

Annual Ambient Monitoring Report Petrochemicals Industry Standard, 2024 Reporting Year

DPCC Average 1,3 Butadiene Concentrations:

Monitor #	Location	2021	2022	2023	2024
1	E 0383543 N 4755905	0.47	1.12	0.73	1.16
2	E 0383543 N 4755905	0.97	1.00	1.08	1.21
3	E 0384093 N 4755833	0.60	1.24	1.41	1.01
4	E 0383953 N 4755328	0.37	1.19	0.82	0.40
5	E 0383589 N 4755252	0.35	0.40	0.40	0.22
6	E 0383213 N 4755589	0.17	0.22	0.36	0.18

DPCC Monitor Location Map:





2024 1,3 Butadiene Monitoring Results

Diamond Petrochemicals Canada Corporation: 1,3-Butadiene Fenceline Monitoring - 2024

Monitor Location #1			Monitor Location #2			Monitor Location #3		
E 0383543 N 4755905			E 0383781 N 4756013			E 0384093 N 4755833		
Sample Start Date	Sample End Date	1,3-Butadiene (ug/m ³)	Sample Start Date	Sample End Date	1,3-Butadiene (ug/m ³)	Sample Start Date	Sample End Date	1,3-Butadiene (ug/m ³)
December 20, 2023	January 3, 2024	<0.34	December 20, 2023	January 3, 2024	<0.34	December 20, 2023	January 3, 2024	<0.34
January 3, 2024	January 17, 2024	<0.34	January 3, 2024	January 17, 2024	<0.34	January 3, 2024	January 17, 2024	0.403
January 17, 2024	January 31, 2024	<0.34	January 17, 2024	January 31, 2024	0.517	January 17, 2024	January 31, 2024	0.340
January 31, 2024	February 14, 2024	<0.34	January 31, 2024	February 14, 2024	0.578	January 31, 2024	February 14, 2024	<0.34
February 14, 2024	February 28, 2024	<0.34	February 14, 2024	February 28, 2024	1.030	February 14, 2024	February 28, 2024	<0.34
February 28, 2024	March 13, 2024	<0.34	February 28, 2024	March 13, 2024	0.874	February 28, 2024	March 13, 2024	<0.34
March 13, 2024	March 27, 2024	<0.34	March 13, 2024	March 27, 2024	<0.34	March 13, 2024	March 27, 2024	<0.34
March 27, 2024	April 10, 2024	0.632	March 27, 2024	April 10, 2024	1.03	March 27, 2024	April 10, 2024	0.632
April 10, 2024	April 24, 2024	0.488	April 10, 2024	April 24, 2024	0.695	April 10, 2024	April 24, 2024	0.704
April 24, 2024	May 8, 2024	0.474	April 24, 2024	May 8, 2024	0.474	April 24, 2024	May 8, 2024	0.416
May 8, 2024	May 22, 2024	<0.33	May 8, 2024	May 22, 2024	0.535	May 8, 2024	May 22, 2024	<0.33
May 22, 2024	June 5, 2024	0.330	May 22, 2024	June 5, 2024	0.536	May 22, 2024	June 5, 2024	0.665
June 5, 2024	June 19, 2024	<0.33	June 5, 2024	June 19, 2024	0.982	June 5, 2024	June 19, 2024	0.61
June 19, 2024	July 3, 2024	<0.33	June 19, 2024	July 3, 2024	0.673	June 19, 2024	July 3, 2024	1.14
July 3, 2024	July 17, 2024	<0.33	July 3, 2024	July 17, 2024	2.48	July 3, 2024	July 17, 2024	0.830
July 17, 2024	July 31, 2024	<0.33	July 17, 2024	July 31, 2024	0.359	July 17, 2024	July 31, 2024	<0.33
July 31, 2024	August 14, 2024	<0.33	July 31, 2024	August 14, 2024	0.808	July 31, 2024	August 14, 2024	1.28
August 14, 2024	August 28, 2024	<0.33	August 14, 2024	August 28, 2024	0.728	August 14, 2024	August 28, 2024	0.433
August 28, 2024	September 11, 2024	0.583	August 28, 2024	September 11, 2024	0.747	August 28, 2024	September 11, 2024	<0.33
September 11, 2024	September 25, 2024	3.08	September 11, 2024	September 25, 2024	3.23	September 11, 2024	September 25, 2024	0.330
September 25, 2024	October 9, 2024	1.83	September 25, 2024	October 9, 2024	3.37	September 25, 2024	October 9, 2024	7.90
October 9, 2024	October 23, 2024	1.85	October 9, 2024	October 23, 2024	3.79	October 9, 2024	October 23, 2024	3.22
October 23, 2024	November 6, 2024	15.3	October 23, 2024	November 6, 2024	6.02	October 23, 2024	November 6, 2024	3.60
November 6, 2024	November 20, 2024	2.93	November 6, 2024	November 20, 2024	1.26	November 6, 2024	November 20, 2024	1.31
November 20, 2024	December 4, 2024	<0.34	November 20, 2024	December 4, 2024	<0.34	November 20, 2024	December 4, 2024	0.535
December 4, 2024	December 18, 2024	<0.34	December 4, 2024	December 18, 2024	<0.34	December 4, 2024	December 18, 2024	0.434
Average		1.16	Average		1.21	Average		1.01

Monitor Location #4			Monitor Location #5			Monitor Location #6		
E 0383953 N 4755328			E 0383589 N 4755252			E 0383213 N 4755589		
Sample Start Date	Sample End Date	1,3-Butadiene (ug/m ³)	Sample Start Date	Sample End Date	1,3-Butadiene (ug/m ³)	Sample Start Date	Sample End Date	1,3-Butadiene (ug/m ³)
December 20, 2023	January 3, 2024	<0.34	December 20, 2023	January 3, 2024	<0.34	December 20, 2023	January 3, 2024	<0.34
January 3, 2024	January 17, 2024	<0.34	January 3, 2024	January 17, 2024	<0.34	January 3, 2024	January 17, 2024	<0.34
January 17, 2024	January 31, 2024	<0.34	January 17, 2024	January 31, 2024	<0.34	January 17, 2024	January 31, 2024	<0.34
January 31, 2024	February 14, 2024	<0.34	January 31, 2024	February 14, 2024	<0.34	January 31, 2024	February 14, 2024	<0.34
February 14, 2024	February 28, 2024	<0.34	February 14, 2024	February 28, 2024	0.40	February 14, 2024	February 28, 2024	<0.34
February 28, 2024	March 13, 2024	<0.34	February 28, 2024	March 13, 2024	<0.34	February 28, 2024	March 13, 2024	<0.34
March 13, 2024	March 27, 2024	<0.34	March 13, 2024	March 27, 2024	<0.34	March 13, 2024	March 27, 2024	<0.34
March 27, 2024	April 10, 2024	0.826	March 27, 2024	April 10, 2024	<0.34	March 27, 2024	April 10, 2024	<0.34
April 10, 2024	April 24, 2024	0.861	April 10, 2024	April 24, 2024	0.414	April 10, 2024	April 24, 2024	<0.33
April 24, 2024	May 8, 2024	0.491	April 24, 2024	May 8, 2024	0.383	April 24, 2024	May 8, 2024	<0.33
May 8, 2024	May 22, 2024	<0.33	May 8, 2024	May 22, 2024	<0.33	May 8, 2024	May 22, 2024	<0.33
May 22, 2024	June 5, 2024	0.336	May 22, 2024	June 5, 2024	<0.33	May 22, 2024	June 5, 2024	<0.33
June 5, 2024	June 19, 2024	0.401	June 5, 2024	June 19, 2024	<0.33	June 5, 2024	June 19, 2024	<0.33
June 19, 2024	July 3, 2024	0.392	June 19, 2024	July 3, 2024	<0.33	June 19, 2024	July 3, 2024	<0.33
July 3, 2024	July 17, 2024	<0.33	July 3, 2024	July 17, 2024	<0.33	July 3, 2024	July 17, 2024	<0.33
July 17, 2024	July 31, 2024	<0.33	July 17, 2024	July 31, 2024	<0.33	July 17, 2024	July 31, 2024	<0.33
July 31, 2024	August 14, 2024	1.04	July 31, 2024	August 14, 2024	<0.33	July 31, 2024	August 14, 2024	<0.33
August 14, 2024	August 28, 2024	0.581	August 14, 2024	August 28, 2024	<0.33	August 14, 2024	August 28, 2024	<0.33
August 28, 2024	September 11, 2024	<0.33	August 28, 2024	September 11, 2024	<0.33	August 28, 2024	September 11, 2024	<0.33
September 11, 2024	September 25, 2024	<0.33	September 11, 2024	September 25, 2024	<0.33	September 11, 2024	September 25, 2024	<0.33
September 25, 2024	October 9, 2024	1.22	September 25, 2024	October 9, 2024	0.588	September 25, 2024	October 9, 2024	0.364
October 9, 2024	October 23, 2024	1.31	October 9, 2024	October 23, 2024	0.38	October 9, 2024	October 23, 2024	<0.34
October 23, 2024	November 6, 2024	<0.33	October 23, 2024	November 6, 2024	<0.33	October 23, 2024	November 6, 2024	<0.33
November 6, 2024	November 20, 2024	0.375	November 6, 2024	November 20, 2024	<0.33	November 6, 2024	November 20, 2024	<0.33
November 20, 2024	December 4, 2024	<0.34	November 20, 2024	December 4, 2024	<0.34	November 20, 2024	December 4, 2024	<0.34
December 4, 2024	December 18, 2024	<0.34	December 4, 2024	December 18, 2024	<0.34	December 4, 2024	December 18, 2024	<0.34
Average		0.40	Average		0.22	Average		0.18

2024 Statistical Analysis Calculations

There is no statistically significant increase in the concentrations of 1,3 Butadiene for the 2024 reporting year. The test statistics calculated are below the Table 7-62 Column 2 values therefore no action is required as outlined S.63.

Section 62 - Statistical Analysis of Ambient Monitor 1,3-Butadiene Concentration Measurements												
2024 Reporting Year												
	Monitor Location #1		Monitor Location #2		Monitor Location #3		Monitor Location #4		Monitor Location #5		Monitor Location #6	
	ug/m ³	log _e (x)	ug/m ³	log _e (x)	ug/m ³	log _e (x)	ug/m ³	log _e (x)	ug/m ³	log _e (x)	ug/m ³	log _e (x)
January 3, 2024	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
January 17, 2024	0.17	-1.77195684	0.17	-1.77195684	0.40	-0.90881872	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
January 31, 2024	0.17	-1.77195684	0.517	-0.6597124	0.34	-1.07880966	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
February 14, 2024	0.17	-1.77195684	0.578	-0.54818141	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
February 28, 2024	0.17	-1.77195684	1.03	0.029558802	0.17	-1.77195684	0.17	-1.77195684	0.4	-0.91629073	0.17	-1.77195684
March 13, 2024	0.17	-1.77195684	0.87	-0.1346749	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
March 27, 2024	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
April 10, 2024	0.632	-0.45886588	1.03	0.029558802	0.63	-0.45886588	0.826	-0.19116051	0.17	-1.77195684	0.17	-1.77195684
April 24, 2024	0.488	-0.71743987	0.70	-0.36384343	0.70	-0.35097692	0.861	-0.14966077	0.414	-0.88188931	0.17	-1.77195684
May 8, 2024	0.474	-0.74654796	0.47	-0.74654796	0.42	-0.87707002	0.491	-0.71131115	0.383	-0.95972029	0.17	-1.77195684
May 22, 2024	0.17	-1.77195684	0.54	-0.62548853	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
June 5, 2024	0.33	-1.10866262	0.54	-0.62362112	0.67	-0.40796824	0.336	-1.09064412	0.17	-1.77195684	0.17	-1.77195684
June 19, 2024	0.17	-1.77195684	0.98	-0.01816397	0.61	-0.50252682	0.401	-0.91379385	0.17	-1.77195684	0.17	-1.77195684
July 3, 2024	0.17	-1.77195684	0.67	-0.39600995	1.14	0.131028262	0.392	-0.93649344	0.17	-1.77195684	0.17	-1.77195684
July 17, 2024	0.17	-1.77195684	2.48	0.90825856	0.83	-0.18632958	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
July 31, 2024	0.17	-1.77195684	0.359	-1.02443289	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
August 14, 2024	0.17	-1.77195684	0.808	-0.21319322	1.28	0.246860078	1.04	0.039220713	0.17	-1.77195684	0.17	-1.77195684
August 28, 2024	0.17	-1.77195684	0.728	-0.31745423	0.43	-0.83701755	0.581	-0.54300452	0.17	-1.77195684	0.17	-1.77195684
September 11, 2024	0.583	-0.53956809	0.747	-0.29169009	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
September 25, 2024	3.08	1.124929597	3.23	1.172482137	0.33	-1.10866262	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
October 9, 2024	1.83	0.604315967	3.37	1.214912744	7.90	2.066862759	1.22	0.198850859	0.588	-0.53102833	0.364	-1.01060141
October 23, 2024	1.85	0.615185639	3.79	1.332366019	3.22	1.16938136	1.31	0.270027137	0.38	-0.95711273	0.17	-1.77195684
November 6, 2024	15.30	2.727852828	6.02	1.795087259	3.60	1.280933845	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
November 20, 2024	2.93	1.075002423	1.26	0.231111721	1.31	0.270027137	0.38	-0.98082925	0.17	-1.77195684	0.17	-1.77195684
December 4, 2024	0.17	-1.77195684	0.17	-1.77195684	0.54	-0.62548853	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
December 18, 2024	0.17	-1.77195684	0.17	-1.77195684	0.43	-0.83471074	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
Mean		-0.99135029		-0.3119024		-0.66106948		-1.21492891		-1.59450519		-1.74267394
Standard Deviation Squared		1.523757757		1.02239188		1.11006713		0.542297196		0.142770847		0.022294696
Test Statistic		-0.74763886		0.123439442		-0.39284394		-1.09766986		-2.87647569		-1.43343014
Degrees of Freedom		36.5		39.0		41.0		57.2		82.8		101.0
Table 7-62		3.551		3.551		3.551		3.46		3.46		3.373
Number of Samples		26		26		26		26		26		26
Number of samples -1		25		25		25		25		25		25
IF TABLE 7-62 VALUE IS > Test Statistic there is no significant increase in concentration at that monitor												
paragraph 2	logarithm of sample result											
paragraph 3	mean of sample result logarithms											
paragraph 4	square of standard deviation of sample result logarithms (S ₁ ² , 3YR or S ₂ ² , ThisYR)											
paragraph 5	test statistic (T), where T = (Y - X) / Sqrt (S ₁ ² /m + S ₂ ² /n) Y = Paragraph 3 (this worksheet) X = Paragraph 3 (3YR worksheet) S ₁ = Paragraph 4 (3YR worksheet) S ₂ = Paragraph 4 (this worksheet) m = number of samples (3YR worksheet) n = number of samples (this worksheet)											
Paragraph 6	Degrees of freedom (v), where v = [(S ₁ ² /m + S ₂ ² /n) ² / (S ₁ ² /m) ² / (m-1) + (S ₂ ² /n) ² / (n-1)]											
Paragraph 7	Table 7-62 Column 2											