

# NSF Performance Data - CBAs

CB Tech's CBAs is tested according to NSF/ANSI Standard 42 (Aesthetic Effects), Standard 53 (Health Effects), and Standard 401 (Incidental Contaminants / Emerging Compounds). CB Tech drinking water systems are designed to be used where the water is microbiologically safe and has been adequately disinfected. Systems certified for cyst reduction may be used on disinfected water that may contain filterable cysts.

## NSF/ANSI 42 - Aesthetic Effects

CB Tech's CBAs has been certified according to NSF/ANSI Standard 42 for the reduction of the following substances. The concentration of the indicated substances in water entering the system was reduced to a concentration less than or equal to the permissible limit for water leaving the system.

Substance	Percent Reduction**	Influent challenge concentration (mg/L unless specified)	Maximum permissible product water concentration (mg/L unless specified)
CHLORAMINE as Aesthetic Effect (As Monochloramine)	>98.3%	3.0 mg/L +/- 10%	0.5 mg/L
CHLORINE as Aesthetic Effect	99%	2.0 mg/L +/- 10%	> or = 50%
PARTICULATE, (Nominal Particulate Reduction, Class I, Particles 0.5 TO <1 µm)	Class I > 99%	At Least 10,000 particles/mL	> or = 85%

## NSF/ANSI 53 - Health Effects

CB Tech's CBAs has been certified according to NSF/ANSI Standard 53 for the reduction of the following substances. The concentration of the indicated substances in water entering the system was reduced to a concentration less than or equal to the permissible limit for water leaving the system.

Substance	Percent Reduction**	Influent challenge concentration (mg/L unless specified)	Maximum permissible product water concentration (mg/L unless specified)
ALACHLOR*	>98%	0.050	0.001
ARSENIC (pentavalent As (V); As (+5); arsenate @ 6.5 pH)	>99.9%	0.050 +/- 10%	0.010
ARSENIC (pentavalent As (V); As (+5); arsenate @ 8.5 pH)	>95.8%	0.050 +/- 10%	0.010
ASBESTOS	>99.9%	10 <sup>7</sup> to 10 <sup>8</sup> fibers/L; fibers greater than 10 micrometers in length	99% reduction requirement
ATRAZINE*	>97%	0.100	0.003
BENZENE*	>99%	0.081	0.001
BROMODICHLOROMETHANE (TTHM)*	>99.8%	0.300	0.015
BROMOFORM (TTHM)*	>99.8%	0.300	0.015
CARBOFURAN (Furadan)*	>99%	0.19	0.001
CARBON TETRACHLORIDE*	98%	0.078	0.0018
CHLORDANE	>99.5%	0.04 +/-10%	0.002
CHLOROBENZENE (Monochlorobenzene)*	>99%	0.077	0.001
CHLOROPICRIN*	99%	0.015	0.0002
CHLOROFORM (TTHM)* (surrogate chemical)	>99.8%	0.300	0.015
Cryptosporidium (CYST)	99.95%	minimum 50,000/L	99.95% reduction requirement
CYST (Giardia; Cryptosporidium; Entamoeba; Toxoplasma)	99.95%	minimum 50,000/L	99.95% reduction requirement
2, 4-D*	98%	0.110	0.0017
DBCP (see Dibromochloropropane)*	>99%	0.052	0.00002
1,2-DCA (see 1,2-DICHLOROETHANE)*	95%	0.088	0.0048

Substance	Percent Reduction**	Influent challenge concentration (mg/L unless specified)	Maximum permissible product water concentration (mg/L unless specified)
1,1-DCE (see 1,1-DICHLOROETHYLENE)*	>99%	0.083	0.001
DIBROMOCHLOROMETHANE (TTHM; Chlorodibromomethane)*	>99.8%	0.300	0.015
DIBROMOCHLOROPROPANE (DBCP)*	>99%	0.052	0.00002
o-DICHLOROBENZENE (1,2 Dichlorobenzene)*	>99%	0.080	0.001
p-DICHLOROBENZENE (para-Dichlorobenzene)*	>98%	0.040	0.001
1,2-DICHLOROETHANE (1,2-DCA)*	95%	0.088	0.0048
1,1-DICHLOROETHYLENE (1,1-DCE)*	>99%	0.083	0.001
CIS-1,2-DICHLOROETHYLENE*	>99%	0.170	0.0005
TRANS-1,2- DICHLOROETHYLENE*	>99%	0.086	0.001
1,2-DICHLOROPROPANE (Propylene Dichloride)*	>99%	0.080	0.001
CIS-1,3- DICHLOROPROPYLENE*	>99%	0.079	0.001
DINOSEB*	99%	0.170	0.0002
EDB (see ETHYLENE DIBROMIDE)*	>99%	0.044	0.00002
ENDRIN*	99%	0.053	0.00059
Entamoeba (see CYSTS)	99.95%	minimum 50,000/L	99.95% reduction requirement
ETHYLBENZENE*	>99%	0.088	0.001
ETHYLENE DIBROMIDE (EDB)*	>99%	0.044	0.00002
Furadan (see CARBOFURAN)*	>99%	0.19	0.001
Giardia Lamblia (see CYST)	>99.95%	minimum 50,000/L	99.95% reduction requirement
HALOACETONITRILES (HAN)*			
BROMOCHLOROACETONITRILE	98%	0.022	0.0005
DIBROMOACETONITRILE	98%	0.024	0.0006
DICHLOROACETONITRILE	98%	0.0096	0.0002
TRICHLOROACETONITRILE	98%	0.015	0.0003
HALOKETONES (HK):*			
1,1-DICHLORO-2-PROPANONE	99%	0.0072	0.0001
1,1,1-TRICHLORO-2-PROPANONE	96%	0.0082	0.0003
HEPTACHLOR*	>99%	0.25	0.00001
HEPTACHLOR EPOXIDE*	98%	0.0107	0.0002
HEXACHLOROBUTADIENE (Perchlorobutadiene)*	>98%	0.044	0.001
HEXACHLOROCYCLOPENTADIENE*	>99%	0.060	0.000002
LEAD (pH 6.5)	>99.3%	0.15 +/- 10%	0.010
LEAD (pH 8.5)	>99.3%	0.15 +/- 10%	0.010
LINDANE*	>99%	0.055	0.00001
MERCURY (pH 6.5)	>99%	0.006 +/- 10%	0.002
MERCURY (pH 8.5)	>99%	0.006 +/- 10%	0.002
METHOXYCHLOR*	>99%	0.050	0.0001
Methylbenzene (see TOLUENE)*	>99%	0.078	0.001
Monochlorobenzene (see CHLOROENZENE)*	>99%	0.077	0.001
MTBE (methyl tert-butyl ether)	>96.6%	0.015 +/- 20%	0.005
POLYCHLORINATED BIPHENYLS (PCBs , Aroclor 1260)	>99.9%	0.01 +/- 10%	0.0005
PCE (see TETRACHLOROETHYLENE)*	>99%	0.081	0.001
PENTACHLOROPHENOL*	>99%	0.096	0.001
Perchlorobutadiene (see HEXACHLOROBUTADIENE)*	>98%	0.044	0.001
Propylene Dichloride (see 1,2 -DICHLOROPROPANE)*	>99%	0.080	0.001
RADON	>94.9%	4000 ± 1000 pCi/L	300 pCi/L
SIMAZINE*	>97%	0.120	0.004
Silvex (see 2,4,5-TP)*	99%	0.270	0.0016

Substance	Percent Reduction**	Influent challenge concentration (mg/L unless specified)	Maximum permissible product water concentration (mg/L unless specified)
STYRENE (Vinylbenzene)*	>99%	0.150	0.0005
1,1,1-TCA (see 1,1,1 - TRICHLOROETHANE)*	95%	0.084	0.0046
TCE (see TRICHLOROETHYLENE)*	>99%	0.180	0.0010
1,1,2,2- TETRACHLOROETHANE*	>99%	0.081	0.001
TETRACHLOROETHYLENE*	>99%	0.081	0.001
TOLUENE (Methylbenzene)*	>99%	0.078	0.001
TOXAPHENE	>92.9%	0.015 +/- 10%	0.003
Toxoplasma (see CYSTS)	99.95%	minimum 50,000/L	99.95% reduction requirement
2,4,5-TP (Silvex)*	99%	0.270	0.0016
TRIBROMOACETIC ACID*		0.042	0.001
1,2,4 TRICHLOROBENZENE (Unsymtrichlorobenzene)*	>99%	0.160	0.0005
1,1,1-TRICHLOROETHANE (1,1,1-TCA)*	95%	0.084	0.0046
1,1,2-TRICHLOROETHANE*	>99%	0.150	0.0005
TRICHLOROETHYLENE (TCE)*	>99%	0.180	0.0010
TRIHALOMETHANES (THM) (Chloroform; Bromoform; Bromodichloromethane; Dibromochloromethane)	>99.8%	0.300	0.015
TURBIDITY	>99%	11 +/- 1 NTU	0.5 NTU
Unsym-Trichlorobenzene (see 1,2,4-TRICHLOROBENZENE)*	>99%	0.160	0.0005
Vinylbenzene (see STYRENE)*	>99%	0.150	0.0005
XYLENES (TOTAL)*	>99%	0.070	0.001

## Facts About Arsenic (In compliance with NSF/ANSI Standard)

Arsenic (As) is a naturally occurring contaminant found in many ground waters. It generally occurs in two forms (valences or oxidation states): pentavalent arsenic (also known as As(V), As(+5), and arsenate) and trivalent arsenic (also known as As(III), As(+3), and arsenite). In natural ground water, arsenic may exist as trivalent arsenic, pentavalent arsenic, or a combination of both. More information about arsenic and its toxicity can be found at the agency for Toxic Substances and Disease Registry Toxicological Profile on Arsenic website at <http://www.atsdr.cdc.gov/toxprofiles/phs2.html>, and at the U. S. Environmental Protection Agency website at <http://www.epa.gov/safewater/arsenic.html>.

Arsenic does not generally impart color, taste, or smell to water; therefore, it can only be detected by a chemical analytical test. Public water supplies are required to monitor delivered water for arsenic (trivalent arsenic plus pentavalent arsenic) and the results are available to the public from the utility. Consumers using private water sources will need to make arrangements for testing. An arsenic test usually costs about \$15-30 and it is recommended that the test be conducted by a certified laboratory. Local health departments or environmental protection agencies can help provide consumers with a list of certified laboratories. Some laboratories may also be able to analyze specifically for (speciate) the form(s) of arsenic present in a water sample if requested.

Trivalent arsenic is generally more difficult to reduce from drinking water than pentavalent arsenic. Trivalent arsenic can be converted to pentavalent arsenic in the presence of an effective oxidant such as free chlorine. The arsenic in water containing detectable free chlorine or that has been treated with another effective oxidant will be in the pentavalent arsenic form. Treatment with chloramine (combined chlorine) is not sufficient to ensure complete conversion of trivalent arsenic to pentavalent arsenic.

Consumers using public water supplies can contact their utility to verify whether free chlorine treatment chemicals are being used. Private water supplies and waters that do not have detectable free chlorine residuals should be analyzed to determine the form(s) of arsenic present and the potential need for oxidation of trivalent arsenic to pentavalent arsenic. This Aqualuxe system is designed to reduce only pentavalent arsenic. This treatment system is not designed to convert trivalent arsenic to pentavalent arsenic. The system has not been evaluated for the removal of trivalent arsenic, but it may reduce some trivalent arsenic.

This treatment system was tested under laboratory conditions as defined in NSF/ANSI 53: Drinking Water Treatment Units – Health Effects, and was found to reduce [influent arsenic challenge concentration, either 0.30 mg/L or 0.050 mg/L] of pentavalent arsenic in the test water to less than 0.010 mg/L, for [tested treatment capacity] gallons of delivered water, the life of the system under standard testing conditions. Actual performance of the system may vary depending on specific water quality conditions at the consumer's installation. Following installation of this system, the consumer should have the delivered water tested for arsenic to verify that arsenic reduction is being achieved and the system is functioning properly.

The arsenic removal component of this system must be replaced at the end of its useful life of 500 gallons. The replacement component, CBLX, can be purchased from the original source of this system (retailer or distributor), from other sources of this treatment system, or directly from the manufacturer at [www.CB Tech.com](http://www.CB Tech.com) or call 800.622.9208.

## Footnotes

\*Chloroform was used as a surrogate for claims of reduction of Volatile Organic Chemicals (VOC). CB Tech Systems tested at >99.8% actual reduction of Chloroform. Percent reduction shown herein reflects the allowable claims for VOCs as per tables in the Standard.\*\*Percent reduction reflects actual performance of CB Tech product as specifically tested (at 200% of capacity). Percent reduction shown for VOCs reflects the allowable claims for Volatile Organic Chemicals/Compounds as per Tables. Chloroform was used as a surrogate for VOC reduction claims: the CB Tech Systems' actual reduction rate of Chloroform was >99.8% as tested (at 200% of capacity). \*\*\*NSF Standard 401 has been deemed as "incidental contaminants / emerging compounds". Incidental contaminants are those compounds that have been detected in drinking water suppliers at trace levels. While occurring at only trace levels these compounds can affect the public acceptance/perception of drinking water quality.

1. **Do not use with water that is microbiologically unsafe or with water of unknown quality without adequate disinfection before or after the unit. Systems certified for cyst reduction may be used on disinfected waters that may contain filterable cysts.**
2. CB Tech Drinking Water Systems have been certified, as indicated, by NSF International for compliance to NSF/ANSI Standard Nos. 42, 53 & 401.
3. The CB Tech Drinking Water Systems have been certified by the State of California Department of Public Health for the reduction of specific contaminants listed herein.
4. Chloroform was used as a surrogate for claims of reduction of VOCs. CB Tech Systems tested at >99.8% actual reduction of Chloroform. Percent reduction shown herein reflects the allowable claims for VOCs as per tables in the Standard.
5. The systems have been tested for the treatment of water containing pentavalent arsenic.
6. Filter life will vary in proportion to the amount of water used and the level of impurities in the water being processed. For optimum performance, it is essential that the filter be replaced on a regularly scheduled basis as follows: (a) annually; (b) when the unit's rated capacity has been reached; (c) the flow rate diminishes; (d) the filter becomes saturated with bad tastes and odors.
7. CB Tech Drinking Water System Housings are warranted for Lifetime (provided that the filter be replaced at least once a year); Please see the Owner's Manual for complete product guarantee and warranty information.
8. Please see the Owner's Manual for installation instructions and operating procedures.
9. In compliance with New York law, it is recommended that before purchasing a water treatment system, NY residents have their water supply tested to determine their actual water treatment needs. Please compare the capabilities of the CB Tech unit with your actual water treatment needs.
10. While testing was performed under standard laboratory conditions, actual performance may vary.
11. The list of substances which the treatment device reduces does not necessarily mean that these substances are present in your water.

## CBAs Specifications

<b>Model Name:</b>	CB-As (CBAs)
<b>Approximate Filter Capacity:</b>	600 Gallons
<b>Replacement Filter Type:</b>	CBTAs
<b>Approximate Flow Rate:</b>	1.0 gpm @60 psi
<b>Pressure Vessel Composition:</b>	Stainless Steel
<b>Rubber Items:</b>	Silicone
<b>Outlet:</b>	1/4" NPT
<b>Inlet:</b>	1/4" NPT
<b>Working Pressure Range:</b>	30 psi (2.1 kg/cm <sup>2</sup> ) to 100 psi (7.0 kg/cm <sup>2</sup> )
<b>Operating Temperature Range:</b>	32° F (0° C) to 100° F (38° C) - for cold water use only
<b>Particle Retention Size:</b>	0.5 micron (sub-micron)
<b>Certified By:</b>	NSF International



**To discuss your requirements  
and to request a quote, please contact:**

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