

Chemtool Analytical Summary Table

Frac Tank Results

Rockton, IL

Analyte	Cas No.	RCF-SV35139L-210622	RCF-SV35138L-2-210622	RCF-SV34199L-210622	RCF-SV28526L-210622	RCF-SV30938L-210622
Metals (mg/L) NIOSH Method 6020A						
Aluminum	7429-90-5	22	0.27	0.15	0.15	0.20
Antimony	7440-36-0	0.39	0.46	0.36	0.34	0.40
Arsenic	7440-38-2	0.0033	0.0010	0.00089 J	0.00093 J	0.00090 J
Barium	7440-39-3	0.082	0.10	0.077	0.076	0.088
Beryllium	7440-41-7	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
Boron	7440-42-8	6.9	7.8	7.2	6.9	7.3
Cadmium	7440-43-9	0.0020	0.0024	0.0012 J+	0.0011 J+	0.0017 J+
Calcium	7440-70-2	120	160	130	120	140
Chromium	7440-47-3	0.0073	0.0054	0.0097	0.011	0.0085
Cobalt	7440-48-4	0.0038	0.0026	0.0014	0.0012	0.0017
Copper	7440-50-8	0.043	0.0028	0.0046	0.0026	0.0029
Iron	7439-89-6	3.0	0.74	0.36	0.29	0.55
Lead	7439-92-1	0.011	0.0012	0.0011	0.0010	0.00096
Lithium	7439-93-2	35	38	30	28	33
Magnesium	7439-95-4	4.2	3.4	9.7	12	6.3
Manganese	7439-96-5	0.030	0.011	0.016	0.020	0.014
Nickel	7440-02-0	0.0062	0.0021	0.0019 J	0.0019 J	0.0020
Potassium	2023695	310	290	150	120	190
Selenium	7782-49-2	0.011	0.0015 J	0.0010 J	0.0011 J	0.0012 J
Silver	7440-22-4	0.00050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U
Sodium	7440-23-5	280	190	130	120	150
Thallium	7440-28-0	0.0020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U
Vanadium	7440-62-2	0.018	0.0086	0.0075	0.0075	0.0075
Zinc	7440-66-6	0.15	0.087 J+	0.064 J+	0.066 J+	0.090 J+
Mercury (mg/L) Method 7470A						
Mercury	7439-97-6	0.00020 U	0.00020 U	0.00020 U	0.00020 U	0.00020 U
Volatile Organic Compounds (mg/L) Method 8260B						
1,1,1-Trichloroethane	71-55-6	0.010 UJ	0.0010 UJ	0.0010 UJ	0.0010 UJ	0.0010 UJ
1,1,2,2-Tetrachloroethane	79-34-5	0.010 UJ	0.0010 UJ	0.0010 UJ	0.0010 UJ	0.0010 UJ
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	0.010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
1,1,2-Trichloroethane	79-00-5	0.010 UJ	0.0010 UJ	0.0010 UJ	0.0010 UJ	0.0010 UJ
1,1-Dichloroethane	75-34-3	0.010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
1,1-Dichloroethene	75-35-4	0.010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
1,2,4-Trichlorobenzene	120-82-1	0.010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
1,2-Dibromo-3-Chloropropane	96-12-8	0.050 UJ	0.0050 UJ	0.0050 UJ	0.0050 UJ	0.0050 UJ
1,2-Dibromoethane	106-93-4	0.010 UJ	0.0010 UJ	0.0010 UJ	0.0010 UJ	0.0010 UJ
1,2-Dichlorobenzene	95-50-1	0.010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
1,2-Dichloroethane	107-06-2	0.010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
1,2-Dichloroethane-d4 (Surr)	17060-07-0	NA	NA	NA	NA	NA
1,2-Dichloroethane-d4 (Surr)	17060-07-0	NA	NA	NA	NA	NA
1,2-Dichloropropane	78-87-5	0.010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
1,3-Dichlorobenzene	541-73-1	0.010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
1,4-Dichlorobenzene	106-46-7	0.010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
2-Hexanone	591-78-6	0.050 U	0.0050 U	0.0037 J	0.0050 U	0.0036 J
4-Bromofluorobenzene (Surr)	460-00-4	NA	NA	NA	NA	NA
4-Bromofluorobenzene (Surr)	460-00-4	NA	NA	NA	NA	NA
Acetone	67-64-1	2.0	1.3	0.60	0.46	0.80
Benzene	71-43-2	0.0055	0.010	0.020	0.018	0.013
Bromodichloromethane	75-27-4	0.010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
Bromoform	75-25-2	0.010 UJ	0.0010 UJ	0.0010 UJ	0.0010 UJ	0.0010 UJ
Bromomethane	74-83-9	0.030 UJ	0.0030 UJ	0.0030 UJ	0.0030 UJ	0.0030 UJ
Carbon disulfide	75-15-0	0.0076 J	0.0087	0.0073	0.0069	0.0080
Carbon tetrachloride	56-23-5	0.010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
Chlorobenzene	108-90-7	0.010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
Chloroethane	75-00-3	0.010 UJ	0.0010 UJ	0.0010 UJ	0.0010 UJ	0.0010 UJ
Chloroform	67-66-3	0.020 U	0.0020 U	0.0020 U	0.0020 U	0.0020 U
Chloromethane	74-87-3	0.010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
cis-1,2-Dichloroethene	156-59-2	0.010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
cis-1,3-Dichloropropene	10061-01-5	0.010 UJ	0.0010 UJ	0.0010 UJ	0.0010 UJ	0.0010 UJ
Cyclohexane	110-82-7	0.010 UJ	0.0010 UJ	0.00095 J+	0.0010 UJ	0.0010 UJ
Dibromochloromethane	124-48-1	0.010 UJ	0.0010 UJ	0.0010 UJ	0.0010 UJ	0.0010 UJ
Dibromofluoromethane	1868-53-7	0.030 UJ	0.0030 UJ	0.0030 UJ	0.0030 UJ	0.0030 UJ
Dibromofluoromethane	1868-53-7	0.030 UJ	0.0030 UJ	0.0030 UJ	0.0030 UJ	0.0030 UJ
Dichlorodifluoromethane	75-71-8	NA	NA	NA	NA	NA
Ethylbenzene	100-41-4	0.14	0.0047	0.0030	0.0014	0.0022
Isopropylbenzene	98-82-8	0.0073 J	0.00079 J	0.00041 J	0.0010 U	0.00043 J
Methyl acetate	79-20-9	0.050 U	0.014	0.0050 U	0.0050 U	0.010
Methyl Ethyl Ketone	78-93-3	1.7	0.13	0.071	0.063	0.077
methyl isobutyl ketone	108-10-1	10	0.0049 J	0.0050 U	0.0023 J	0.0025 J
Methyl tert-butyl ether	1634-04-4	0.010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
Methyleyclohexane	108-87-2	0.010 U	0.0010 U	0.0012	0.0010 U	0.0010 U
Methylene Chloride	75-09-2	0.050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U
Styrene	100-42-5	0.010 U	0.0052	0.0012	0.0010 U	0.0010 U
Tetrachloroethene	127-18-4	0.010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
Toluene	108-88-3	0.0050 U	0.0047	0.011	0.0050	0.0040
Toluene-d8 (Surr)	2037-26-5	NA	NA	NA	NA	NA
Toluene-d8 (Surr)	2037-26-5	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	156-60-5	0.010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
trans-1,3-Dichloropropene	10061-02-6	0.010 UJ	0.0010 UJ	0.0010 UJ	0.0010 UJ	0.0010 UJ
Trichloroethene	79-01-6	0.0050 U	0.00050 U	0.00050 U	0.00050 U	0.00050 U
Trichlorofluoromethane	75-69-4	0.010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
Vinyl chloride	75-01-4	0.010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
Xylenes, Total	1330-20-7	1.0	0.032	0.018	0.0094	0.017
Semivolatile Organic Compounds (mg/L) Method 8270D						
1,1'-Biphenyl	92-52-4	0.40 U	0.40 U	0.10 U	0.10 U	0.10 U
2,2'-oxybis[1-chloropropane]	108-60-1	0.16 U	0.16 U	0.040 U	0.040 U	0.040 U
2,4,5-Trichlorophenol	95-95-4	0.80 U	0.80 U	0.20 U	0.20 U	0.20 U
2,4,6-Tribromophenol (Surr)	118-79-6	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	88-06-2	0.40 U	0.40 U	0.10 U	0.10 U	0.10 U
2,4-Dichlorophenol	120-83-2	0.80 U	0.80 U	0.20 U	0.20 U	0.20 U
2,4-Dimethylphenol	105-67-9	0.80 U	0.80 U	0.20 U	0.20 U	0.20 U
2,4-Dinitrophenol	51-28-5	1.6 U	1.6 U	0.40 U	0.40 U	0.40 U
2,4-Dinitrotoluene	121-14-2	0.080 U	0.080 U	0.020 U	0.020 U	0.020 U
2,6-Dinitrotoluene	606-20-2	0.080 U	0.080 U	0.020 U	0.020 U	0.020 U
2-Chloronaphthalene	91-58-7	0.16 U	0.16 U	0.040 U	0.040 U	0.040 U
2-Chlorophenol	95-57-8	0.40 U	0.40 U	0.10 U	0.10 U	0.10 U
2-Fluorobiphenyl	321-60-8	NA	NA	NA	NA	NA

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2-Fluorophenol (Surr)	367-12-4	NA	NA	NA	NA	NA
2-Methylnaphthalene	91-57-6	0.16 U	0.0089 J	0.0023 J+	0.0021 J+	0.0019 J
2-Methylphenol	95-48-7	0.040 J	0.040 J	0.044	0.046	0.041
2-Nitroaniline	88-74-4	0.40 U	0.40 U	0.10 U	0.10 U	0.10 U
2-Nitrophenol	88-75-5	0.80 U	0.80 U	0.20 U	0.20 U	0.20 U
3 & 4 Methylphenol	15831-10-4	0.070 J	0.078 J	0.087	0.067	0.084
3,3'-Dichlorobenzidine	91-94-1	0.40 UJ	0.40 UJ	0.10 UJ	0.10 UJ	0.10 UJ
3-Nitroaniline	99-09-2	0.80 UJ	0.80 UJ	0.20 UJ	0.20 UJ	0.20 UJ
4,6-Dinitro-2-methylphenol	534-52-1	1.6 U	1.6 U	0.40 U	0.40 U	0.40 U
4-Bromophenyl phenyl ether	101-55-3	0.40 U	0.40 U	0.10 U	0.10 U	0.10 U
4-Chloro-3-methylphenol	59-50-7	0.80 U	0.80 U	0.20 U	0.20 U	0.20 U
4-Chloroaniline	106-47-8	0.80 U	0.80 U	0.20 U	0.20 U	0.20 U
4-Chlorophenyl phenyl ether	7005-72-3	0.40 U	0.40 U	0.10 U	0.10 U	0.10 U
4-Nitroaniline	100-01-6	0.80 UJ	0.80 UJ	0.20 UJ	0.20 UJ	0.20 UJ
4-Nitrophenol	100-02-7	1.6 U	1.6 U	0.40 U	0.40 U	0.40 U
Acenaphthene	83-32-9	0.080 U	0.080 U	0.020 U	0.020 U	0.020 U
Acenaphthylene	208-96-8	0.080 U	0.080 U	0.020 U	0.020 U	0.020 U
Acetophenone	98-86-2	0.40 U	0.40 U	0.014 J+	0.018 J+	0.014 J
Anthracene	120-12-7	0.080 U	0.080 U	0.020 U	0.020 U	0.020 U
Atrazine	1912-24-9	0.40 U	0.40 U	0.10 U	0.10 U	0.10 U
Benzaldehyde	100-52-7	3.2 R	3.2 R	0.80 R	0.80 R	0.80 R
Benzo[a]anthracene	56-55-3	0.016 U	0.016 U	0.0040 U	0.0040 U	0.0040 U
Benzo[a]pyrene	50-32-8	0.016 U	0.016 U	0.0040 UJ	0.0040 UJ	0.0040 UJ
Benzo[b]fluoranthene	205-99-2	0.016 U	0.016 U	0.0040 UJ	0.0040 UJ	0.0040 UJ
Benzo[g,h,i]perylene	191-24-2	0.080 U	0.080 U	0.020 UJ	0.020 UJ	0.020 UJ
Benzo[k]fluoranthene	207-08-9	0.016 U	0.016 U	0.0040 UJ	0.0040 UJ	0.0040 UJ
Bis(2-chloroethoxy)methane	111-91-1	0.16 U	0.16 U	0.040 U	0.040 U	0.040 U
Bis(2-chloroethyl)ether	111-44-4	0.16 U	0.16 U	0.040 U	0.040 U	0.040 U
Bis(2-ethylhexyl) phthalate	117-81-7	0.80 U	0.80 U	0.20 U	0.20 U	0.20 U
Butyl benzyl phthalate	85-68-7	0.16 U	0.16 U	0.040 U	0.040 U	0.040 U
Caprolactam	105-60-2	0.80 UJ	0.80 UJ	0.20 UJ	0.20 UJ	0.20 UJ
Carbazole	86-74-8	0.40 UJ	0.40 UJ	0.10 UJ	0.10 UJ	0.10 UJ
Chrysene	218-01-9	0.016 U	0.016 U	0.0040 U	0.0040 U	0.0040 U
Dibenz[a,h]anthracene	53-70-3	0.024 U	0.024 U	0.0060 UJ	0.0060 UJ	0.0060 UJ
Dibenzofuran	132-64-9	0.16 U	0.16 U	0.040 U	0.040 U	0.040 U
Diethyl phthalate	84-66-2	0.40 U	0.40 U	0.10 U	0.10 U	0.10 U
Dimethyl phthalate	131-11-3	0.40 U	0.40 U	0.10 U	0.10 U	0.10 U
Di-n-butyl phthalate	84-74-2	0.40 U	0.40 U	0.10 U	0.10 U	0.10 U
Di-n-octyl phthalate	117-84-0	0.80 U	0.80 U	0.20 U	0.20 U	0.20 U
Fluoranthene	206-44-0	0.080 U	0.080 U	0.020 U	0.020 U	0.020 U
Fluorene	86-73-7	0.080 U	0.080 U	0.020 U	0.020 U	0.020 U
Hexachlorobenzene	118-74-1	0.040 U	0.040 U	0.010 U	0.010 U	0.010 U
Hexachlorobutadiene	87-68-3	0.40 U	0.40 U	0.10 U	0.10 U	0.10 U
Hexachlorocyclopentadiene	77-47-4	1.6 UJ	1.6 UJ	0.40 UJ	0.40 UJ	0.40 UJ
Hexachloroethane	67-72-1	0.40 U	0.40 U	0.10 U	0.10 U	0.10 U
Indeno[1,2,3-cd]pyrene	193-39-5	0.016 U	0.016 U	0.0040 UJ	0.0040 UJ	0.0040 UJ
Isophorone	78-59-1	0.16 U	0.16 U	0.040 U	0.040 U	0.040 U
Naphthalene	91-20-3	0.080 U	0.063 J	0.013 J+	0.014 J+	0.011 J
Nitrobenzene	98-95-3	0.080 U	0.080 U	0.020 U	0.020 U	0.020 U
Nitrobenzene-d5 (Surr)	4165-60-0	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	621-64-7	0.040 U	0.040 U	0.010 U	0.010 U	0.010 U
N-Nitrosodiphenylamine	86-30-6	0.16 U	0.16 U	0.040 U	0.040 U	0.040 U
Pentachlorophenol	87-86-5	1.6 U	1.6 U	0.40 U	0.40 U	0.40 U
Phenanthrene	85-01-8	0.080 U	0.080 U	0.020 U	0.020 U	0.020 U
Phenol	108-95-2	0.33 J	0.30 J	0.24	0.26	0.25
Phenol-d5 (Surr)	4165-62-2	NA	NA	NA	NA	NA
Pyrene	129-00-0	0.080 U	0.080 U	0.020 U	0.020 U	0.020 U
Terphenyl-d14	1718-51-0	NA	NA	NA	NA	NA
PFAS (ng/L) Method 537						
4:2 FTS	757124-72-4	1.8 R	20 UJ	36 U	36 UJ	37 UJ
6:2 FTS	27619-97-2	340	2800	5300	4500	5800
8:2 FTS	39108-34-4	9.4	20 U	36 U	36 U	37 U
DONA	919005-14-4	1.8 U	20 U	36 U	36 U	37 U
F-53B Major	73606-19-6	1.8 U	20 U	36 U	36 U	37 U
F-53B Minor	763051-92-9	1.8 U	20 U	36 U	36 U	37 U
HFPO-DA (GenX)	13252-13-6	3.6 R	4000 U	73 UJ	73 U	74 UJ
N-ethylperfluorooctanesulfonamidoacetic acid (NeFOSAA)	2991-50-6	4.5 R	49 UJ	91 U	91 U	93 U
N-methylperfluorooctanesulfonamidoacetic acid (NmFOSAA)	2355-31-9	4.5 UJ	49 UJ	91 U	91 U	93 U
Perfluorobutanesulfonic acid (PFBS)	375-73-5	7.0 J	20 UJ	36 U	36 U	37 UJ
Perfluorobutanoic acid (PFBA)	375-22-4	4.5 R	5000 U	91 UJ	91 UJ	93 UJ
Perfluorodecanesulfonic acid (PFDS)	335-77-3	1.8 U	20 U	36 U	36 U	37 U
Perfluorodecanoic acid (PFDA)	335-76-2	1.8 U	20 U	36 U	36 U	37 U
Perfluorododecanoic acid (PFDoA)	307-55-1	2.1	20 U	36 U	36 U	37 U
Perfluoroheptanesulfonic Acid (PFHpS)	375-92-8	1.8 U	20 U	36 U	36 U	37 U
Perfluoroheptanoic acid (PFHpA)	375-85-9	3.6 J	8.2 J	36 UJ	12 J	37 U
Perfluorohexanesulfonic acid (PFHxS)	355-46-4	3.3	20 U	36 U	36 U	37 U
Perfluorohexanoic acid (PFHxA)	307-24-4	81 J	1500 J	1100 J	980	900 J
Perfluorononanesulfonic acid (PFNS)	68259-12-1	1.8 U	20 U	36 U	36 U	37 U
Perfluorononanoic acid (PFNA)	375-95-1	2.5	20 U	36 U	36 U	37 U
Perfluorooctanesulfonamide (FOSA)	754-91-6	1.8 U	20 U	36 U	36 U	37 U
Perfluorooctanesulfonic acid (PFOS)	1763-23-1	1.8 U	20 U	36 U	36 U	37 U
Perfluorooctanoic acid (PFOA)	335-67-1	4.0	20 U	36 U	36 U	37 U
Perfluoropentanesulfonic acid (PFPeS)	2706-91-4	3.4 J	20 U	36 U	36 U	37 U
Perfluoropentanoic acid (PFPeA)	2706-90-3	1.8 R	2000 U	36 UJ	36 UJ	37 UJ
Perfluorotetradecanoic acid (PFTeA)	376-06-7	2.2	20 U	36 U	36 U	37 U
Perfluorotridecanoic acid (PFTriA)	72629-94-8	1.8 U	20 U	36 U	36 U	37 U
Perfluoroundecanoic acid (PFUnA)	2058-94-8	1.8 U	20 U	36 U	36 U	37 U

Notes:

mg/L = milligrams per liter

NA = Not applicable

ng/L = Nanograms per liter

J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

R = The sample result is rejected as unusable due to serious deficiencies in one or more quality control criteria. The analyte may or may not be present in the sample.

U = Analyte was not detected.

- = LCS and/or LCSD is outside acceptance limits, low biased.

+ = LCS and/or LCSD is outside acceptance limits, high biased.

Bolded results were not detected.