except for PFOA and PFOS which are already in the regulatory process):

1. R-(CF₂)-CF(R')R'', where both the CF₂ and CF moieties are saturated carbons, and none of the R groups can be hydrogen
2. R-CF₂OCF₂-R', where both the CF₂ moieties are saturated carbons, and none of the R groups can be hydrogen
3. CF₃C(CF₃)RR', where all the carbons are saturated, and none of the R groups can be hydrogen

Final Drinking Water Contaminant Candidate List 5- Microbial Contaminants

Microbial Name	Type of Microorganism
Adenovirus	Virus
Caliciviruses	Virus
<i>Campylobacter jejuni</i>	Bacteria
<i>Escherichia coli (O157)</i>	Bacteria
Enteroviruses	Virus
<i>Helicobacter pylori</i>	Bacteria
<i>Legionella pneumophila</i>	Bacteria
<i>Mycobacterium abscessus</i>	Bacteria
<i>Mycobacterium avium</i>	Bacteria
<i>Naegleria fowleri</i>	Protozoa
<i>Pseudomonas aeruginosa</i>	Bacteria
<i>Shigella sonnei</i>	Bacteria

What approach did EPA use to list contaminants on the CCL 5?

EPA considered the best available health effects information and occurrence data to evaluate contaminants.

In selecting contaminants for the CCL 5, EPA:

1. Followed the stepwise process used in developing the CCL 3 and CCL 4, which was based on expert input and recommendations from the Science Advisory Board (SAB), National Research Council (NRC), and National Drinking Water Advisory Committee (NDWAC). This process consists of building a broad universe of contaminants, screening the universe of contaminants, and classifying the contaminants to select the CCL.
2. Implemented improvements to the CCL process to better identify, screen, and classify potential drinking water chemical contaminants for CCL 5. EPA's approach utilized the best available data to characterize the occurrence and adverse health risks a contaminant may pose from potential drinking water exposure.

3. Sought and evaluated nominations from the public for additional contaminants to consider in October 2018.
4. Evaluated any new available data for those contaminants with previous negative regulatory determinations from previous CCLs for potential inclusion on the CCL 5.
5. Considered public and Science Advisory Board (SAB) recommendations and evaluated the data and information provided by commenters in determining the Final CCL 5.

How did EPA consider public comments on the Draft CCL 5?

EPA published the Draft CCL 5 in a *Federal Register (FR)* notice on July 19, 2021. In this *FR* notice, EPA solicited input from the public and specifically requested comments on: (1) contaminants that EPA selected for the Draft CCL 5 and any supporting data that could assist with developing the Final CCL 5; (2) existing data that EPA obtained and evaluated for developing the Draft CCL 5; and (3) improvements that EPA implemented for developing the Draft CCL 5.

EPA reviewed all the comments received on the Draft CCL 5 and evaluated information provided by commenters when finalizing the CCL 5 for publication.

What changes were made from the Draft CCL 5 to the Final CCL 5?

Based on EPA's review of data and information collected during the comment period and new data available, EPA made the following changes from the Draft to the Final CCL 5:

- EPA updated the CCL 5 Technical Support documents to include recommendations from public comments and SAB recommendations.
- EPA revised and expanded the definition for PFAS to include additional PFAS substructures such as PFAS that are ethers, highly branched, persistent in water, and known to occur in drinking water and/or source water.

What happens to contaminants on the Draft CCL 5?

The purpose of the Draft CCL 5 was to present the list of contaminants and seek comment on the list and the various aspects of its development. EPA sought comments on the process used to identify the Draft CCL 5, the data used in the process, and on the individual contaminants

included on the Draft CCL 5. All comments submitted were considered in determining the Final CCL 5.

What happens to contaminants on the Final CCL 5?

EPA will evaluate all the contaminants on the CCL 5 to determine which contaminants have sufficient information to allow the Agency to make a regulatory determination. For those contaminants that lack sufficient information, EPA will encourage research to provide the information needed to determine whether to regulate the contaminant.

Does the CCL impose any requirements on public water systems?

No. Publishing a CCL does not impose any requirements on public water systems. If EPA decided to regulate a contaminant on the list in the future, the Agency would start a separate rulemaking process with opportunity for public comment.

What is a regulatory determination?

A regulatory determination is a formal decision on whether EPA should initiate a process to develop a national primary drinking water regulation for a specific contaminant. The law requires that EPA make regulatory determinations for at least five contaminants from the most recent CCL, every five years.

Where can I find more information about this notice and the CCL?

For more information on the Fifth CCL, please visit the EPA website, <https://www.epa.gov/ccl/contaminant-candidate-list-5-ccl-5>. For general information on the CCL, please visit EPA's website, <https://www.epa.gov/ccl>.