



Tracking and Reducing Chemicals in Toronto

2024-Data ChemTRAC Report

Table of Contents

Chapter 1: Background	4
Chapter 2: ChemTRAC Data Highlights – 2024.....	5
Facilities that reported in 2025.	5
Facilities by Industrial Sector.....	6
Priority Substances Manufactured, Processed or Used.....	7
Priority Substances Released to the Environment	8
Health Ranking of Substances	9
Chapter 3: Distribution of Facilities in Toronto	12
Chapter 4: Industrial Sector Quick Facts	16
References	17
Appendix	17
Toxic Equivalent Potential	17

List of Tables

Table 1: Number of facilities that reported 2024 operational data.....	6
Table 2: Total amounts of priority substances Manufactured (M), Processed (P), and Otherwise used (O).	7
Table 3: Total amounts of priority substances released to the air in 2024.....	8
Table 4: Reported quantities of priority substances released to air in 2024 ranked by Cancer toxic equivalent potential (TEP) score.....	9
Table 5: Reported quantities of priority substances released to air in 2024 ranked by Non-Cancer toxic equivalent potential (TEP) score.....	10
Table 6: Sector contribution to Total Release (by mass), Cancer TEP and Non-Cancer TEP in 2024.....	11
Table 7: Summary of data reported by industrial sector.	16
Table 8: Cancer TEP values for the ChemTRAC priority substances.....	17
Table 9: Non-Cancer TEP values for the ChemTRAC priority substances.....	18

List of Figures

Figure 1: Facilities reporting status in 2025 for their 2024 operations.	5
Figure 2: Location of facilities that reported data in 2024.....	12
Figure 3: Distribution of reporting facilities in 2024 and socioeconomic status as represented by proportion of residents living at or below the 2017 Low Income Measure (LIM)	13
Figure 4: Location of 2024 air releases by Cancer Toxic Equivalent Potential.....	14
Figure 5: Location of 2024 air releases by Non-Cancer Toxic Equivalent Potential.	15

Chapter 1: Background

Environmental factors can affect people's health, including chemicals released in the air, water and land. Exposure to chemicals can happen both outdoors and indoors, at home or in the workplace. Long-term exposure to harmful substances may be linked to a range of health problems, sometimes even when at low levels.

Through evidence-based research, Toronto Public Health identified 25 priority substances with adverse impacts on health as being a priority for reduction in the city. Toronto's Environmental Reporting and Disclosure Bylaw (Municipal Code Chapter 423) ("the Bylaw") lists the priority substances that certain businesses must report to the City of Toronto. The ChemTRAC program facilitates this reporting from the commercial and industrial sources in Toronto. For background on the program and reasons for identifying these substances of public health concern, please read the [Toronto Public Health's Environmental Reporting, Disclosure and Innovation: A Proposed Program for the City of Toronto](#) technical report published in November 2008. .

ChemTRAC's database is an inventory of information reported to the City of Toronto about local air pollution sources, and the manufacture, use, and release of the 25 priority substances. ChemTRAC collects reports from businesses and institutions in Toronto to keep this database up to date to inform Toronto residents, businesses and first responders, and to support researchers. Anyone doing research that wants to work with the data can find it on the City's [OpenData portal](#) and can contact ChemTRAC for support on its context and our methodology.

Toronto Public Health paused ChemTRAC's data collection in 2020, during its COVID-19 response, restarting the program in 2025. The 2019 annual report on the 2018 dataset was the last report released. This new report contains information from facilities operating in Toronto during the 2024 calendar year.

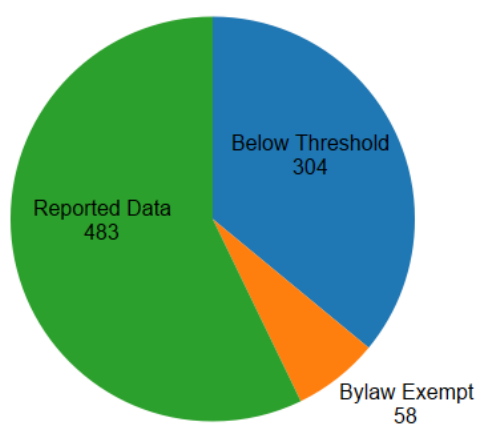
For more information about ChemTRAC, including a list of the 25 priority substances and their reporting requirements, please visit <https://www.toronto.ca/chemtrac/>.

Chapter 2: ChemTRAC Data Highlights – 2024

Facilities that reported in 2025.

Of the 845 facilities that reported to ChemTRAC with information about their 2024 operations, 304 facilities reported being below the Bylaw's reporting thresholds, and 58 reported being exempt from the Bylaw's specific requirements. In total, 483 facilities reported data on their use and releases of ChemTRAC's priority substances (Figure 1).

Figure 1: Facilities reporting status in 2025 for their 2024 operations.



Facilities by Industrial Sector

A range of types of businesses located in Toronto, representing different industrial sectors, potentially use and release the 25 priority substances that are covered under the Bylaw. Table 1 shows the number of facilities within each industrial sector that reported information on their manufacture, use and release of these substances for their operations in 2024.

Table 1: Number of facilities that reported 2024 operational data

Industrial Sector	Number of facilities
Automotive repair and maintenance (Autobody Shops)	74
Chemical wholesale	2
Computer and electronic product manufacturing	5
Dry cleaning and laundry services	30
Electrical equipment, appliance and component manufacturing	10
Fabricated metal product manufacturing	50
Food, beverage and tobacco products manufacturing	46
Funeral services	5
Manufacturing	88
Medical and diagnostic laboratories	3
Non-metallic mineral product manufacturing	22
Paper product manufacturing	4
Power generation	2
Primary metal manufacturing	10
Printing and publishing	27
Waste management and remediation services	11
Water and wastewater treatment	7
Wood products manufacturing	23
All others	64
Total	483

Priority Substances Manufactured, Processed or Used

In 2024, approximately 67,000 tonnes of the Bylaw's priority substances were reported as released to Toronto's air as shown in Table 2.

Table 2: Total amounts of priority substances Manufactured (M), Processed (P), and Otherwise used (O).

Priority Substance	Manufactured (kg)	Processed (kg)	Otherwise Used (kg)	Sum (MPO) (kg)
Volatile Organic Compounds (VOCs)	729,229	55,278,097	4,309,175	60,316,501
Nitrogen Oxides (NOx)	1,625,842	105	0	1,625,947
Manganese	0	1,615,532	2,927	1,618,459
Nickel	0	1,117,917	0	1,117,917
Non-Hexavalent Chromium	0	899,948	0	899,948
Particulate Matter <2.5 µm (PM 2.5)	369,979	237,063	4	607,046
Lead	0	550,079	3,058	553,137
Dichloromethane	0	228,887	37,975	266,862
Perchloroethylene	0	84,931	6,615	91,546
Hexavalent Chromium	49	60,488	0	60,537
Formaldehyde	8,795	5,744	14,066	28,605
Polycyclic Aromatic Hydrocarbons (PAHs)	562	7,831	512	8,905
Trichloroethylene	0	286	3,935	4,221
Cadmium	0	2,686	10	2,696
Chloroform	136	971	1,500	2,607
Acetaldehyde	1,492	0	0	1,492
Mercury	0	115	59	174
Benzene	106	0	0	106
Vinyl Chloride	-	-	-	-
Carbon tetrachloride	-	-	-	-
Acrolein	-	-	-	-
1,4- Dichloro Benzene	-	-	-	-
1,3-Butadiene	-	-	-	-
1,2-Dichloroethane	-	-	-	-
1,2-Dibromoethane	-	-	-	-
Total	2,736,190	60,090,680	4,379,836	67,206,706

(-) represents a null value.

Priority Substances Released to the Environment

The total amounts released to air represent a small part (about 10 per cent overall) of the total amount reported as manufactured, processed or used by facilities. This proportion varies for each substance. Table 3 below shows the total amounts released to air for each substance in 2024.

Volatile organic compounds (VOCs), Nitrogen Oxides (NO_x), and PM_{2.5} represent the largest reported amounts released to the air.

Table 3: Total amounts of priority substances released to the air in 2024.

Priority Substance	Released to Air (kg)
Volatile Organic Compounds (VOCs)	3,296,360
Nitrogen Oxides (NO _x)	1,624,274
Particulate Matter <2.5 µm (PM 2.5)	256,209
Formaldehyde	15,462
Dichloromethane	7,291
Perchloroethylene	2,163
Polycyclic Aromatic Hydrocarbons (PAHs)	1,952
Acetaldehyde	1,492
Manganese	716
Chloroform	424
Nickel	400
Non-Hexavalent Chromium	365
Trichloroethylene	331
Lead	197
Hexavalent Chromium	82
Mercury	13
Cadmium	2
Total	5,207,733

Health Ranking of Substances

The following two tables list the priority substances ranked using an approach that compares them according to their amounts in air and their toxicity, giving an indication of the relative health risk. The Toxic Equivalency Potential approach used for this ranking is described in greater detail in the Appendix.

Table 4: Reported quantities of priority substances released to air in 2024 ranked by Cancer toxic equivalent potential (TEP) score.

Priority Substance	Released to Air (kg)	Cancer TEP value	Cancer TEP Score
Polycyclic Aromatic Hydrocarbons (PAHs)	1,952	6,300.00	12,297,600
Cadmium	2	26,000.00	52,000
Hexavalent Chromium	82	130.00	10,660
Lead	197	28.00	5,516
Perchloroethylene	2,163	0.96	2,076
Dichloromethane	7,291	0.20	1,458
Nickel	400	2.80	1,120
Chloroform	424	1.60	678
Formaldehyde	15,462	0.02	309
Trichloroethylene	331	0.05	17
Acetaldehyde	1,492	0.01	15

Table 5: Reported quantities of priority substances released to air in 2024 ranked by Non-Cancer toxic equivalent potential (TEP) score.

Priority Substance	Released to Air (kg)	Non-Cancer TEP value	Non-Cancer TEP Score
Lead	197	580,000.00	114,260,000
Mercury	13	5,000,000.00	65,000,000
Particulate Matter <2.5 µm (PM 2.5)	256,209	17.00	4,355,553
Cadmium	2	1,900,000.00	3,800,000
Nitrogen Oxides (NOx)	1,624,274	2.20	3,573,403
Volatile Organic Compounds (VOCs)	3,296,360	1.00	3,296,360
Chromium (total)*	447	3,100	1,385,700
Nickel	400	3,200.00	1,280,000
Manganese	716	780	558,480
Formaldehyde	15,462	16	247,392
Perchloroethylene	2,163	65	140,595
Dichloromethane	7,291	7.0	51,037
Acetaldehyde	1,492	9.3	13,876
Chloroform	424	14	5,936
Trichloroethylene	331	0.63	209

* Includes both hexavalent and non-hexavalent chromium

Industry Contribution to Total Release

The data reported to ChemTRAC for 2024 operations is summarized below by the different industries the facilities work in. Table 6 shows the percentage contribution by each industry sector to: 1) total release by mass, 2) Cancer TEP, and 3) Non-Cancer TEP.

Table 6: Sector contribution to Total Release (by mass), Cancer TEP and Non-Cancer TEP in 2024.

Sector ^a	Percent Contribution to Total Release (by mass) ^b	Percent Contribution to Cancer TEP ^b	Percent Contribution to Non-Cancer TEP ^b
Automotive (Autobody Repair)	<1	<1	<1
Chemical Wholesale	<1	<1	0
Computer & Electronic Product Manufacturing	<1	<1	0
Dry Cleaning	<1	<1	<1
Electrical Equipment, Appliance/Component Manufacturing	<1	<1	<1
Fabricated Metal Product Manufacturing	2.1	<1	1
Food & Beverage	18	<1	1
Funeral Services	<1	<1	18
Manufacturing	41	26	4
Medical (Laboratories)	<1	<1	<1
Non-Metallic Mineral Product Manufacturing	2.7	<1	9.4
Paper Product Manufacturing	5	<1	<1
Power Generation	8	<1	<1
Primary Metal Manufacturing	1.2	<1	48
Printing	4.8	<1	<1
Waste Management	1.7	73	<1
Wastewater Treatment	5.4	<1	16
Wood Industries	2.5	0	<1
All other	5.4	0	1

^a Sectors are defined based on the North American Industry Classification System (NAICS)

^b <1 indicates a value less than one

Chapter 3: Distribution of Facilities in Toronto

Figure 2 shows the location of facilities that reported data to ChemTRAC for the 2024 reporting year. These facilities are mainly located in areas classified as “Primarily Non-Residential” and are not uniformly distributed across the city. The map below shows the areas of the city where these facilities tend to be found. There is a higher density of facilities on the northwest part of the city, north of 401 highway and west of Dufferin St., as well as East of the DVP. There is another cluster around Dundas St. and Kipling Ave.

Figure 2: Location of facilities that reported data in 2024.

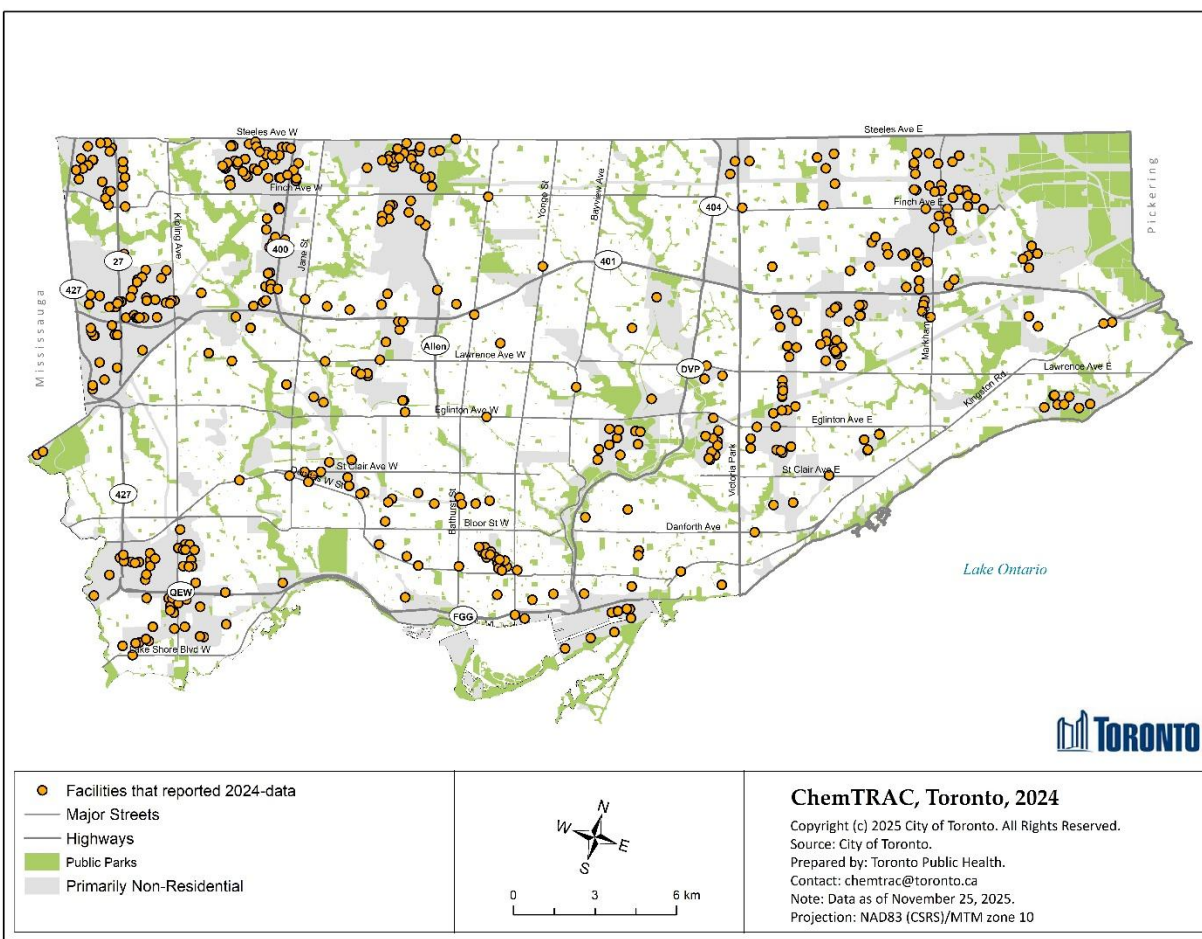


Figure 3 shows the location of the reporting facilities over a map of the Low Income Measure (LIM)¹. The LIM includes households with an income that is in the bottom half of the median after-tax income in Canada. Around a quarter of the reporting facilities are located in areas of the city where more than 30% of the residents are below the LIM. Just 14% of the facilities are in areas where less than 15% of the residents are below the LIM.

Figure 3: Distribution of reporting facilities in 2024 and socioeconomic status as represented by proportion of residents living at or below the 2017 Low Income Measure (LIM).

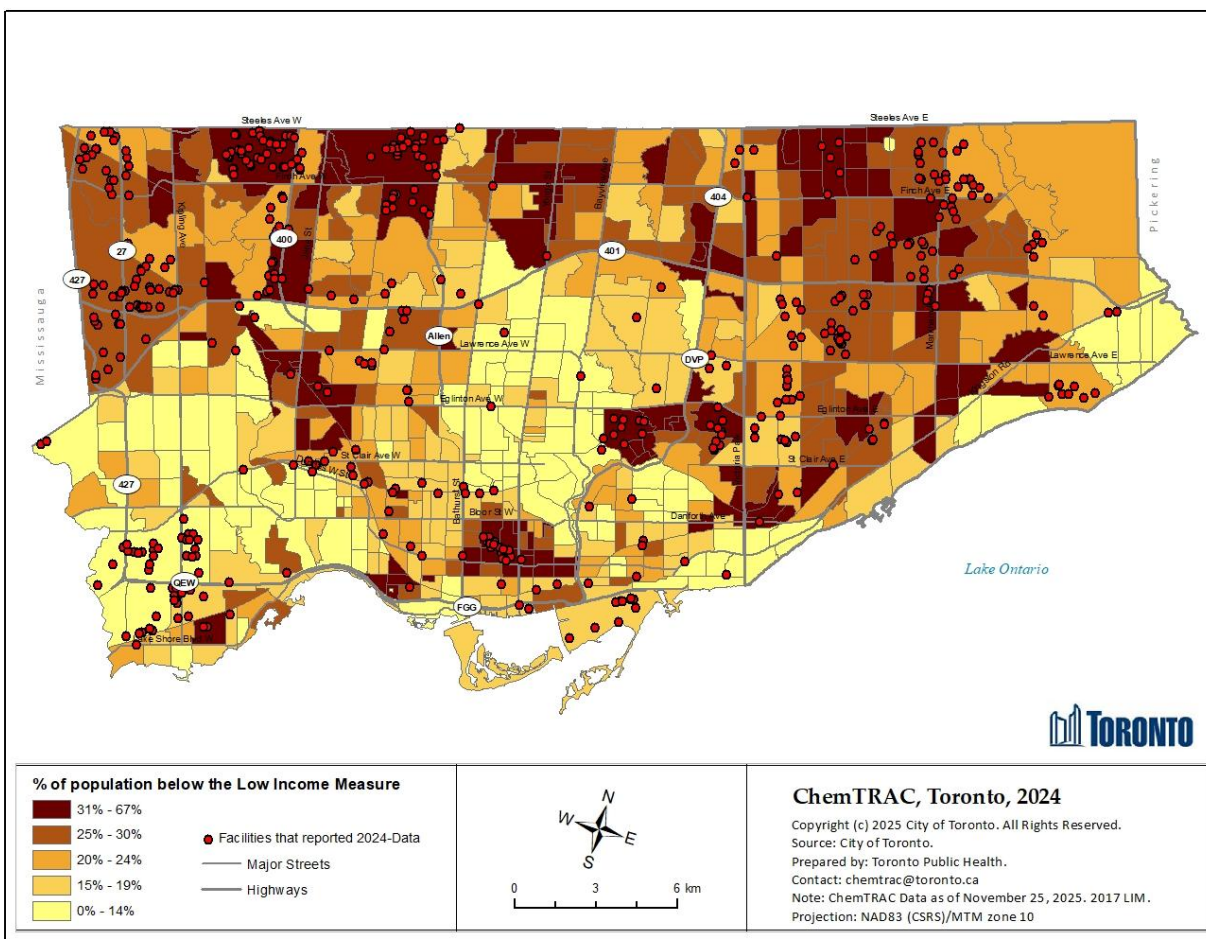


Figure 4 shows a map of the total Cancer Toxic Equivalent Potential (TEP) of the reporting facilities. TEPs allow the toxicity of very different substances to be compared on the same scale. A bigger circle means a higher potential for adverse health effects.

To do this, the toxicity of each substance is scaled relative to benzene, a chemical with a well-known cancer toxicity profile. The size of the circles represents the number of kilograms of benzene that would need to be emitted to have the same potential toxicity as the mixture of reported emissions from each facility.

Figure 4: Location of 2024 air releases by Cancer Toxic Equivalent Potential.

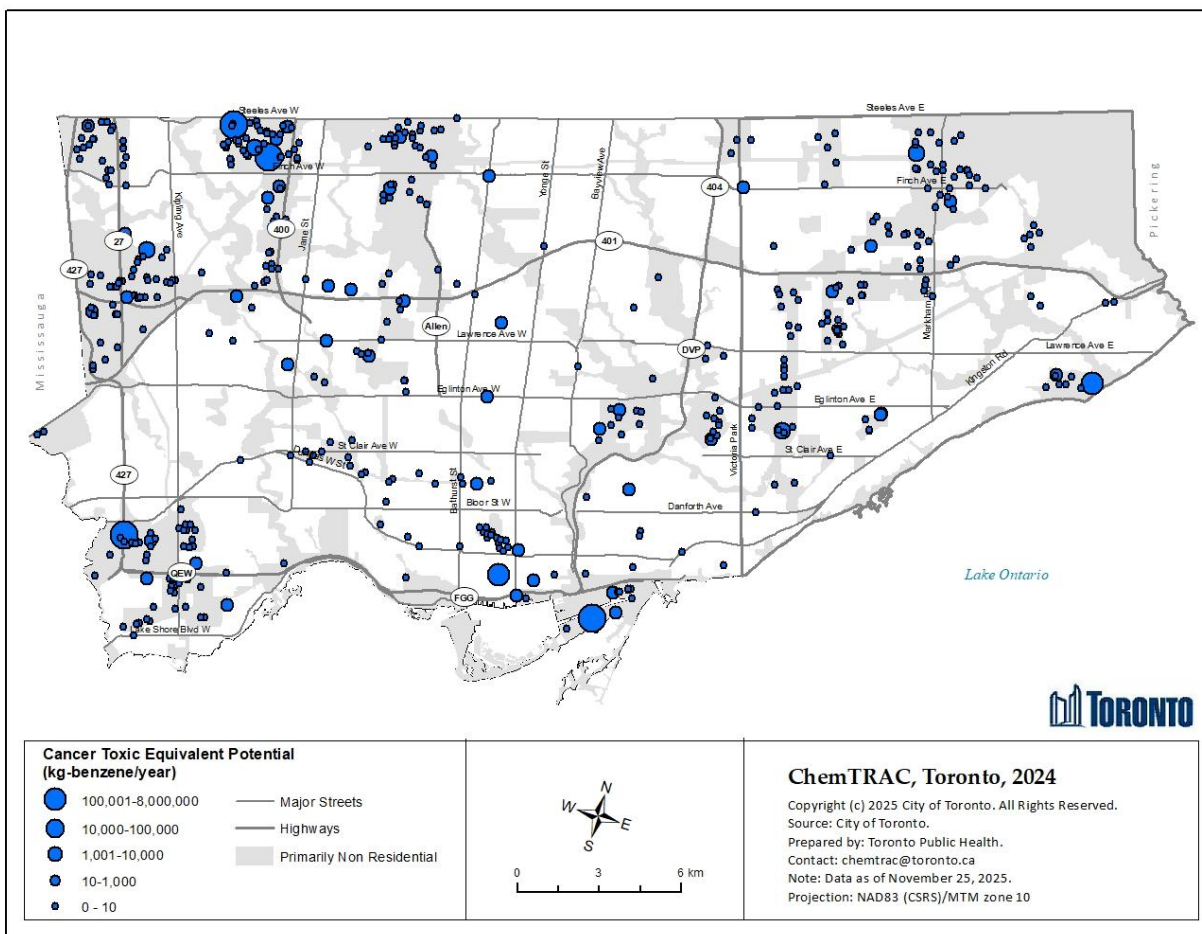
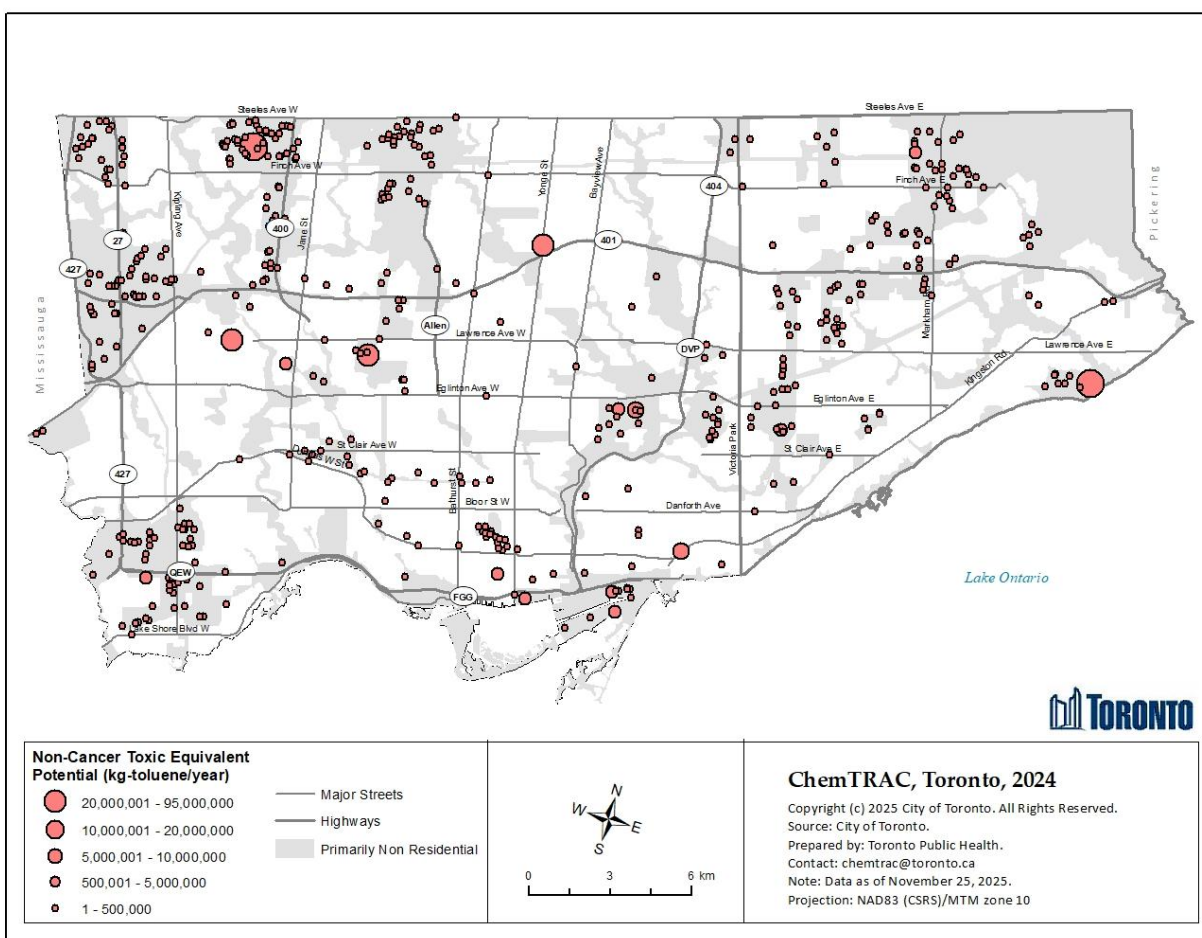


Figure 5 presents a map of the total Non-Cancer Toxic Equivalent Potential (TEP) of the reporting facilities. TEPs allow the toxicity of very different substances to be compared in the same scale. A bigger circle means a higher potential for adverse health effects.

To do this, the toxicity of each substance is scaled relative to toluene, a solvent that does not contribute to cancer risks. The size of the circles represents the amount of toluene that would need to be emitted to have the same potential toxicity as the mixture of reported emissions from each facility.

Figure 5: Location of 2024 air releases by Non-Cancer Toxic Equivalent Potential.



Chapter 4: Industrial Sector Quick Facts

The 2024 data reported is summarized by industrial sector in Table 7. Manufacturing is the industrial sector that contributes most to air releases, about 2,000 tonnes. Food, power generation and wastewater treatment are other sectors that contribute relatively more to air releases than come from other sectors.

Table 7: Summary of data reported by industrial sector.

Industrial Sector	# of facilities	Total # of employees	# of Substances reported	MPO (tonnes)	Total Releases (kg)
Automotive	74	121	4	46	30,722
Chemical Wholesale	2	3	2	88	2,272
Computer & Elect. Prod. Mfg.	5	15	7	44	15,193
Dry Cleaning	30	53	7	58	34,089
Electrical Equip, Appl/Comp Mfg.	10	28	10	96	21,943
Fabricated Metal Prod Mfg.	50	146	9	3,965	110,231
Food	46	110	5	1,168	906,068
Funeral Services	5	7	3	0	119
Manufacturing	88	213	16	57,603	2,131,07
Medical	3	5	2	22	10,299
Non-Metallic Mineral Prod Mfg.	22	44	8	812	140,873
Paper Prod Mfg.	4	14	5	262	259,016
Power Generation	2	8	8	426	423,462
Primary Metal Mfg.	10	30	8	709	64,852
Printing	27	46	17	304	249,073
Waste Management	11	30	10	418	89,980
Wastewater Treatment	7	35	8	317	313,300
Wood Industries	23	48	6	140	128,532
All other	64	134	12	728	279,836
Total	483	1,090	24	67,207	5,210,93

The manufacturing sector is also the main contributor to the MPO amounts (about 57 tonnes), followed by the metal products manufacturing and the food sectors. Please refer to toronto.ca/chemtrac for more information about industrial sectors.

References

¹ Statistics Canada (2019). Taxfiler (T1FF) – Income of Individuals, 2017 (Table I-13).

Appendix

Toxic Equivalent Potential

The health impact of a toxic chemical depends on two things: how harmful the chemical is and how much of it is in the environment. The method to compare different chemicals is something called the Toxic Equivalency Potential (TEP).

TEP works by taking the amount of a chemical and multiplying it by a number that represents how toxic that chemical is (TEP value). The result is a TEP score. This score shows both how dangerous the chemical can be and how much of it is present, making it easier to compare different chemicals and understand their relative health risks.

There are two types of TEP values: one that measures cancer-related risks and another that measures non-cancer health risks. Some of the 25 priority chemicals tracked by ChemTRAC can cause both types of health effects, and so they received two separate TEP scores as shown in the below table.

Table 8: Cancer TEP values for the ChemTRAC priority substances.

Priority Substance	Cancer TEP value
PAHs	6,300.00
Cadmium	26,000.00
Hex Chromium	130.00
Lead	28.00
Perchloroethylene	0.96
Dichloromethane	0.20
Nickel	2.80
Chloroform	1.60
Formaldehyde	0.02
Trichloroethylene	0.05
Acetaldehyde	0.01

Table 9: Non-Cancer TEP values for the ChemTRAC priority substances.

Priority Substance	Non-Cancer TEP value
Lead	580,000.00
Mercury	5,000,000.00
PM 2.5	17.00
Cadmium	1,900,000.00
NOx	2.20
VOCs	1.00
Chromium (total)*	3,100
Nickel	3,200.00
Manganese	780
Formaldehyde	16
Perchloroethylene	65
Dichloromethane	7.0
Acetaldehyde	9.3
Chloroform	14
Trichloroethylene	0.63

** Includes both hexavalent and non-hexavalent chromium*