

**Annual Ambient Monitoring Report Petrochemicals Industry Standard,
2023 Reporting Year**

DPCC Average 1,3 Butadiene Concentrations:

Monitor #	Location	2020	2021	2022	2023
1	E 0383543 N 4755905	0.60	0.47	1.12	0.73
2	E 0383543 N 4755905	2.19	0.97	1.00	1.08
3	E 0384093 N 4755833	1.07	0.60	1.24	1.41
4	E 0383953 N 4755328	0.63	0.37	1.19	0.82
5	E 0383589 N 4755252	0.94	0.35	0.40	0.40
6	E 0383213 N 4755589	0.20	0.17	0.22	0.36

DPCC Monitor Location Map:





2023 1,3 Butadiene Monitoring Results

Diamond Petrochemicals Canada Corporation: 1,3-Butadiene Fenceline Monitoring - 2023

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 21,2022	January 4, 2023	<0.33	December 21,2022	January 4, 2023	<0.33	December 21,2022	January 4, 2023	<0.33
January 4, 2023	January 18, 2023	<0.33	January 4, 2023	January 18, 2023	0.698	January 4, 2023	January 18, 2023	<0.33
January 18, 2023	February 1, 2023	<0.34	January 18, 2023	February 1, 2023	0.768	January 18, 2023	February 1, 2023	0.359
February 1, 2023	February 15, 2023	<0.34	February 1, 2023	February 15, 2023	0.895	February 1, 2023	February 15, 2023	0.537
February 15, 2023	March 1, 2023	0.673	February 15, 2023	March 1, 2023	0.750	February 15, 2023	March 1, 2023	0.409
March 1, 2023	March 15, 2023	<0.34	March 1, 2023	March 15, 2023	<0.34	March 1, 2023	March 15, 2023	0.992
March 15, 2023	March 29, 2023	<0.34	March 15, 2023	March 29, 2023	0.472	March 15, 2023	March 29, 2023	0.581
March 29, 2023	April 12, 2023	0.637	March 29, 2023	April 12, 2023	1.85	March 29, 2023	April 12, 2023	1.40
April 12, 2023	April 26, 2023	0.783	April 12, 2023	April 26, 2023	1.36	April 12, 2023	April 26, 2023	5.92
April 26, 2023	May 10, 2023	2.38	April 26, 2023	May 10, 2023	4.87	April 26, 2023	May 10, 2023	6.01
May 10, 2023	May 24, 2023	0.565	May 10, 2023	May 24, 2023	1.18	May 10, 2023	May 24, 2023	3.69
May 24, 2023	June 7, 2023	0.609	May 24, 2023	June 7, 2023	1.17	May 24, 2023	June 7, 2023	4.78
June 7, 2023	June 21, 2023	1.15	June 7, 2023	June 21, 2023	0.781	June 7, 2023	June 21, 2023	2.59
June 21, 2023	July 5, 2023	0.509	June 21, 2023	July 5, 2023	1.05	June 21, 2023	July 5, 2023	0.88
July 5, 2023	July 19, 2023	2.31	July 5, 2023	July 19, 2023	1.70	July 5, 2023	July 19, 2023	1.49
July 19, 2023	August 2, 2023	0.942	July 19, 2023	August 2, 2023	1.59	July 19, 2023	August 2, 2023	0.606
August 2, 2023	August 16, 2023	<0.33	August 2, 2023	August 16, 2023	<0.33	August 2, 2023	August 16, 2023	0.744
August 16, 2023	August 30, 2023	1.13	August 16, 2023	August 30, 2023	1.26	August 16, 2023	August 30, 2023	0.845
August 30, 2023	September 13, 2023	<0.33	August 30, 2023	September 13, 2023	<0.33	August 30, 2023	September 13, 2023	<0.33
September 13, 2023	September 27, 2023	2.87	September 13, 2023	September 27, 2023	1.57	September 13, 2023	September 27, 2023	0.708
September 27, 2023	October 11, 2023	0.357	September 27, 2023	October 11, 2023	0.548	September 27, 2023	October 11, 2023	0.639
October 11, 2023	October 25, 2023	0.918	October 11, 2023	October 25, 2023	1.07	October 11, 2023	October 25, 2023	<0.33
October 25, 2023	November 8, 2023	0.367	October 25, 2023	November 8, 2023	0.718	October 25, 2023	November 8, 2023	0.342
November 8, 2023	November 22, 2023	1.06	November 8, 2023	November 22, 2023	1.76	November 8, 2023	November 22, 2023	1.41
November 22, 2023	December 6, 2023	<0.34	November 22, 2023	December 6, 2023	0.762	November 22, 2023	December 6, 2023	0.372
December 6, 2023	December 20, 2023	<0.34	December 6, 2023	December 20, 2023	0.489	December 6, 2023	December 20, 2023	0.717
Average		0.73	Average		1.08	Average		1.41

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 21,2022	January 4, 2023	<0.33	December 21,2022	January 4, 2023	<0.33	December 21,2022	January 4, 2023	<0.33
January 4, 2023	January 18, 2023	<0.33	January 4, 2023	January 18, 2023	<0.33	January 4, 2023	January 18, 2023	<0.33
January 18, 2023	February 1, 2023	<0.34	January 18, 2023	February 1, 2023	<0.34	January 18, 2023	February 1, 2023	<0.34
February 1, 2023	February 15, 2023	<0.34	February 1, 2023	February 15, 2023	<0.34	February 1, 2023	February 15, 2023	<0.34
February 15, 2023	March 1, 2023	<0.34	February 15, 2023	March 1, 2023	<0.34	February 15, 2023	March 1, 2023	<0.34
March 1, 2023	March 15, 2023	0.967	March 1, 2023	March 15, 2023	0.398	March 1, 2023	March 15, 2023	<0.34
March 15, 2023	March 29, 2023	<0.34	March 15, 2023	March 29, 2023	<0.34	March 15, 2023	March 29, 2023	<0.34
March 29, 2023	April 12, 2023	0.464	March 29, 2023	April 12, 2023	<0.33	March 29, 2023	April 12, 2023	<0.33
April 12, 2023	April 26, 2023	1.13	April 12, 2023	April 26, 2023	0.383	April 12, 2023	April 26, 2023	<0.33
April 26, 2023	May 10, 2023	1.69	April 26, 2023	May 10, 2023	0.904	April 26, 2023	May 10, 2023	<0.33
May 10, 2023	May 24, 2023	1.46	May 10, 2023	May 24, 2023	0.441	May 10, 2023	May 24, 2023	<0.33
May 24, 2023	June 7, 2023	5.26	May 24, 2023	June 7, 2023	1.30	May 24, 2023	June 7, 2023	<0.33
June 7, 2023	June 21, 2023	2.20	June 7, 2023	June 21, 2023	1.27	June 7, 2023	June 21, 2023	<0.33
June 21, 2023	July 5, 2023	0.46	June 21, 2023	July 5, 2023	0.345	June 21, 2023	July 5, 2023	<0.33
July 5, 2023	July 19, 2023	0.458	July 5, 2023	July 19, 2023	<0.33	July 5, 2023	July 19, 2023	<0.33
July 19, 2023	August 2, 2023	<0.33	July 19, 2023	August 2, 2023	<0.33	July 19, 2023	August 2, 2023	<0.33
August 2, 2023	August 16, 2023	<0.33	August 2, 2023	August 16, 2023	<0.33	August 2, 2023	August 16, 2023	<0.33
August 16, 2023	August 30, 2023	0.494	August 16, 2023	August 30, 2023	0.552	August 16, 2023	August 30, 2023	<0.33
August 30, 2023	September 13, 2023	0.486	August 30, 2023	September 13, 2023	<0.33	August 30, 2023	September 13, 2023	<0.33
September 13, 2023	September 27, 2023	3.99	September 13, 2023	September 27, 2023	1.87	September 13, 2023	September 27, 2023	5.09
September 27, 2023	October 11, 2023	<0.33	September 27, 2023	October 11, 2023	<0.33	September 27, 2023	October 11, 2023	<0.33
October 11, 2023	October 25, 2023	<0.33	October 11, 2023	October 25, 2023	<0.33	October 11, 2023	October 25, 2023	<0.33
October 25, 2023	November 8, 2023	<0.33	October 25, 2023	November 8, 2023	<0.33	October 25, 2023	November 8, 2023	<0.33
November 8, 2023	November 22, 2023	<0.33	November 8, 2023	November 22, 2023	<0.33	November 8, 2023	November 22, 2023	<0.33
November 22, 2023	December 6, 2023	<0.34	November 22, 2023	December 6, 2023	<0.34	November 22, 2023	December 6, 2023	<0.34
December 6, 2023	December 20, 2023	<0.34	December 6, 2023	December 20, 2023	<0.34	December 6, 2023	December 20, 2023	<0.34
Average		0.82	Average		0.40	Average		0.36

2023 Statistical Analysis Calculations

There is no statistically significant increase in the concentrations of 1,3 Butadiene for the 2023 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												
2023 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 4, 2023	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 18, 2023	0.17	-1.77195684	0.698	-0.35953618	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
February 1, 2023	0.17	-1.77195684	0.768	-0.26396555	0.36	-1.02443289	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
February 15, 2023	0.17	-1.77195684	0.895	-0.11093156	0.54	-0.62175718	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
March 1, 2023	0.673	-0.39600995	0.75	-0.28768207	0.41	-0.89404012	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
March 15, 2023	0.17	-1.77195684	0.17	-1.77195684	0.992	-0.00803217	0.967	-0.03355678	0.398	-0.92130327	0.17	-1.77195684
March 29, 2023	0.17	-1.77195684	0.47	-0.75077629	0.58	-0.54300452	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
April 12, 2023	0.637	-0.45098562	1.85	0.615185639	1.40	0.336472237	0.464	-0.76787073	0.17	-1.77195684	0.17	-1.77195684
April 26, 2023	0.783	-0.24462258	1.36	0.3074847	5.92	1.778336449	1.13	0.122217633	0.383	-0.95972029	0.17	-1.77195684
May 10, 2023	2.38	0.867100488	4.87	1.583093937	6.01	1.793424749	1.69	0.524728529	0.904	-0.10092592	0.17	-1.77195684
May 24, 2023	0.565	-0.57092955	1.18	0.165514438	3.69	1.305626458	1.46	0.378436436	0.441	-0.8187104	0.17	-1.77195684
June 7, 2023	0.609	-0.49593701	1.17	0.157003749	4.78	1.564440547	5.26	1.660131027	1.3	0.262364264	0.17	-1.77195684
June 21, 2023	1.15	0.139761942	0.78	-0.24718013	2.59	0.951657876	2.2	0.78845736	1.27	0.2390169	0.17	-1.77195684
July 5, 2023	0.509	-0.67530726	1.05	0.048790164	0.88	-0.13010869	0.46	-0.77652879	0.345	-1.06421086	0.17	-1.77195684
July 19, 2023	2.31	0.837247525	1.70	0.530628251	1.49	0.39877612	0.46	-0.78088609	0.17	-1.77195684	0.17	-1.77195684
August 2, 2023	0.942	-0.05975	1.59	0.463734016	0.606	-0.50087529	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
August 16, 2023	0.17	-1.77195684	0.17	-1.77195684	0.74	-0.29571424	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
August 30, 2023	1.13	0.122217633	1.26	0.231111721	0.85	-0.16841865	0.494	-0.70521976	0.552	-0.59420723	0.17	-1.77195684
September 13, 2023	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684	0.486	-0.72154666	0.17	-1.77195684	0.17	-1.77195684
September 27, 2023	2.87	1.05431203	1.57	0.451075619	0.71	-0.34531119	3.99	1.383791231	1.87	0.625938431	5.09	1.627277831
October 11, 2023	0.36	-1.0300195	0.55	-0.60147999	0.64	-0.44785082	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
October 25, 2023	0.92	-0.08555789	1.07	0.067658648	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
November 8, 2023	0.37	-1.00239343	0.72	-0.33128571	0.34	-1.07294454	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
November 22, 2023	1.06	0.058268908	1.76	0.565313809	1.41	0.343589704	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
December 6, 2023	0.17	-1.77195684	0.76	-0.27180872	0.37	-0.98886142	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
December 20, 2023	0.17	-1.77195684	0.49	-0.71539279	0.72	-0.33267944	0.17	-1.77195684	0.17	-1.77195684	0.17	-1.77195684
Mean		-0.7558528		-0.22466429		-0.23036671		-0.91289394		-1.28673172		-1.64121705
Standard Deviation Squared		0.906843049		0.693369412		1.139195786		1.233497655		0.591328477		0.444415245
Test Statistic		0.463465004		-0.29540317		1.547426932		0.288243893		-0.81906096		0.225873402
Degrees of Freedom		43.7		51.7		38.9		36.6		49.1		28.7
Table 7-62		3.551		3.551		3.551		3.551		3.46		3.659
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	logarith 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) / (S ₁ ² /m) / (m-1) + (S ₂ ² /n) / (n-1)]											
Paragraph 7	Table 7-62 Column 2											