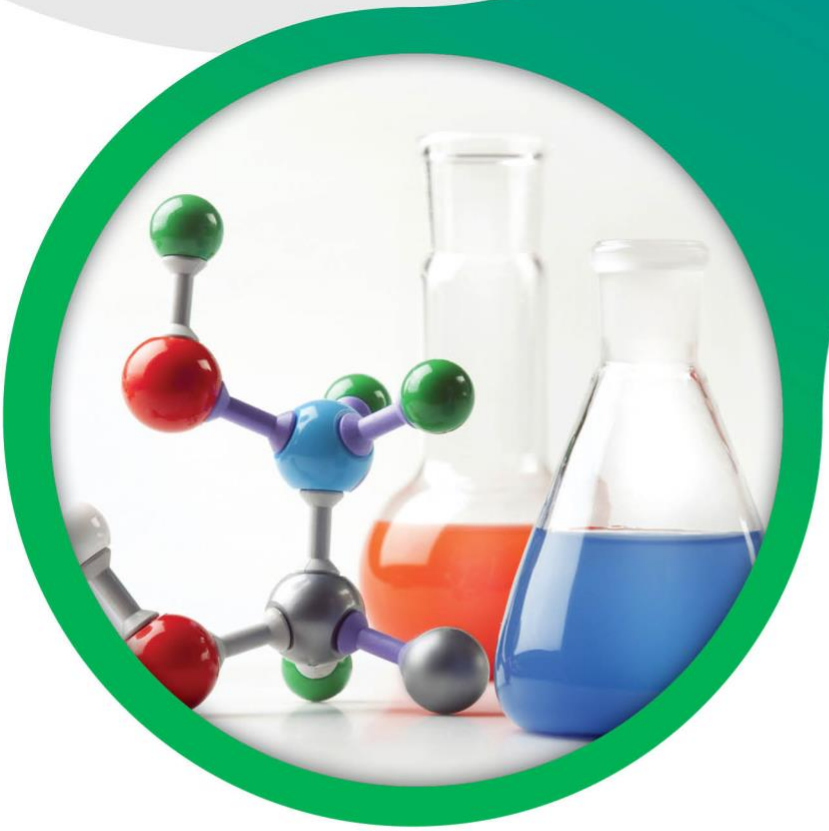
CHEMISTRY INDUSTRY ASSOCIATION OF CANADA

Economic Review of Chemistry 2025



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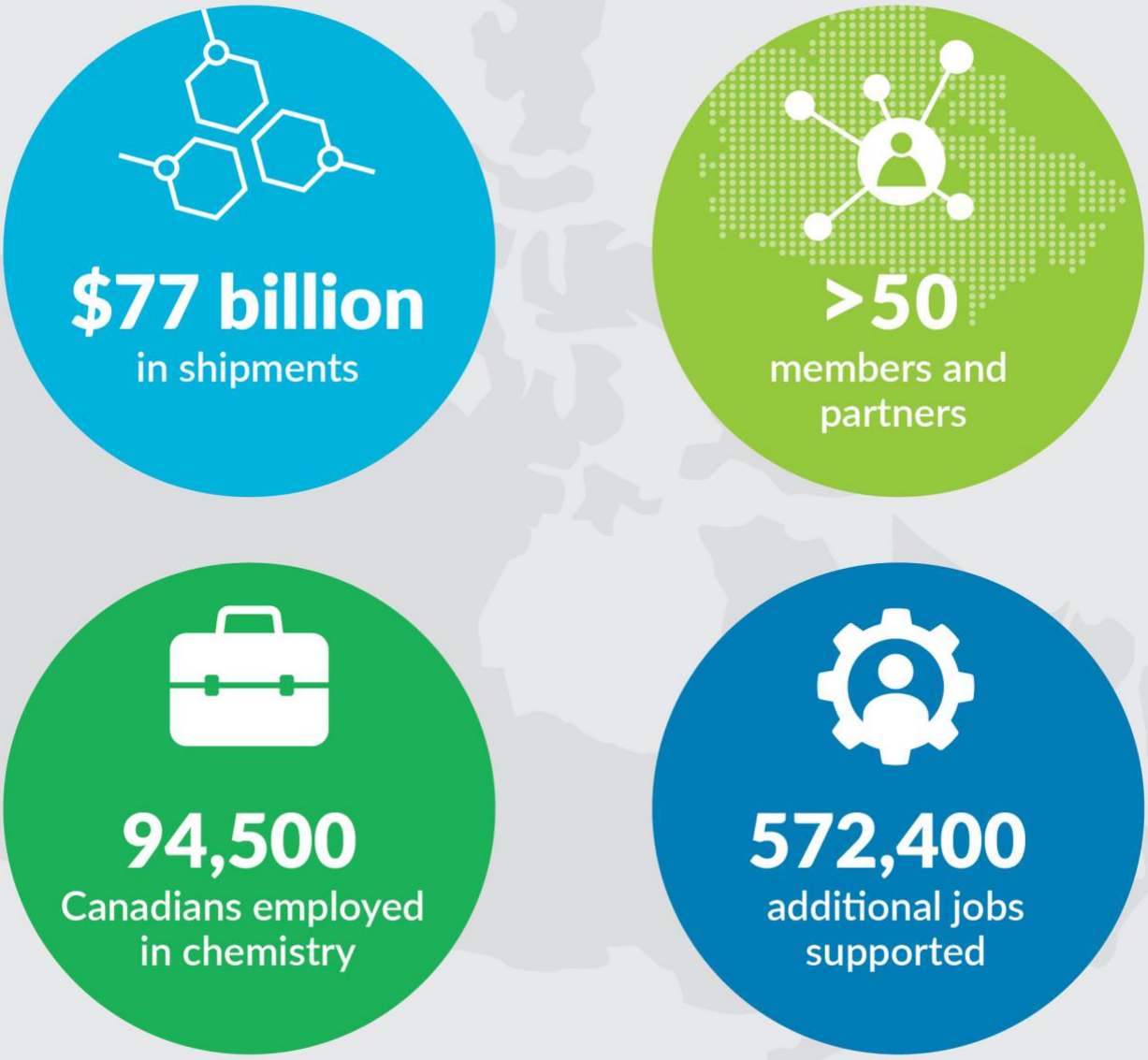

The Chemistry Industry Association of Canada (CIAC) represents Canada's **$77 billion** chemistry industry and and its more than **50 members and partners** across the country. The industry employs **94,500 Canadians** and **supports** an additional **572,400 jobs** in Canada.

Members of CIAC are signatories to Responsible Care® — the association's U.N.- recognized sustainability initiative. Responsible Care inspires its members to take actions that improve the sustainability of their operations and reduce harm throughout the entire life cycle of their products.

CHEMISTRY INDUSTRY
ASSOCIATION OF CANADA

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President's Message

I'm proud to share with you the *Chemistry Industry Association of Canada's (CIAC) 2025 Economic Review of Chemistry*. This report gives a clear picture of how important the chemistry and plastics sector is to the Canadian economy — and where we're headed.

Today, our sector is a $77 billion industry that directly employs 94,500 people and pays over $7.4 billion in wages each year. Most of our activity is based in Alberta, Ontario and Quebec, but our impact is felt right across the country — supporting over half a million additional jobs through supply chains and community investments.

In 2024, we faced a tough economic environment. Higher interest rates, weaker demand in key areas like housing and autos, and global uncertainty — especially from emerging trade tensions in the U.S. and slower growth in China — made things challenging. Despite that, our industry held steady. What helped? We have strong fundamentals: access to low-cost energy and feedstocks in Western Canada, efficient transport networks, and close ties to the U.S. market. These strengths helped keep us competitive globally. In fact, chemical exports grew by more than 7 per cent last year, and exports of industrial chemicals rose nearly 8 per cent. Even though total shipments were flat, the sector remains a leader in productivity and pay. Workers in industrial chemicals earn an average of $85,600 a year — well above the manufacturing average — and each job supports many more in other parts of the economy.

As we head into 2025, interest rates are expected to ease. That should give businesses and consumers a lift, which is incredibly important given the disruptive effects of the U.S. tariffs on Canada's broader manufacturing sector. CIAC will continue to work with governments to deliver a competitiveness framwork to future-proof Canada's economy and ensure a welcoming investment climate. Our industry is ready to grow, with a strong foundation, world-class expertise, and a commitment to safe, sustainable operations through Responsible Care®.

Aligned with **Responsible Care** — the foundational, UN-recognized sustainability initiative—the Canadian plastics industry is making significant progress in advancing sustainability and building a circular economy for plastics. The goal is to ensure this valuable resource remains within the economy and out of the natural environment. Members of our Plastics Division are committed to eliminating plastic pollution, particularly by addressing plastic resin loss during production and transportation. A key element of this commitment is **Operation Clean Sweep (OCS)**, the industry's flagship environmental stewardship program, which supports plastic resin manufacturers and handlers in adopting effective housekeeping and containment practices to prevent resin leakage.

This report and its summary highlight how chemistry and plastics aree not only a key part of today's economy — they're also essential to Canada's future success. Thank you for your continued support and partnership.

Yours sincerely,
Greg Moffatt, *President and CEO*
Chemistry Industry Association of Canada

Introduction[1]

Using data from Statistics Canada (unless otherwise stated), CIAC's 2025 Economic Review of Chemistry provides a statistical review of key industry indicators including shipments, imports, exports, and employment for the year 2024. The report also includes a section on specialty chemicals, statistics for the key provinces of Quebec, Ontario and Alberta, and for the segments of the industry of primary interest to CIAC members.

This report is prepared by the Association's Business and Transportation team. The team provides ongoing economic analysis of government policy initiatives, business trends and changing industry dynamics.

Industrial Classification

Industries in Canada are classified according to the 2017 North American Industrial Classification System (NAICS). This classification is maintained by Statistics Canada and its counterpart organizations in the United States and Mexico. The chemical manufacturing subsector is captured in NAICS 325 which comprises establishments primarily engaged in manufacturing chemicals and chemical products, from organic and inorganic raw materials.

NAICS 325 includes the following sub-industry groups:

- Basic chemicals (NAICS 3251)
- Synthetic resins, rubbers, and synthetic fibres (NAICS 3252)
- Pesticides and fertilizers (NAICS 3253)
- Pharmaceuticals (NAICS 3254)
- Paints, coatings and adhesives (NAICS 3255)
- Soaps, cleaning compounds and toilet preparations (NAICS 3256)
- Other chemical products (NAICS 3259)

This report focuses on statistics for the overall chemical industry (NAICS 325), and for the combination of NAICS 3251 and 3252 which are collectively referred to as industrial chemicals.

- NAICS 3251 Basic chemicals - comprises establishments primarily engaged in manufacturing organic and inorganic chemicals, using basic processes such as thermal cracking, distillation, and chemical reaction.
- NAICS 3252 Synthetic resins, rubbers, and fibres — comprises establishments primarily engaged in manufacturing polymers such as polyethylene, polypropylene, butyl rubbers, polyamides, and fibres made from these resins. Polymerization of monomers into polymers, for example, ethylene into polyethylene, is the basic process.

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[1] This publication intends to provide the best information available. However, neither CIAC nor its employees make any warranty, expressed or implied, or assumes any liability or responsibility for any use, or the results of such use, of any information or data disclosed in this report.

Chemistry Industry at a Glance

Chemical industry[2] shipments in Canada in 2024 were $77 billion; exports were $55.6 billion, and imports totaled $86.6 billion.

The industry employed 94,500 workers in 2024 which constituted six per cent of all manufacturing jobs in Canada. In addition to the direct jobs, other jobs are supported by the purchasing activity of the chemistry industry and by the subsequent expenditure-induced activity. CIAC has estimated that for every job in the chemistry industry, another six indirect jobs are created in other parts of the economy, so in total the chemistry industry supports 572,400 jobs in Canada. For Industrial Chemicals, shipments in 2024 were $33.7 billion, exports were $26.8 billion, imports were $31.3 billion, and employment was 21,200 indirectly supporting 127,200 jobs in the broader Canadian economy.

Industrial chemicals are a keystone industry within the Canadian economy. The industry converts and adds value to raw resources such as natural gas, crude oil, minerals, metals and biomass, creating intermediate products that are used as inputs by other parts of the chemistry industry, and by almost all other manufacturing segments. Major consumer industries include: plastic and rubber products (NAICS 326), forest products (NAICS 321 and 322), transportation equipment (NAICS 336), oil and gas extraction (NAICS 211), clothing (NAICS 315), construction (NAICS 23), and pharmaceuticals (NAICS 3254).

Table 1: Principal Statistics for the Chemical Industry

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Shipments, $ billion	52.2	51.6	51.3	52.9	56.0	53.3	68.1	78.2	77.4	77.0
Employment, 000	86.4	84.3	86.6	85.8	86.4	81.8	78.5	90.8	90.0	94.5
Imports, $ billion	53.7	53.3	55.8	59.8	61.8	62.3	72.9	89.6	84.5	86.6
Exports, $ billion	36.2	35.9	33.7	38.0	37.4	36.0	41.6	52.8	51.8	55.6

Table 2: Principal Statistics for the Industrial Chemical Sector

	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Shipments, $ billion	25.4	24.1	26.2	28.9	26.0	22.4	29.3	34.2	32.8	33.7
Employment, 000	17.7	15.7	16.4	16.4	15.8	14.9	15.8	17.1	20.3	21.2
Imports, $ billion	19.7	18.8	19.8	21.3	20.8	20.0	22.1	31.3	31.5	31.3
Exports, $ billion	19.2	18.7	18.7	20.6	18.4	16.5	22.3	24.8	24.9	26.8

[2] Chemical industry and industrial chemicals are defined on page 1.

Manufacturing Shipments (Revenue)

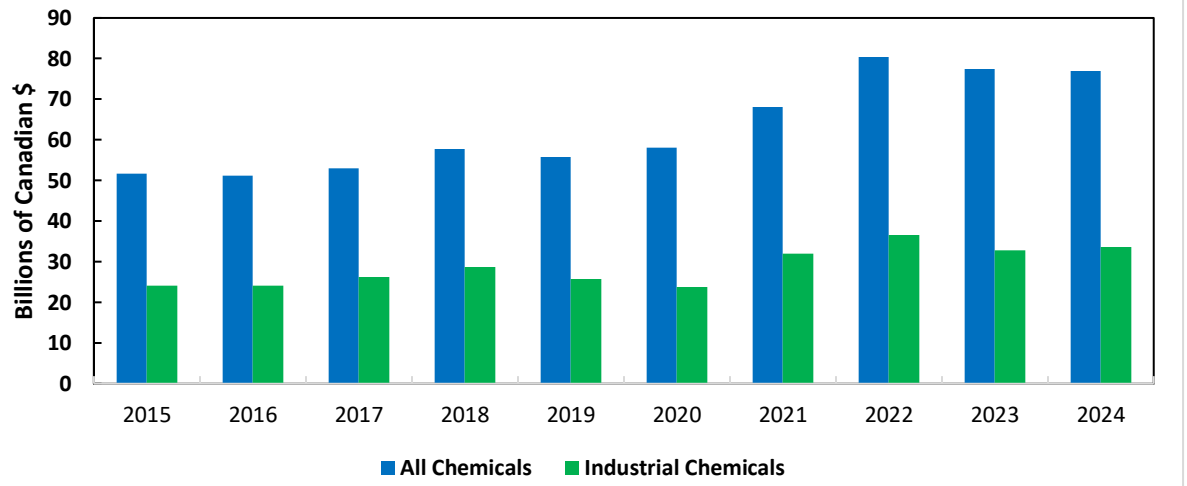
In 2024, Canada's chemical industry manufactured $77 billion worth of products, less than one per cent lower than 2023's $77.4 billion.

Shipments of industrial chemicals were $33.7 billion in 2024, a 2.9 per cent increase compared to 2023 (Table 3, Figure 1). The value of shipments for industrial chemicals increased for the first time since 2022.

Table 3: Manufacturing Shipments

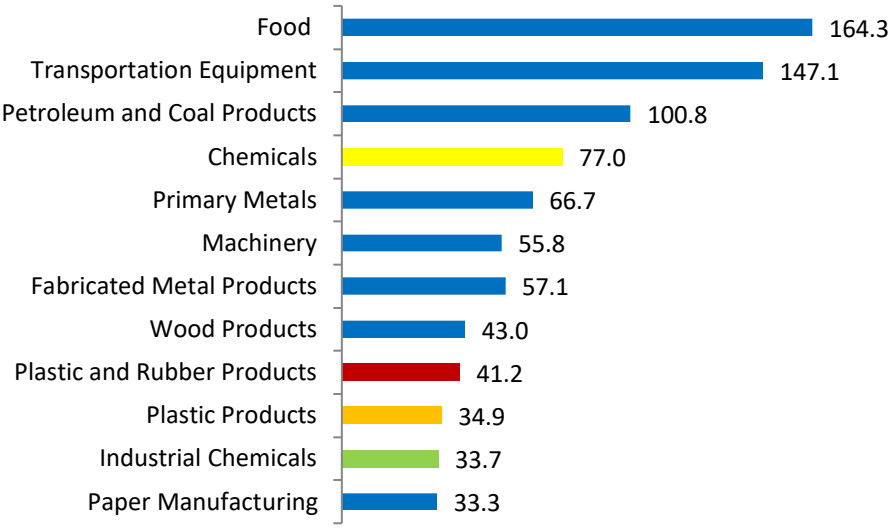
Manufacturing Shipments, $ Billion	2023	2024	Change 2023-24
All chemicals	77.4	77	-0.01%
Industrial chemicals	32.8	33.7	2.9%

Figure 1: Annual Chemical Industry Shipments in Billions CAD



Within the NAICS system, there are 21 manufacturing industries at the 3-digit level. Among these industries, chemicals (NAICS 325) ranks as the 4th largest based on value of shipments (Figure 2).

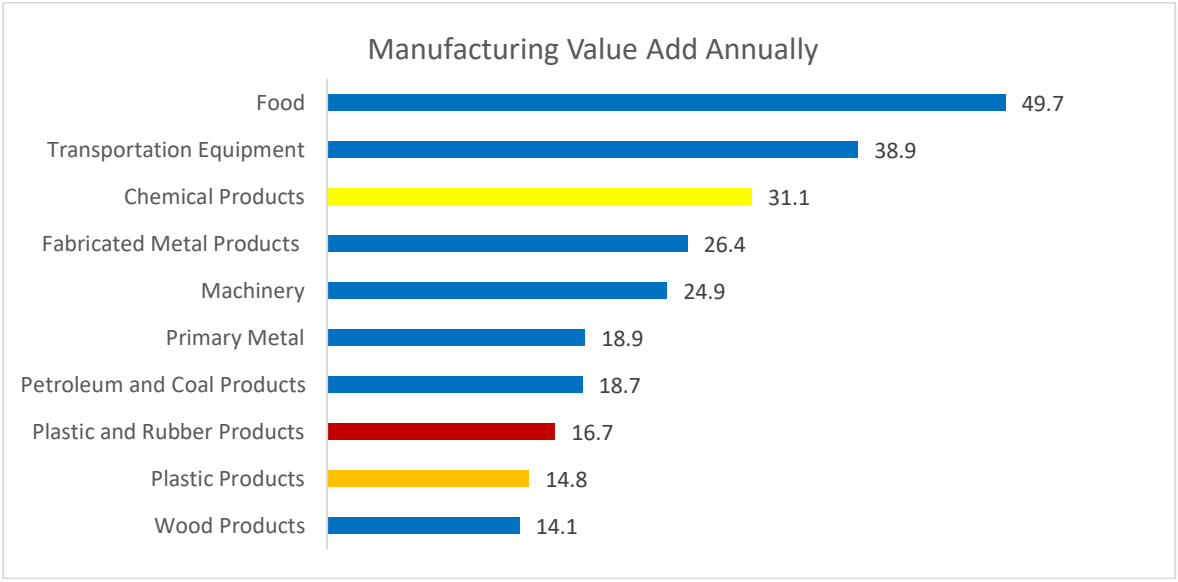
Figure 2: Top Manufacturing Sectors by Shipment Value, $ Billions



Value Added

Value added measures the value of output of an industry less the value of intermediate inputs required in the production process. Compared to all manufacturing industries, chemicals ranked 3rd based on value added in 2023 (latest available, Figure 3).

Figure 3: Top 10 Manufacturing Industries by Value Added, in Billions CAD



Employment

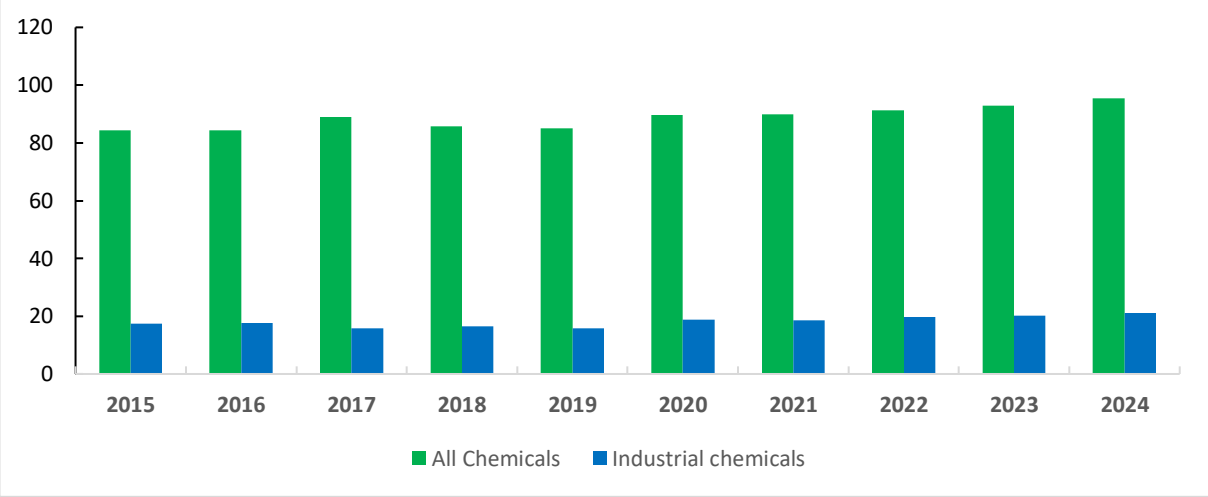
The chemical industry employed 95,400 workers in 2024. For industrial chemicals, the figure was 21,200. For both groupings, employment peaked in 2003 and has tended to decline since, although levels have been mostly flat since 2017 with slight growth as new facilities and expansions come online (Table 4 and Figure 4).

In addition to the direct jobs, additional jobs are supported by the purchasing activity of the chemical industry and by the subsequent expenditure-induced activity. For every job in the chemical industry, it is estimated that another six jobs in other sectors are indirectly linked to the industry. On this basis, the chemical industry supports about 572,400 jobs — industrial chemicals about 127,200 — in the overall Canadian economy.

Table 4: Employment in the Canadian Chemical Industry

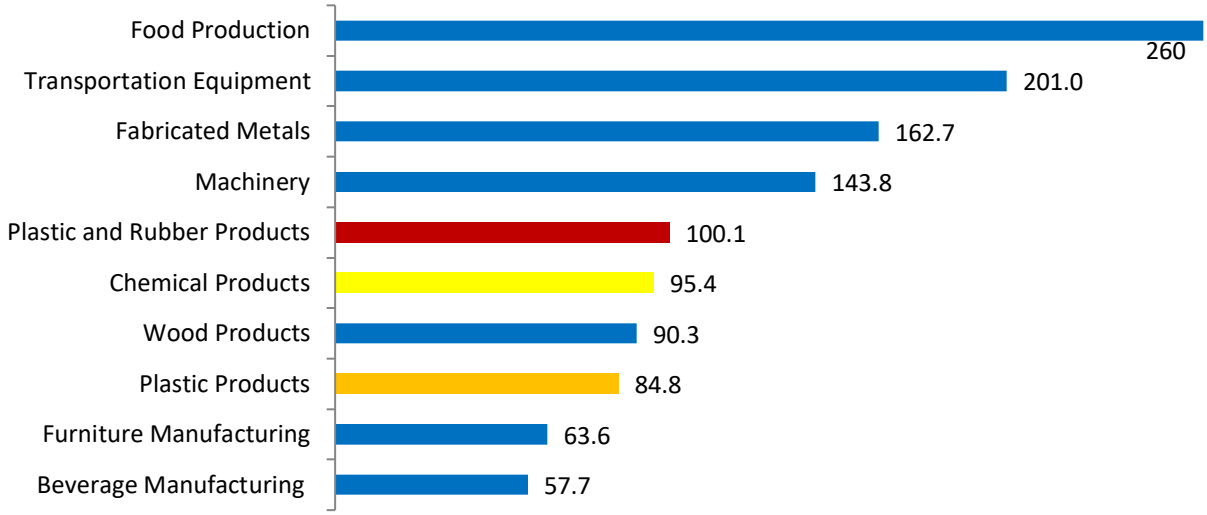
Total Employment, Thousands	2023	2024	Change 2023-2024
All Chemicals	93.0	95.4	2.6%
Industrial Chemicals	20.3	21.2	4.2%

Figure 4: Chemical Industry Employment



On the basis of employment, chemicals rank 6th among all manufacturing industries (Figure 5). Plastic product manufacturing employed 100,100 Canadians and ranked 5th among manufacturing industries.

Figure 5: Top 10 Manufacturing Industries by Employment (in Thousands of People)



Salaries and Wages

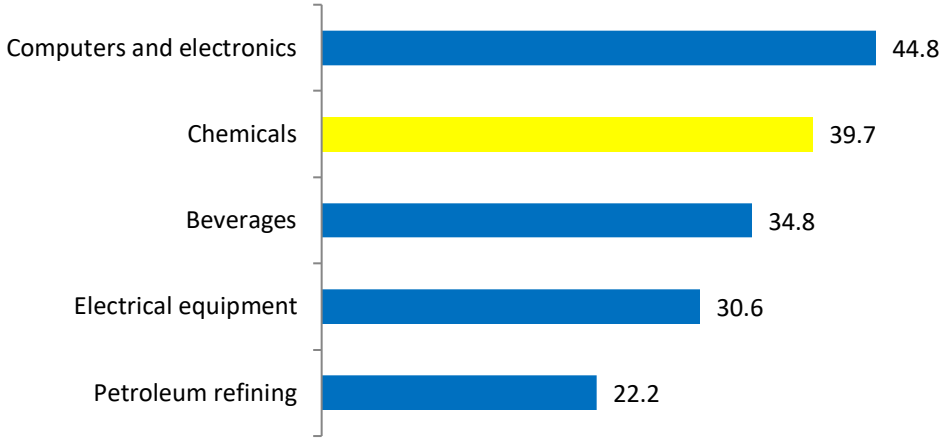
Total salaries and wages paid to employees in the chemical industry in 2024 were $7.45 billion, with $1.81 billion paid in the industrial chemical segment (Table 5). 2024 saw gains in wages and salaries paid in both the overall chemical sector and the industrial chemicals sub-sector.

Table 5: Total Salary and Wages Paid by the Chemical Industry

Total Salaries and Wages, $ Billion	2023	2024	Change 2023-24
All Chemicals	7.71	7.45	-3.4%
Industrial Chemicals	1.85	1.81	-2.0%

Chemical companies operate a variety of types of complex equipment and processes using sophisticated computer control technologies. Employees require specialized education and training to operate these processes safely and efficiently. As a result, the chemical industry's proportion of employees with a university degree (39 per cent) is second only to the computer and electronic products industry (Figure 6), and chemicals has the highest proportion of employees with post-graduate degrees.

Figure 6: Top 5 Manufacturing Industry by Proportion of Employees with a University Degree



Chemicals ranked 5th among all manufacturing industries with an average salary of $78,000 (Figure 7). For industrial chemicals the average salary was higher at $85,600. For overall manufacturing, the average salary in 2024 was $71,620.

Figure 7: Top Manufacturing Industries Based on Average Earnings Per Employee in Thousands of CAD

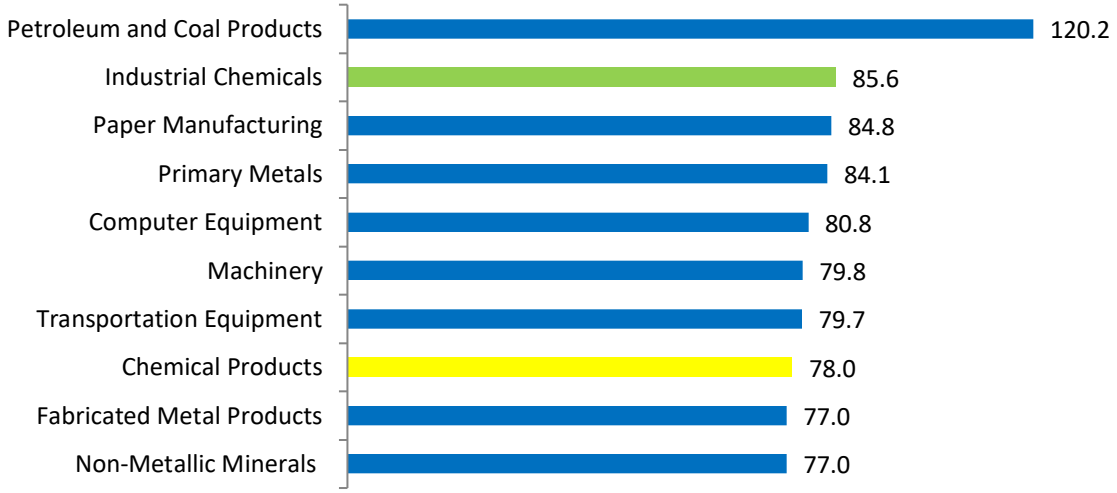


Table 6: Average Salaries in the Chemical Industry

Average Salaries and Wages, $ Thousand	2023	2024	Change 2023-24
All Chemicals	82.8	78.0	-5.8%
Industrial Chemicals	91.1	85.6	-6.0%

International Trade

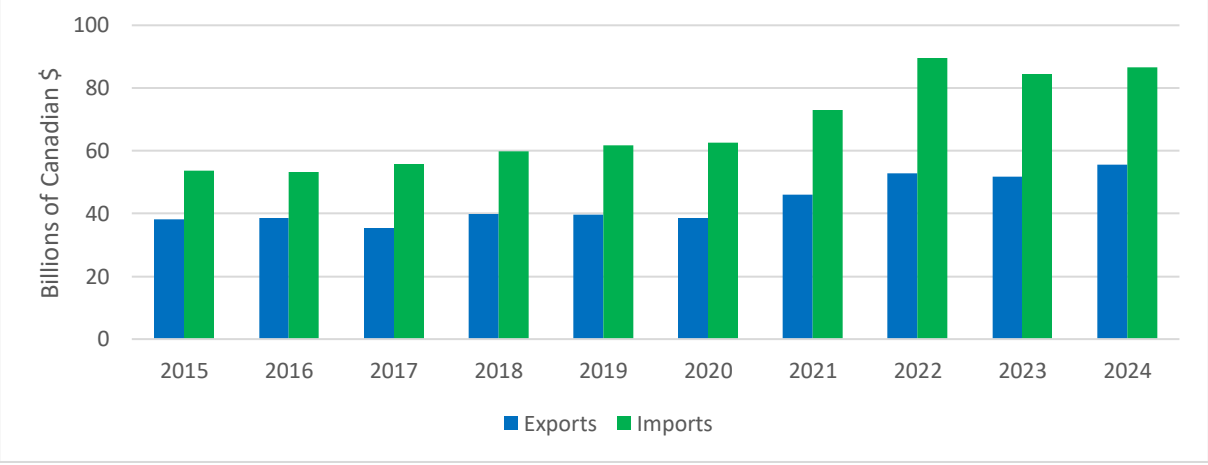
Canada exported $55.6 billion worth of chemicals and chemical products to the world in 2024, a 7.3 per cent increase compared to 2023. Imports increased by 2.5 per cent to $86.6 billion (Table 7 and Figure 8) driven by a recovery in demand for all sub-sectors. The United States represents the dominant export market and the dominant source of imports. In 2024, 77 per cent of exports, worth $43.1 billion went to the United States and 55 per cent of imports worth $47.7 billion originated there. The next largest export markets are China $1.9 billion (3.4 per cent), followed by Netherlands $1.5 billion (2.7 per cent), the U.K $1.2 billion (2.2 per cent) and Japan $1 billion (1.8 per cent). The next largest sources of imports were Switzerland $4.3 billion (5.0 per cent), Germany $4.3 billion (4.9 per cent), China $4.2 billion (4.9 per cent), and Ireland $2.6 billion (2.2 per cent).

For industrial chemicals, Canadian exports increased by 7.8 per cent to $26.8 billion in 2024. Imports decreased, by 0.1 per cent to $31.3 billion (Table 7 and Figure 9). Both imports and exports of industrial chemicals are dominated by bulk commodities like polyethylene, ethylene glycol and styrene.[3] Again the United States is the primary trading partner with 74 per cent of exports worth $20 billion and 63 per cent of imports worth $19.8 billion. The next largest export markets were: China $1.4 billion (5 per cent) and Netherlands $1.3 billion (5 per cent). The next largest import source partners were: China $2.9 billion (9.3 per cent) and Switzerland $2.3 billion (7.3 per cent).

Table 7: Trade in the Chemistry Industry

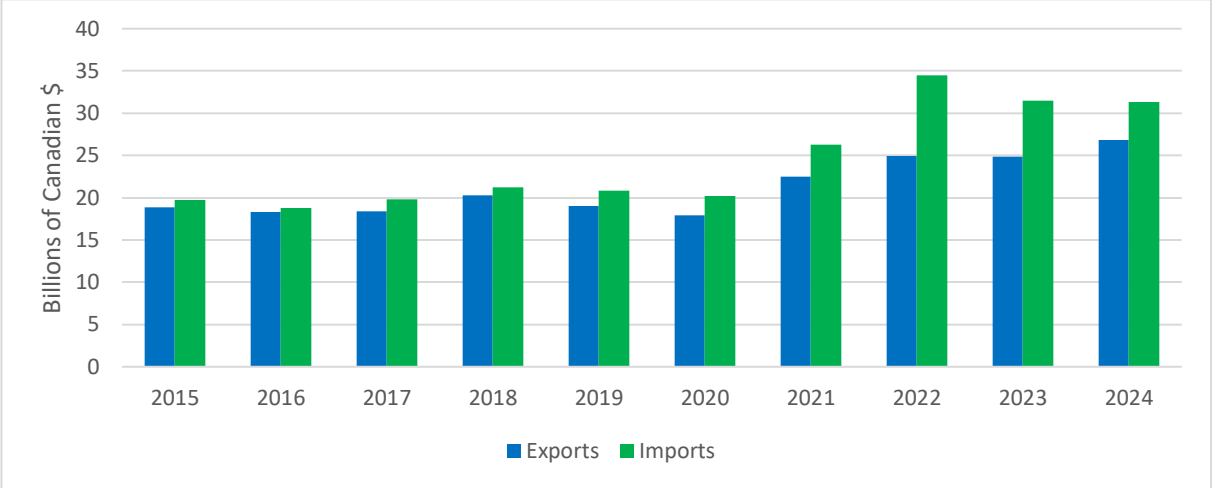
Value of Trade, $ Billion		2023	2024	Change 2023-24
All Chemicals	**Imports**	84.5	86.6	2.5%
	Exports	51.8	55.6	7.3%
Industrial Chemicals	**Imports**	31.5	31.3	-0.1%
	Exports	24.9	26.8	7.8%

Figure 8: Trade of All Chemicals in Billions of CAD



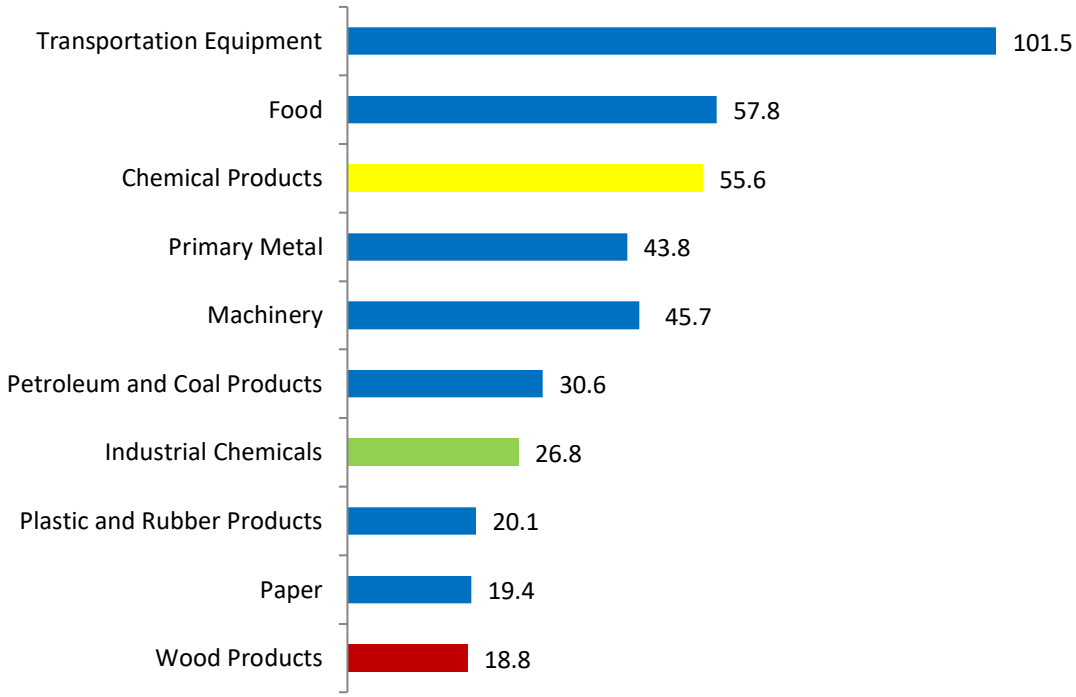
[3] For further analysis of the trade of specific industrial chemicals see the Industry Profiles section beginning on page 37 of this report.

Figure 9: Trade of Industrial Chemicals in Billions of CAD



The chemistry industry was the 3rd largest exporter among all manufacturing industries in 2024. (Figure 10)

Figure 10: Top 10 Manufacturing Industries by Exports in Billions of CAD



Profits

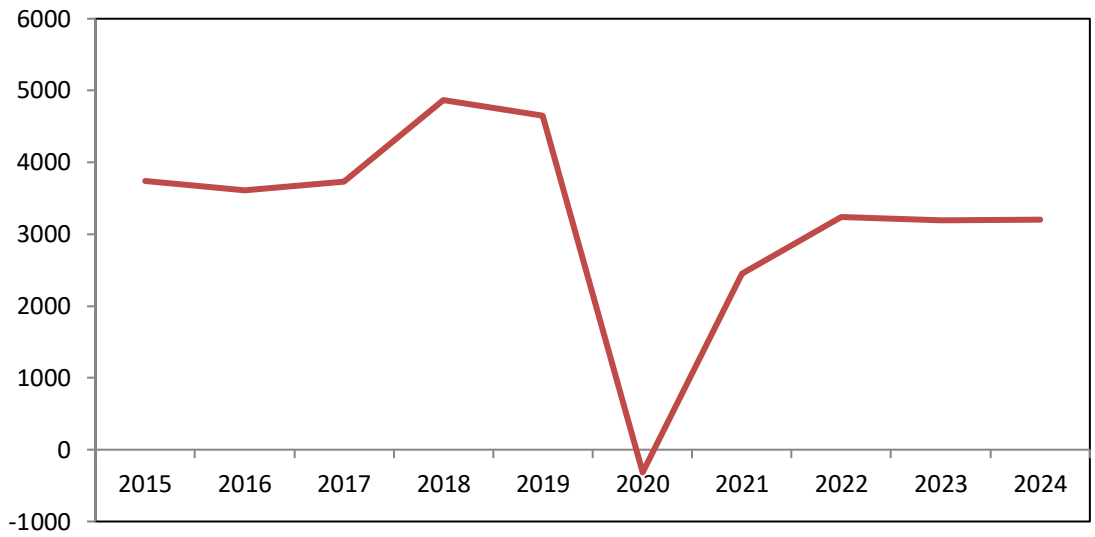
Profits for the chemical sector depend on factors such as capacity utilization, energy and raw material costs, supply-demand balance and competition with foreign producers. Operating profits in 2024 for the chemical industry were $11.2 billion and $3.2 billion for industrial chemicals (Table 8).

Table 8: Operating Profits in the Chemical Industry

Operating profit, $ billion	2023	2024	Change 2023-25
Total chemicals	10.2	11.2	10.2%
Industrial chemicals	3.19	3.20	0.0%

Operating profits for industrial chemicals have shown a resilience following the Great Financial Crisis however, the multi-year impacts of the COVID-19 pandemic have hit profitability in the sector.

Figure 11: Operating Profits for Industrial Chemicals, in Millions of CAD



Productivity

One measure of manufacturing productivity is the value of revenue per employee. For all chemicals, output per employee in 2024 was $806,300. For industrial chemicals, it rises to $1.59 million. Output per employee is much higher for industrial chemicals reflecting the capital-intensive nature of the industry compared to chemicals overall. Both numbers have remained largely flat over the past decade but have increased during COVID-19 as shipments have been volatile.

Table 9: Productivity

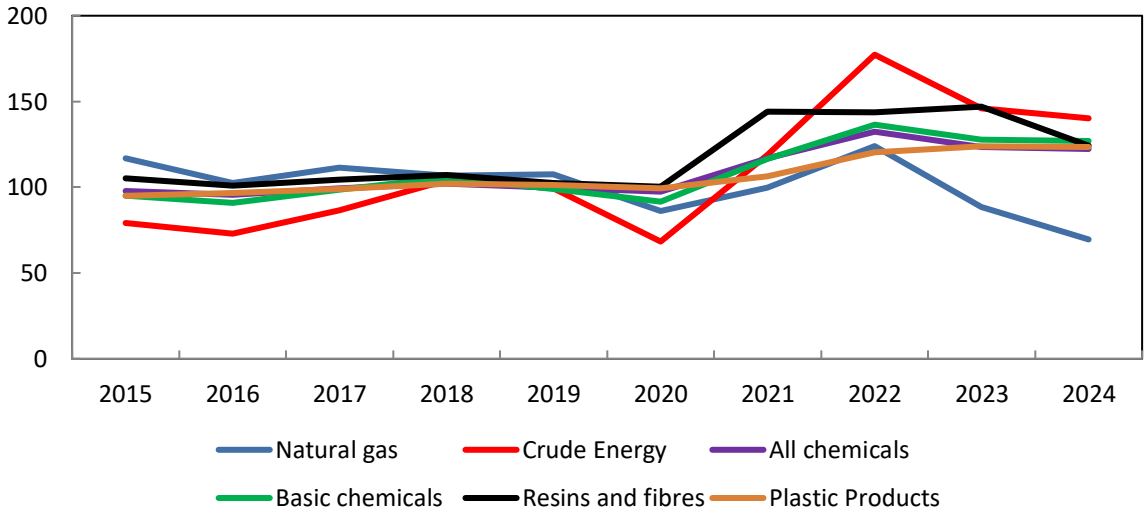
Output per employee, $ thousand	2023	2024
All chemicals	801	802
Industrial chemicals	2,000	1,830

Price Index

The Industrial Product Price Index (IPPI) reflects the prices that producers in Canada receive as the goods leave the plant. Natural gas and crude oil are two important sources of feedstocks for the chemical industry (see Figure 12). Natural gas is the dominant feedstock in North America and prices have trended mostly downward since 2008 as supply from domestic and U.S. shale production overwhelmed demand.

Recent additions of LNG export capacity in the U.S. have increased North American exposure to world prices, similar to crude oil. Crude oil prices fell in 2014 and have remained largely rangebound since. The COVID-19 pandemic saw crude oil and natural gas prices decline significantly in 2020. Energy prices increased dramatically in 2022 as the war in Ukraine began and major consuming countries scrambled for energy resources. 2023 saw a significant decline in global natural gas prices owing to full storage levels and in particular Canadian natural gas prices hit the lowest levels outside of the early stages of COVID in decades.

Figure 12: Price Index, 2020=100

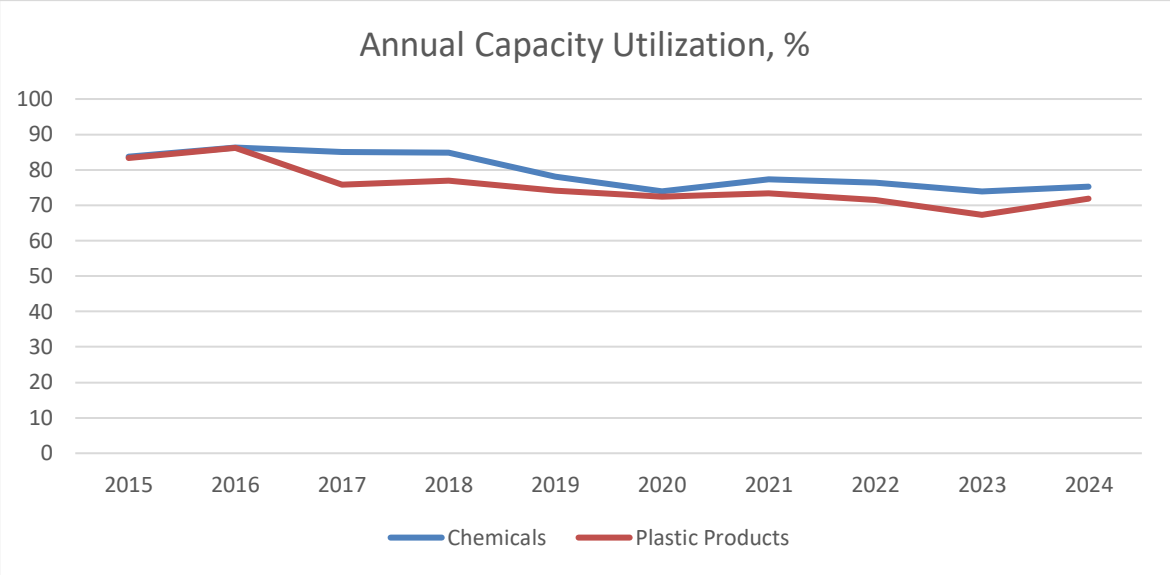


Capacity Utilization

Capacity utilization refers to the extent to which an industry uses its installed productive capacity (Figure 13). Thus, it compares actual output with the maximum potential output that could be achieved if all capacity was fully used.

Capacity utilization has not recovered since a sharp decline in 2018-2019. While separate data is not available for industrial chemicals, it would be expected to have utilization rates higher than the industry average since continuous production processes are employed, whereas the segment of the industry producing formulated products relies on batch processes.

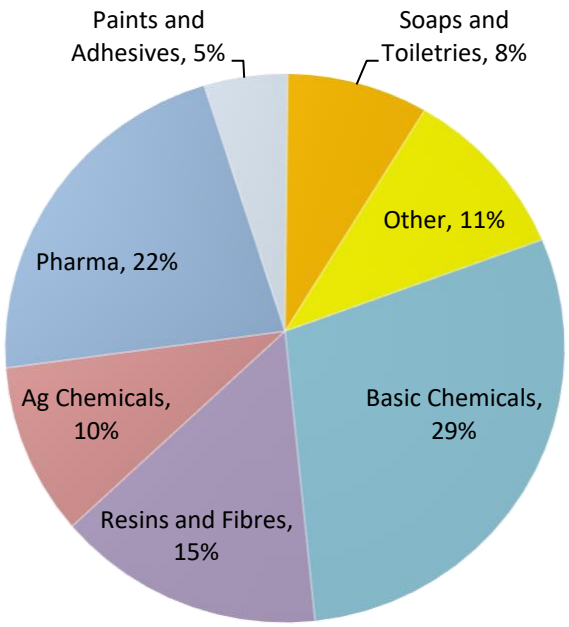
Figure 13: Capacity Utilization in the Chemical and Plastic Product Sectors, %



Other Chemical Manufacturing Subsectors

As mentioned previously, the Canadian chemical industry is comprised of seven sub-industries. Figure 14 shows the relative size of these industries by shipment value in 2024. Industrial chemicals accounted for 45 per cent of the total industry.

Figure 14: Distribution by Chemical Sub-Industries Based on Shipments



While NAICS 3251 and 3252 are the focus of this report, the following tables provide some data on the other sub-industries.

Table 10: Principal Statistics for Pesticides, Fertilizers and Other Agricultural Chemicals (NAICS 3253)

	Shipments, $ million	Employment	Imports, $ million	Exports, $ million
2016	6,181	5,722	3,991	1,485
2017	5,536	5,914	3,969	1,327
2018	6,099	5,598	4,034	1,393
2019	6,272	4,882	4,033	1,424
2020	7,750	5,090	4,014	1,997
2021	9,958	6,089	5,077	2,088
2022	9,958	6,089	7,216	3,021
2023	9,162	5,706	6,224	2,497
2024	9,162	5,706	6,217	2,299

Table 11: Principal Statistics for Pharmaceuticals (NAICS 3254)

	Shipments, $ million	Employment	Imports, $ million	Exports, $ million
2016	12,068	31,788	17,630	8,890
2017	12,255	31,124	19,502	10,995
2018	12,911	31,310	19,502	12,166
2019	13,796	31,748	21,546	12,319
2020	13,770	33,391	22,574	12,318
2021	13,065	34,023	26,621	13,248
2022	14,543	34,022	30,205	15,187
2023	13,686	34,862	28,155	14,080
2023	13,686	34,862	29,270	16,709

Table 12: Principal Statistics for Paints, Coatings and Adhesives (NAICS 3255)

	Shipments, $ million	Employment	Imports, $ million	Exports, $ million
2016	3,342	8,216	2,434	763
2017	3,203	7,773	2,373	769
2018	3,122	6,725	2,459	871
2019	3,185	7,502	2,563	902
2020	3,057	7,296	2,442	817
2021	2,982	7,437	2,599	903
2022	4,068	7,237	3,090	1,092
2023	4,068	7,478	3,193	1,076
2024	4,068	7,478	3,232	1,003

Table 13: Principal Statistics for Soaps, Cleaning Compounds and Toilet Preparations (NAICS 3256)

	Shipments, $ million	Employment	Imports, $ million	Exports, $ million
2016	4,911	13,946	6,400	3,063
2017	4,821	14,018	6,581	3,065
2018	5,149	15,384	6,818	3,848
2019	4,911	14,437	7,025	3,829
2020	4,673	13,113	7,815	3,721
2021	4,706	12,536	7,069	3,943
2022	6,122	13,665	8,364	4,370
2023	6,122	13,798	9,091	5,090
2024	6,122	13,798	9,712	4,952

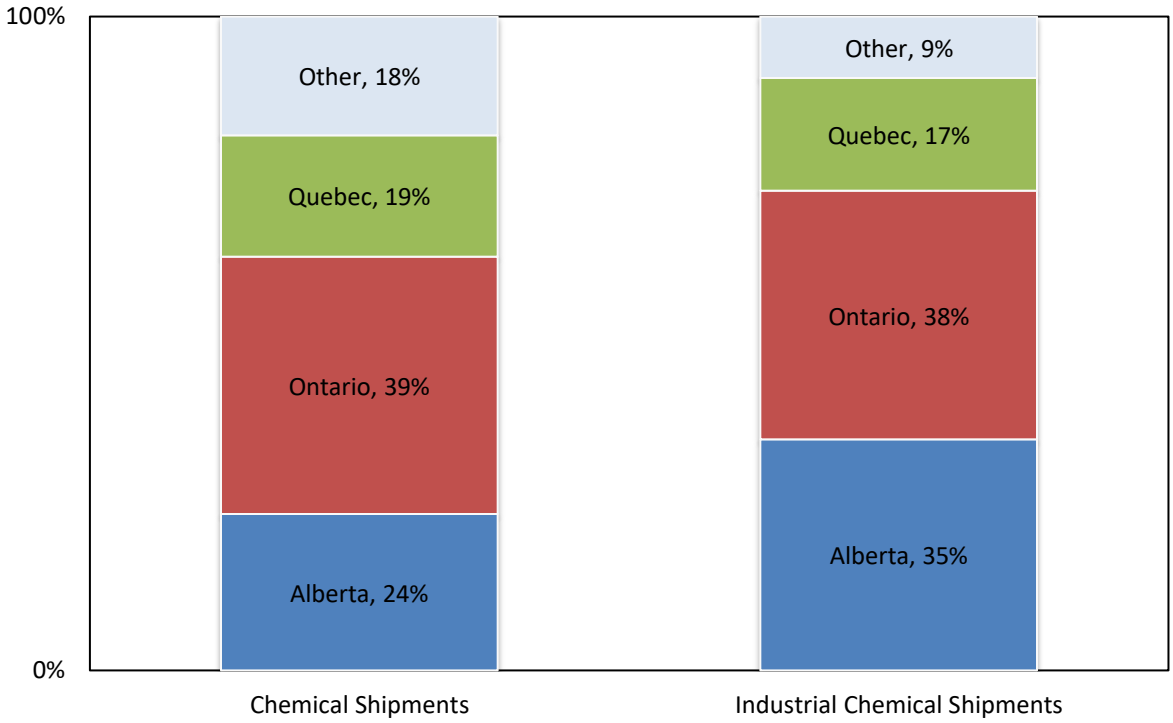
Table 14: Principal Statistics for Other Chemical Products (NAICS 3259)

	Shipments, $ million	Employment	Imports, $ million	Exports, $ million
2016	5,284	10,660	5,410	1,965
2017	5,922	10,587	5,710	2,198
2018	6,140	11,355	5,894	2,267
2019	5,543	10,710	5,927	2,457
2020	5,488	12,267	5,468	2,457
2021	7,495	14,083	5,276	3,285
2022	7,495	13,665	6,419	4,285
2023	7,495	13,798	6,371	4,174
2024	7,495	13,798	6,860	3,849

Provincial Statistics

Both the overall chemical industry and the industrial chemicals segment are concentrated in the provinces of Ontario, Alberta and Quebec (Figure 15). Further information about these three main provinces is contained in the following portions of the analysis.

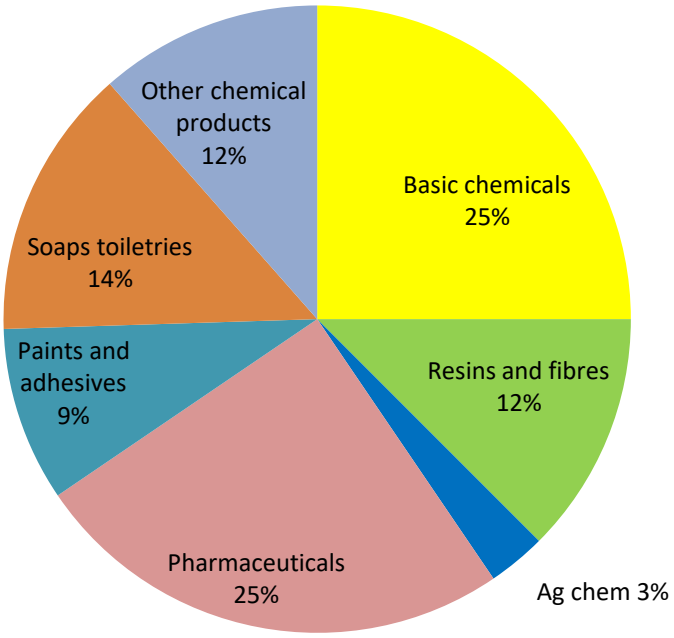
Figure 15: Provincial Distribution of the Chemical Industry, by Value of Shipments



a. Ontario

In 2024, Ontario's chemical industry had shipments of $30.5 billion a decrease of 7.8 per cent from 2023. Industrial chemical shipments totaled $11.6 billion in 2024 a decrease of 14.4 per cent from 2023 (Figure 16).

Figure 16: Composition of the Ontario Chemical Industry



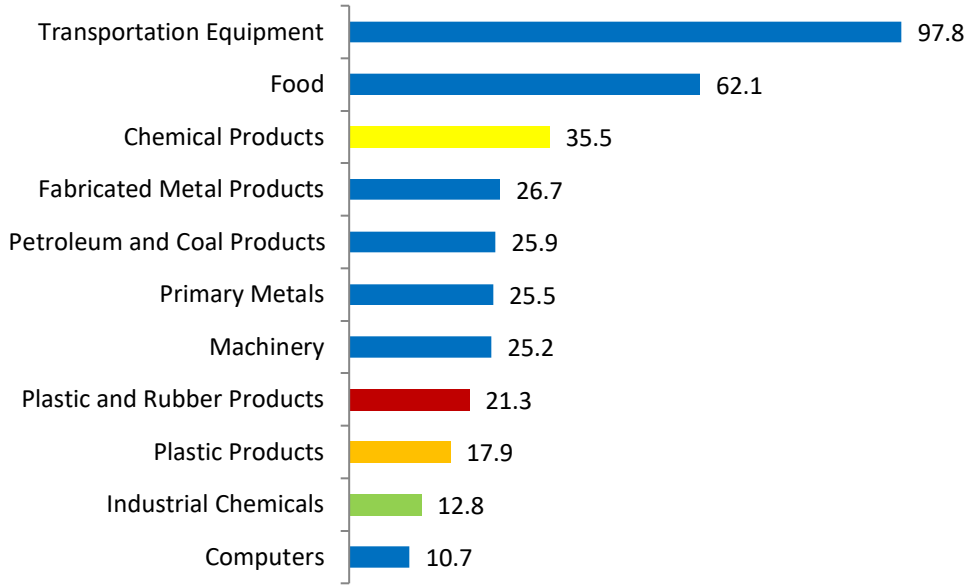
The largest cluster for the industrial chemical industry is in the Sarnia region, with the next largest concentrations in the Golden Horseshoe and along the St. Lawrence Seaway.

Table 15: Ontario Chemical Industry Shipments

Shipments, $ billion	2023	2024	Change 2023-24
All chemicals	34.1	35.5	4.2%
Industrial chemicals	12.5	12.8	2.4%

On the basis of shipments, Chemicals was the 3rd largest of all manufacturing industry in the province in 2024 (Figure 17).

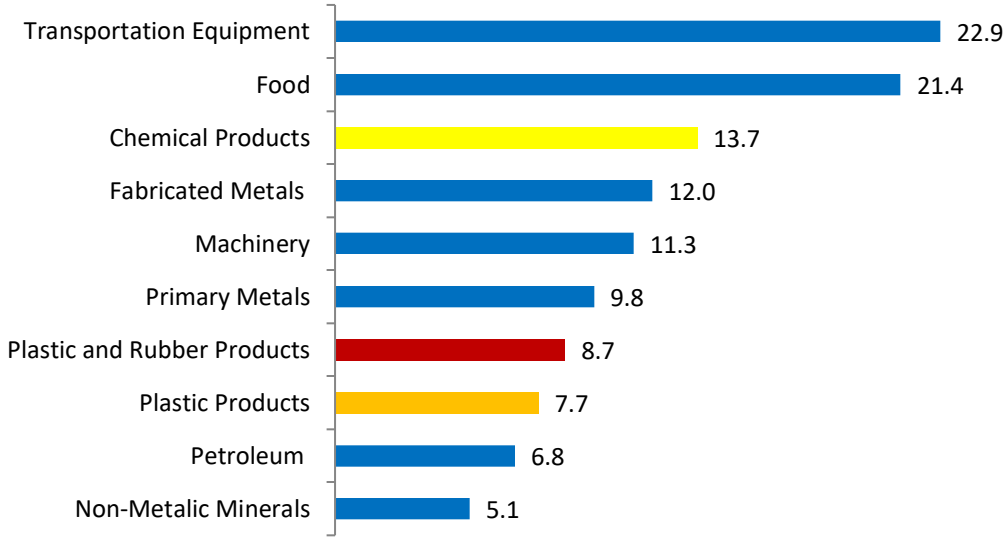
Figure 17: Top 10 Manufacturing Industries in Ontario by Value of Shipments, $ Billion



- ## Value Added

On the basis of value added, chemicals also ranked 3rd among all manufacturing industries in 2023 (latest data available) (Figure 18).

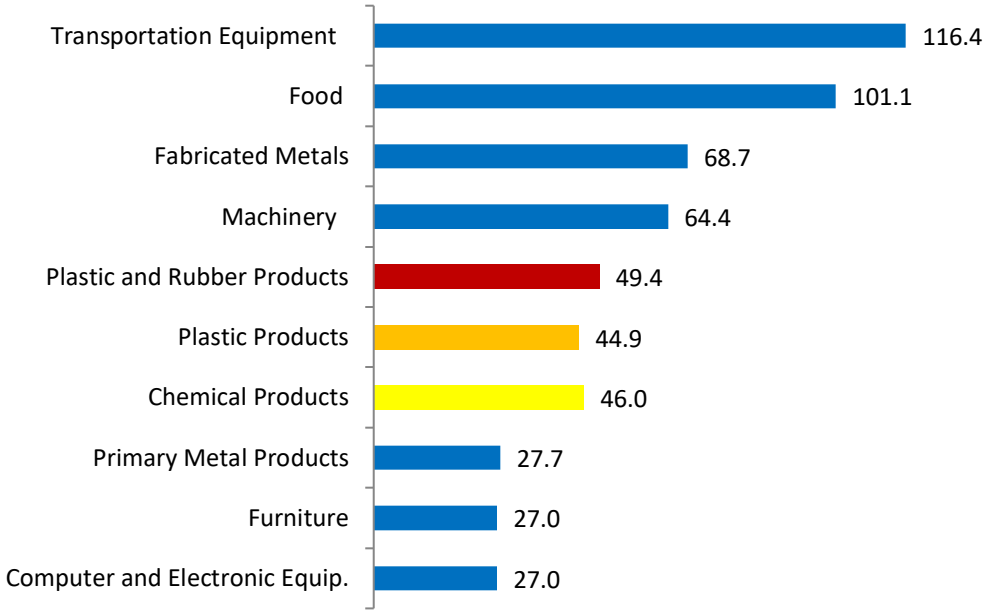
Figure 18: Top 10 Industries by Value Added in Ontario, $ Billions.



Employment Ranking

The chemical industry directly employed 46,000 people in Ontario in 2024, an increase of 1.6 per cent from 2023. When indirect employment is included, it is estimated that the chemical industry supports almost 276,000 jobs in the province. The number of employees working in industrial chemicals was 9,530 a 5.4 per cent increase from 2026. The industrial chemical sector supports over 57,180 jobs in the province. When compared to other manufacturing industries, chemicals ranked 7th on the basis of employment (Figure 19).

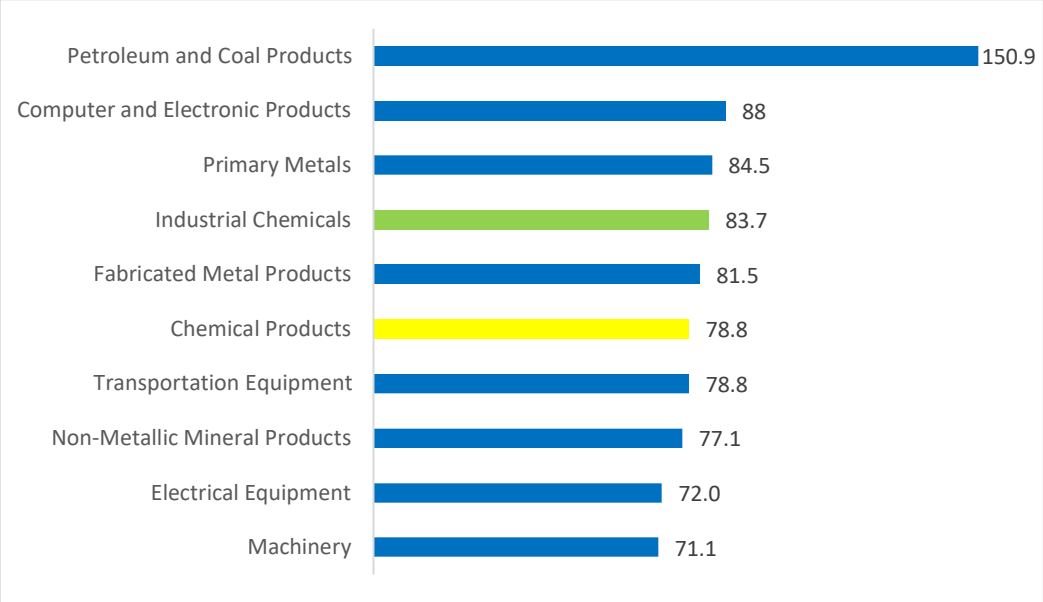
Figure 19: Top Manufacturing Industries by Number of Employees in Ontario in Thousands



Salaries and Wages

The chemical industry paid a total of $3.6 billion in salaries and wages in the province in 2024. With an average annual salary of $78,700, the industry ranked 5th among all manufacturing industries in Ontario (Figure 20). The industrial chemical sub-sector paid $941 million in wages and had an average salary of $83,700. The average salary across all manufacturing industries in Ontario was $73,880.

Figure 20: Top 10 Manufacturing Industries by Average Salary in Ontario in $ Thousands



• Trade

The value of exports by the chemical industry from Ontario in 2024 was $23.9 billion, while imports were $56.4 billion (Table 16). The United States was the destination for 75 per cent of exports valued at $23.9 billion, followed by Japan $850 million (2.7 per cent), the Netherlands $781 million (2.6 per cent) the United Kingdom $735 million (2.4 per cent) and China $571 million (1.9 per cent). The United States was also the source for most imports worth $31.1 billion (55 per cent), followed by Switzerland $3.9 billion (6.9 per cent); Germany $2.9 billion (5.1 per cent) and China $2.0 billion (3.5 per cent).

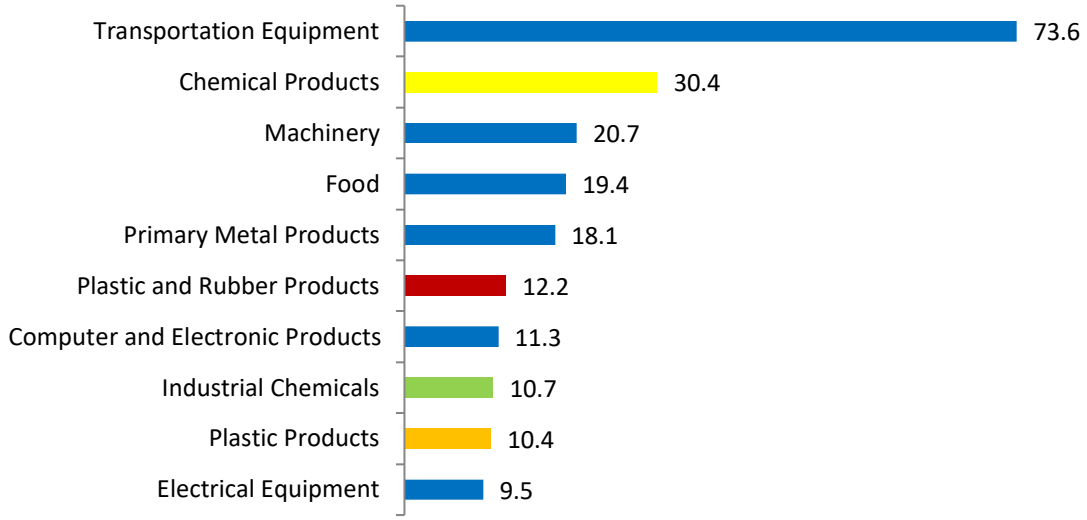
For industrial chemicals, exports from Ontario were $10.7 billion, while imports were $18.3 billion (Table 16) in 2024. The United States was the destination for 75 per cent of exports valued at $8.1 billion, followed by the Netherlands (5.8 per cent) and the United Kingdom (3.7 per cent). The United States was also the source of most imports (78 per cent), followed by China $1.4 billion (5.5 per cent).

Table 16: Trade by the Chemical Industry in Ontario

Value of trade, $ billion		2023	2024	Change 2023-24
All chemicals	**Imports**	56.3	56.4	0.1%
	Exports	26.2	30.4	16%
Industrial chemicals	**Imports**	18.3	18.3	Flat
	Exports	9.3	10.7	15%

Chemicals is the 2nd largest exporter among all manufacturing industries (Figure 21).

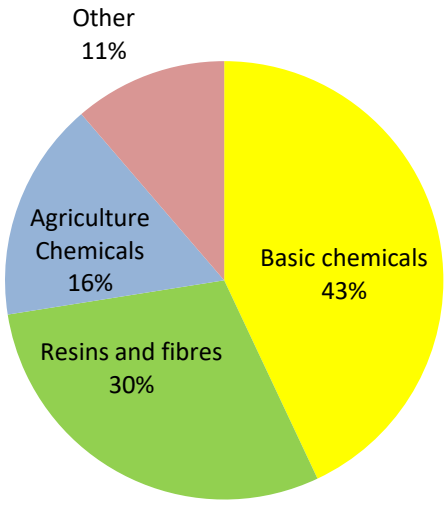
Figure 21: Top Manufacturing Industries by Value of Exports from Ontario, $Billions



b. Alberta

In 2024, Alberta's chemical industry had shipments of $16.9 billion (Table 17). Industrial chemicals represent 70 per cent of the total (Figure 22), with $11.9 billion in shipments in 2024.

Figure 22: Composition of the Alberta Chemical Industry



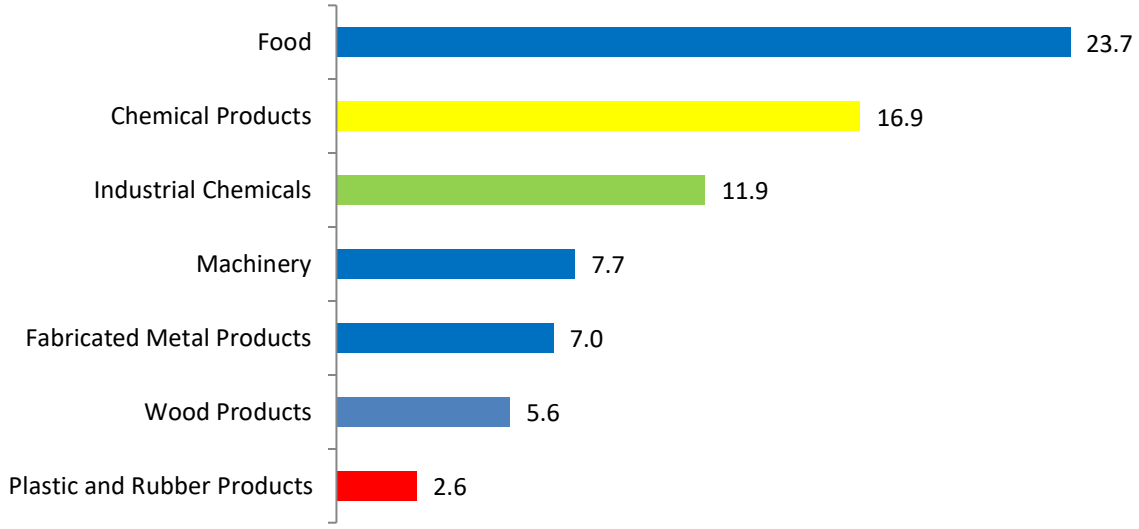
The industrial chemical industry in Alberta is located in the Industrial Heartland region northeast of Edmonton, in central Alberta, near Red Deer, in Medicine Hat, and growing in size and scope near Grande Prairie.

Table 17: Alberta Chemical Industry Shipments

Shipments, $billion	2023	2024	Change 2023-24
All chemicals	17.5	16.9	-3.5%
Industrial chemicals	12.3	11.9	-2.9%

Based on value of shipments Chemicals ranked 2nd among all manufacturing industries in the province in 2024 (Figure 23).

Figure 23: Top Manufacturing Industries in Alberta by Value of Shipments, $Billion [4]

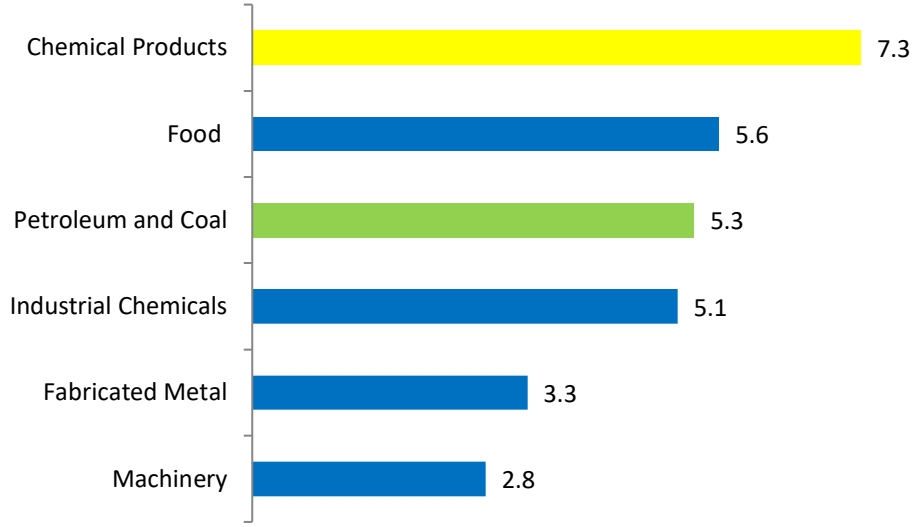


[4] The top 10 industries cannot be ranked because data for many industries has been suppressed by Statistics Canada.

Value Added

Based on value added, chemicals ranked 1st among all manufacturing industries (Figure 24) based on 2023 data (latest available).

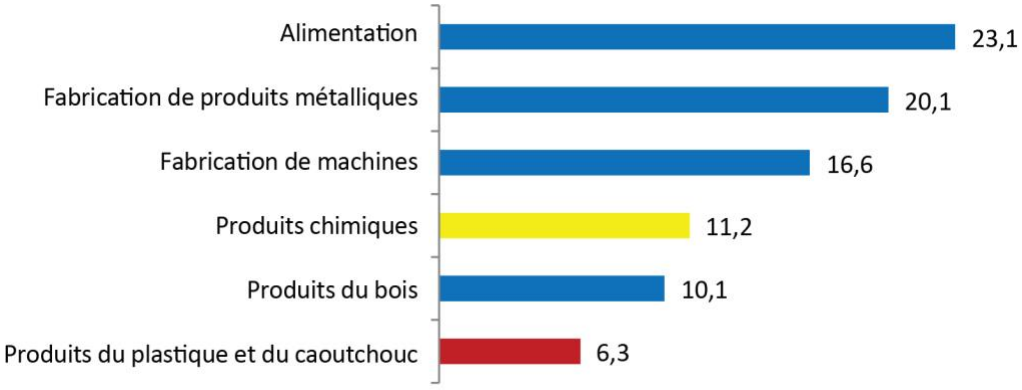
Figure 24: Top Industries by Value Added in Alberta, $ Billion



Employment Ranking

The chemical industry employed 11,194 people in Alberta in 2024, a decrease of 1.0 per cent compared to 2023. When indirect employment is included, it is estimated that the chemical industry supports about 67,160 jobs in the province. The number of employees working in industrial chemicals in 2024 was 5,965, indirectly supporting over 35,790 jobs in the province. When compared to other manufacturing industries in the province, chemicals ranked 4th (Figure 25).

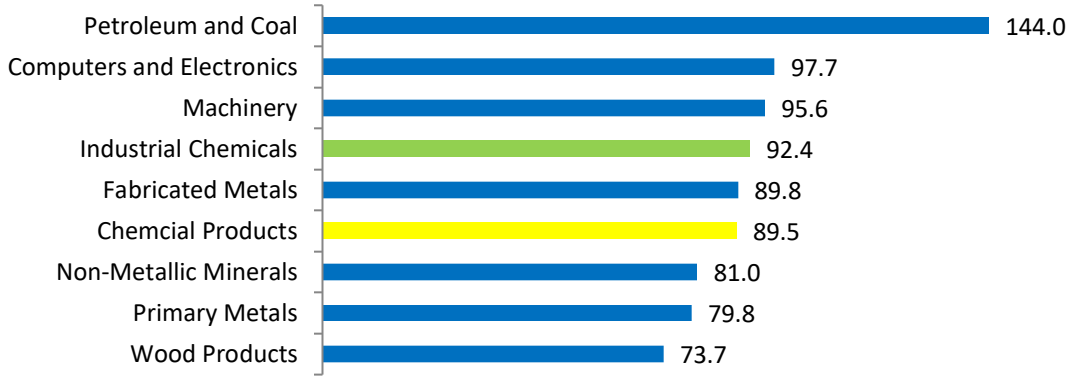
Figure 25: Top Manufacturing Industries by Employment in Alberta



Salaries and Wages

The chemical industry paid a total of $1.0 billion in salaries and wages in the province in 2024. The average salary paid to employees in the chemical industry was $89,500 which ranked 6th among all manufacturing industries (Figure 26). The average salary within industrial chemicals was $92,400.

Figure 26: Top Manufacturing Industries by Average Salary in Alberta, $ Thousands



Trade

The value of exports by the chemical industry from Alberta in 2024 was $9.9 billion, while imports were $4.3 billion (Table 18). The United States was the destination for 89 per cent of exports worth $8.2 billion. Followed by China $1.1 billion (11.4 per cent) and Mexico $93 million (1 per cent). The United States was also the source of most imports $3.6 billion (76 per cent), followed by China $472 million (10 per cent) and Belgium $95 million (2 per cent)

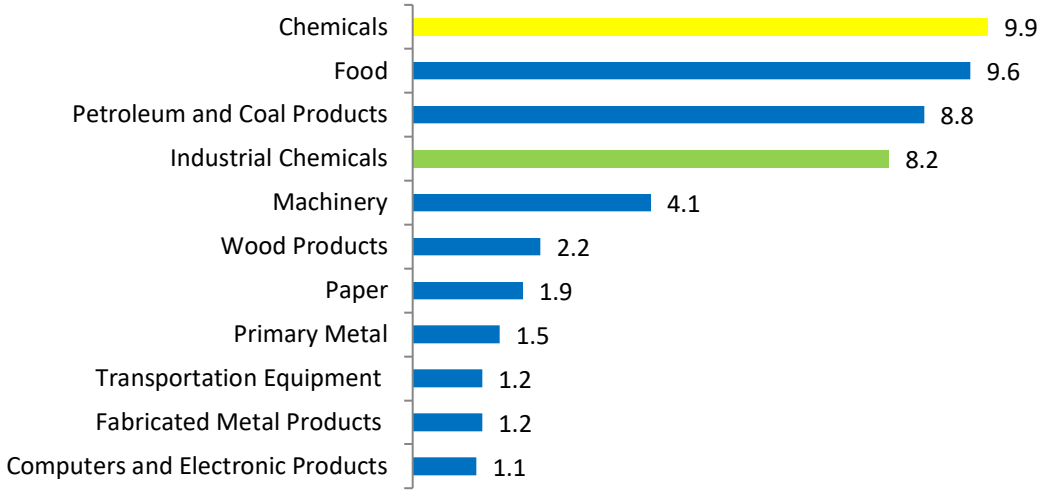
For industrial chemicals, exports from the province in 2024 were $8.3 billion, while imports were $2.3 billion. The United States was the destination for $6.5 billion (80 per cent) of exports, followed by China $1.1 billion (13 per cent) and Mexico $93 million (0.5 per cent). The United States was also the source of most imports $2.2 billion (77 per cent), followed by China $395 million (14 per cent).

Table 18: Trade by the Chemical Industry in Alberta

Value of trade, $ billion		2023	2024	Change 2023-24
All chemicals	**Imports**	4.6	4.8	4.3%
	Exports	10.2	9.9	-2.9%
Industrial chemicals	**Imports**	2.5	2.9	-7.6%
	Exports	8.3	8.2	-1.2%

Chemicals ranks 1st among manufacturing industries in terms of exports from Alberta (Figure 27).

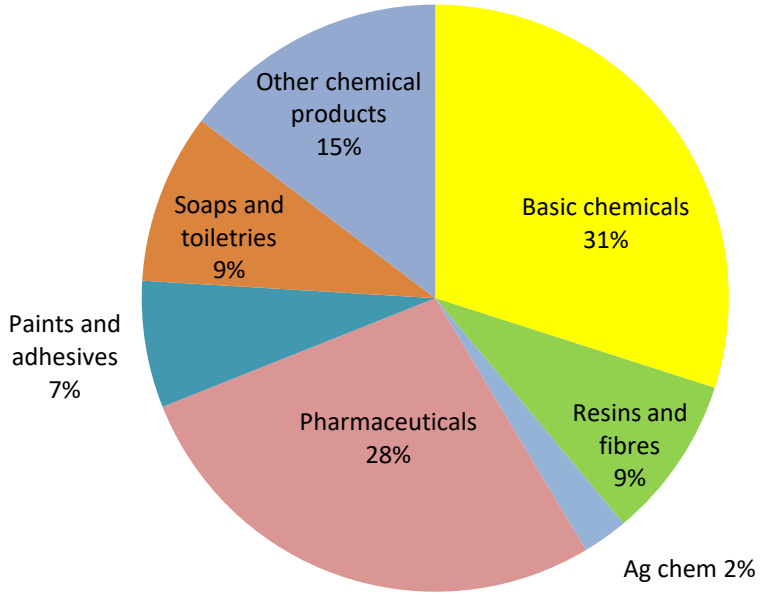
Figure 27: Top Manufacturing Industries by Value of Exports from Alberta, $ Billion



c. Quebec

In 2024, Quebec's chemical industry had shipments of $15.2 billion essentially flat from 2023. Industrial chemical shipments were $5.8 billion and accounted for 39 per cent of the total (Figure 28).

Figure 28: Composition of the Quebec Chemical Industry



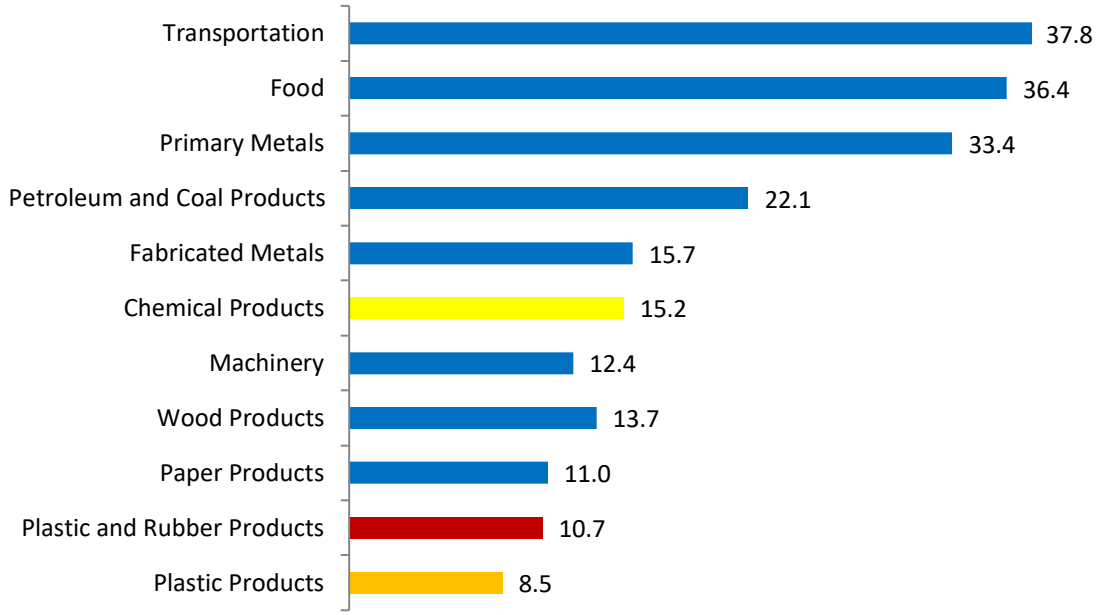
In 2024, shipments of industrial chemicals were $5.8 billion a 7.1 per cent decrease from 2022 (Table 19). The industrial chemical industry in Quebec is concentrated in the eastern end of Montreal and along the south shore of the St. Lawrence River.

Table 19: Quebec Chemical Industry Shipments

Shipments, $billion	2023	2024	Change 2023-24
All chemicals	15.2	15.2	Flat
Industrial chemicals	5.9	5.8	-2.2%

Based on shipments Chemicals was the 6th largest manufacturing industry (Figure 29).

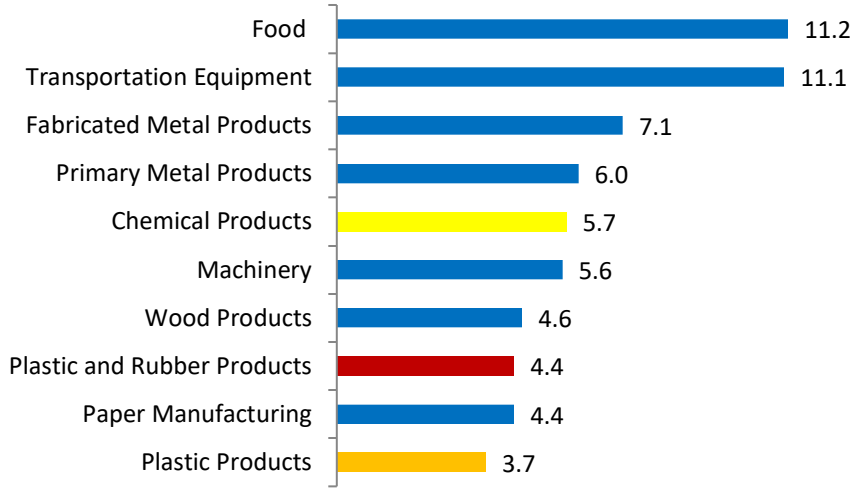
Figure 29: Top Manufacturing Industries in Quebec by Value of Shipments, $ Billion



Value Added

Based on value added, chemicals ranked 6th among all manufacturing industries in Quebec in 2022 (Figure 30).

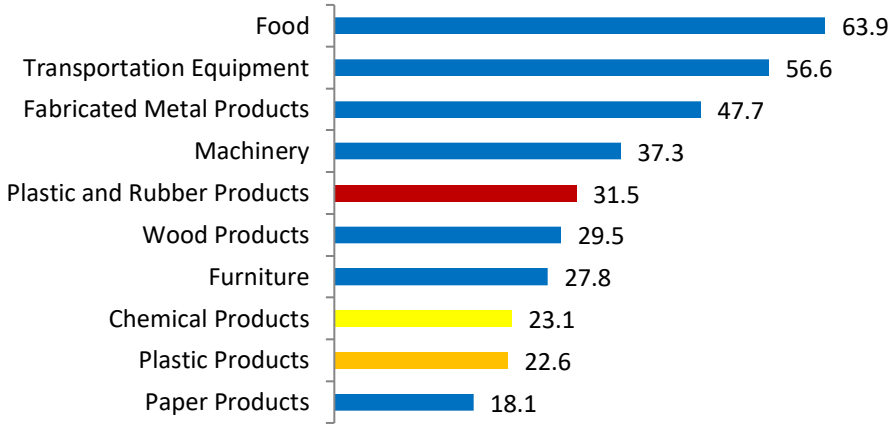
Figure 30: Top 10 Manufacturing Industries by Value Added in Quebec



Employment Ranking

The chemical industry employed 23,100 people in Quebec in 2024. When indirect employment is included, it is estimated that the chemical industry supports 138,600 additional jobs in the province. The industrial chemical industry employs 3,475 and supports an additional 20,850 jobs in the province. When compared to all manufacturing industries in the province, chemicals ranked 9th (Figure 31).

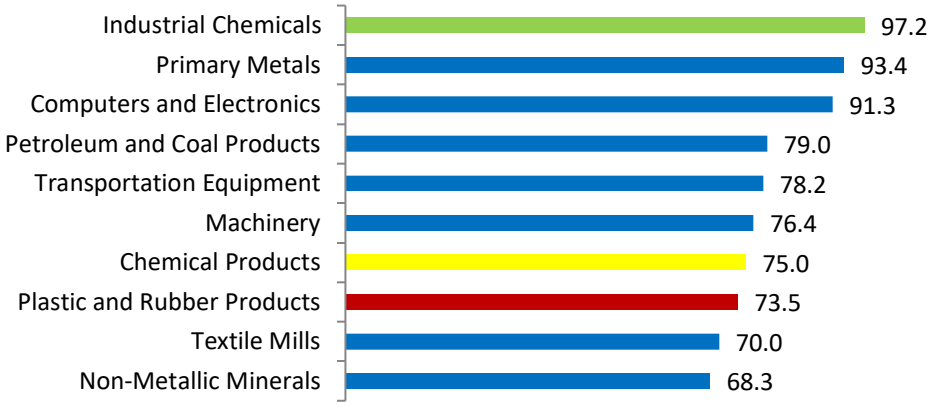
Figure 31: Top Manufacturing Industries by Employment in Quebec



Salaries and Wages

The chemical industry paid a total of $1.7 billion in salaries and wages in the province in 2024, corresponding to an average annual salary of $75,000, which placed the industry 7th in Quebec (Figure 32). For industrial chemicals the average salary is 97,240 and for all manufacturing, the average salary in the province was $69,090.

Figure 32: Top Manufacturing Industries by Average Salary in Quebec, $ Thousands



Trade

The value of exports by the chemical industry from Quebec in 2024 was $7.8 billion and imports were $11.0 billion (Table 20). The United States was the destination for $6.2 billion in exports (78 per cent), followed by Mexico $241 million (3.1 per cent) and Belgium $166 million (2.1per cent). Quebec is different from the other provinces in that a much lower proportion of its imports come from the United States with $3.5 billion (34 per cent) compared to other provinces. Other major import markets are Germany $1.05 billion (8.4 per cent), France $895 million (7.2 per cent), Belgium $804 million (6.8 per cent) and China $709 million (6.3 per cent).

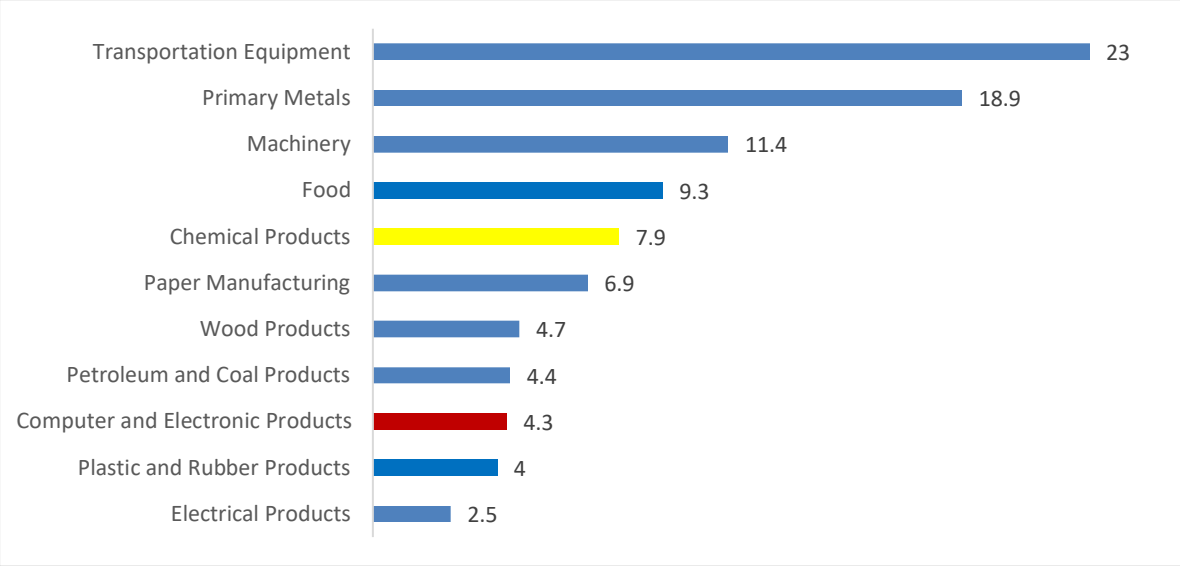
For industrial chemicals, exports from the province in 2024 were $3.6 billion, and imports were $4.0 billion. The United States was the destination for $3.2 billion in exports (85 per cent), followed by Mexico $175 million (4.8 per cent). The United States was the source of $1.9 billion in imports (43 per cent), followed by China $511 million (11 per cent) and Kazakhstan $261 million (6 per cent).

Table 20: Trade by the Chemical Industry in Quebec

Value of trade, $ billion		2023	2024	Change 2023-24
All chemicals	**Imports**	11.0	12.5	13.6%
	Exports	7.9	7.9	Flat
Industrial chemicals	**Imports**	4.4	4.5	2.3%
	Exports	3.7	3.6	-2.7%

Compared to all other manufacturing industries, chemicals were the 5th largest export industry (Figure 33).

Figure 33: Top 10 industries by Value of Exports from Quebec, $ Billion



Industry Profiles

The segments of the chemical industry of primary interest to CIAC members are profiled according to the following categories:

- Petrochemicals and other organic chemicals
- Inorganic chemicals
- Synthetic resins, rubbers and fibres
- Specialty chemicals

a. Petrochemicals and Other Organic Chemicals

Statistics Canada reports data on organic chemicals in two industry groups:

- NAICS 32511 – Petrochemicals
- NAICS 32519 – Other organic chemicals.

The petrochemicals industry only includes hydrocarbons. The main petrochemicals produced by CIAC members in Canada are ethylene, propylene, butylenes, butadiene, higher olefins, alkanes, benzene, toluene, xylenes, and styrene. Ethylene is the largest-volume petrochemical; it is always consumed very close to the point of production so almost none is traded.

Organic chemicals that contain atoms other than hydrogen and carbon are captured in the other organic chemicals industry. CIAC members are producers of all of the largest-volume chemicals in this category in Canada: methanol, isopropyl alcohol, and ethylene glycol.

Table 21: Principal Statistics for Petrochemicals and Other Organic Chemicals

	2020	2021	2022	2023	2024
Establishments					
Petrochemicals	29	27	X	X	X
Other organic chemicals	134	136	X	X	X
Shipments $M					
Petrochemicals	5,138	6,876	7,700	6,316	6,690
Other organic chemicals	4,716	5,635	7,881	7,594	7,842
Employment					
Petrochemicals	1,820	1,933	2,175	2,418	2,575
Other organic chemicals	2,917	2,852	3,464	3,852	4,104
Exports $M					
Petrochemicals	1,617	2,269	2,504	2,211	2,111
Other organic chemicals	4,057	4,396	5,320	6,340	5,750
Imports $M					
Petrochemicals	629	1,088	1,418	1,106	1,107
Other organic chemicals	6,497	11,430	13,026	10,720	11,000

Commodity Data

Statistics Canada reports production data for a limited number of organic chemicals (Table 22).

Table 22: Canadian Production of Specific Organic Chemicals, Kilotonnes

	2019	2020	2021	2022	2023
Benzene	826	727	610	724	689
Toluene	397	395	112	157	139
Xylenes	583	584	584	654	X
Butadiene	235	228	241	220	256
Propylene	535	542	485	475	462
Formaldehyde	151	138	121	141	94

More data exists for imports and exports than for domestic production. Table 23 shows the exports for a select range of organic chemicals, in both tonnage and dollar value terms.

Table 23: Canadian Exports of Select Organic Chemicals, Kilotonnes

	Value, $M	Quantity, kt	Top Markets
Benzene	143	200	USA 90% Belgium 10%
Butadiene	50	78	USA 99%
Ethylene glycol	1,070	870	China 59% USA 40%
Higher olefins	176	120	USA 97% China 1%
Isopropyl alcohol	128	84	USA 99%
Methanol	289	198	USA 99%
Propylene	89	65	USA 99%
Styrene	378	210	USA 100%

Table 24: Canadian Imports of Select Organic Chemicals, Kilotonnes

	Value, $M	Quantity, kt	Top Markets
Benzene	47.7	15	USA 99%
Butadiene	5.8	4.9	South Korea 55% USA 42%
Ethylene glycol	15.8	13.8	USA 98%
Higher olefins	4..8	1.4	Saudi Arabia 59% USA 35%
Isopropyl alcohol	29	18	USA 68% China 7%

Methanol	198	430	Trinidad and Tobago 75% USA 15%
Propylene	6.2	0.696	USA 96%
Styrene	16	7.98	USA 99%

- **CIAC Members Producing Petrochemicals and Organic Chemicals in Canada**

  - ARLANXEO Canada Inc.
  - BASF Canada
  - Canada-Kuwait Petrochemical Corporation[5]
  - Dow Chemical Canada ULC
  - Evonik Oil Additives Canada Inc.
  - H.L. Blachford Ltd.
  - Imperial Oil
  - INEOS Canada Partnership
  - Inter-Pipeline Ltd.[6]
  - Lanxess Canada Co./Cie
  - Jungbunzlauer Canada Inc.
  - MEGlobal Canada ULC
  - Methanex Corporation
  - Nouryon
  - NOVA Chemicals Corporation
  - SEQENS
  - Shell Chemicals Canada Ltd.
  - Stepan Canada Inc.
  - W.R. Grace Canada Corp

b. Industrial Gases

Statistics Canada reports data on industrial gases as part of basic chemicals within NAICS 32512. Under this category there is a single sub-category – Industrial Gas Manufacturing

Industrial gas manufacturers produce organic and inorganic gases in compressed — liquid and solid forms. Some of the most used industrial gases include: acetylene, carbon dioxide, helium, hydrogen, nitrogen, dry ice and oxygen. Manufacturing processes also include industrial gas separation and air separation configurations.

Often industrial gas manufacturers will co-locate on larger manufacturing sites utilize feedstock streams produced as co-products from the larger facility. However, this is not a hard rule, with diverse customer markets and a relatively small physical footprint industrial gas manufacturers can also locate closer to demand in light industrial areas.

[5] Currently pre-production facility is under construction

[6] Currently pre-production facility is under construction

Table 25: Principal Statistics for Industrial Gases

	2020	2021	2022	2023	2024
Establishments	101	115	115	113	116
Shipments $M	1,180	1,321	1,525	1,601	1,327
Employment	1,074	1,146	1,146	1,071	1,240
Exports $M[7]	125	138	157	228	272
Imports $M	176	180	179	263	303

- **CIAC Members Producing Industrial Gases**
  - Praxair Canada Inc.

c. Inorganic Chemicals

Statistics Canada reports data on inorganic chemicals as part of basic chemicals within NAICS 32518. Under this category there are two sub-industry classifications:

- NAICS 325811 – Alkali and chlorine
- NAICS 325819 – Other inorganic chemicals.

Since 2010, shipment and employment data have been suppressed at the 6-digit NAICS level and only reported at the 5-digit level.

The main inorganic chemicals produced by CIAC members in Canada are: chlorine, sodium hydroxide, hydrochloric acid, hydrogen peroxide, sodium chlorate, sodium silicates, sulphuric acid, and titanium dioxide.

Table 26: Principal Statistics for Inorganic Chemicals

	2020	2021	2022	2023	2024
Establishments					
Chlor-alkali	5	5	5	5	5
Other inorganic chemicals	104	104	104	104	104
Shipments $M	3,484	3,568	3,568	5,288	5,288
Employment	4,326	4,469	4,902	5,016	5,341
Exports $M[8]					
Chlor-alkali	78	135	230	251	259
Other inorganic chemicals	2,730	4,108	5,093	6,090	8,086
Imports $M					
Chlor-alkali	458	411	619	630	529
Other inorganic chemicals	3,333	3,285	4,217	3,352	3,443

[7] Exports and Imports sometimes exceed shipments due to different databases used to collect the two sets of data.

[8] Exports and Imports sometimes exceed shipments due to different databases used to collect the two sets of data.

Commodity Data

Statistics Canada reports production data for a limited number of inorganic chemicals (Table 25).

Table 27: Canadian Production of Specific Inorganic Chemicals, Kilotonnes

	2019	2020	2021	2022	2023
Carbon black	243	237	188	228	213
Chlorine	269	x	367	448	428
Hydrogen peroxide	243	237	234	235	212
Sodium hydroxide*	445	450	445	460	450

*estimated

More data exists for imports and exports than for domestic production.

Table 28: Canadian Exports of Select Inorganic Chemicals, Kilotonnes

	Value, $M	Quantity, kt	Top markets
Carbon black	365	204	USA 80% China 4% Belgium 4%
Chlorine	197	169	USA 100%
Ammonia	1,008	1,082	USA 100%
Hydrochloric Acid	82	278	USA 99%
Hydrogen Peroxide	59	102	USA 99%
Sodium Chlorate	281	331	USA 84% Japan 9%
Sodium Hydroxide	53	48.8	USA 99%
Sodium Silicate	14.7	24	USA 99%
Sulphuric Acid	304	1,746	USA 99%
Titanium Dioxide	26	7.5	Germany 67% India 10% Brazil 8% USA 6%

Table 29: Canadian Imports of Select Inorganic Chemicals

	Value, $M	Quantity, kt	Top Markets
Carbon black	142	56	USA 82% China 12%
Chlorine	3.42	1.4	USA 98%
Hydrochloric Acid	18.1	38	USA 99%
Hydrogen Peroxide	10	3.9	USA 94% Switzerland 3%
Sodium Chlorate	1.1	0.41	USA 96%
Sodium Hydroxide	11.7	11.3	USA 80% China 15%
Sodium Silicates	20.8	25.2	USA 95%
Sulphuric Acid	30.0	122	USA 99%
Titanium Dioxide	54.3	11.5	China 60% France 18% USA 7% Germany 3%

• CIAC Members Producing Inorganic Chemicals in Canada

- Arkema Canada Inc.
- CCC Sulphur Products
- Chemtrade
- ERCO Worldwide
- Evonik Canada Inc.
- KRONOS Canada Inc.
- National Silicates Limited
- Cabot Canada Ltd.
- NorFalco Sales Inc., GLENCORE Canada Corporation
- Nouryon
- Praxair Canada Inc.
- Solvay Canada Inc.
- W.R. Grace Canada Corp
- United Initiators Canada Ltd

c. Synthetic Resins, Rubbers and Fibres

There are two industry sub-groups within this classification:

- NAICS 32521 – Synthetic resins and rubbers
- NAICS 32522 – Synthetic fibres.

Since 2013, shipment and employment data have been suppressed at the 5-digit NAICS level and only reported at the 4-digit level.

The main synthetic resins and rubbers produced in Canada are polyethylene, ethylene vinyl acetate, polystyrene, PVC, polyacrylamides, PET, nylons, urea and phenol formaldehydes, latex emulsions, unsaturated polyesters, silicones, and butyl and halobutyl rubbers. Synthetic fibres are produced in Canada using a variety of domestically-produced and imported resins.

Table 30: Principal Statistics for Synthetic Resins Rubbers and Fibres

	2020	2021	2022	2023	2024
Establishments					
Synthetic resins and rubbers	108	105	X	X	X
Synthetic fibres	30	23	X	X	X
Shipments $M	8,333	12,241	13,016	10,930	11,321
Employment, 000	6,330	6,554	6,887	7,494	7,519
Exports $M					
Synthetic resins and rubbers	7,028	10,943	10,048	8,825	9,342
Synthetic fibres	232	291	260	250	250
Imports $M					
Synthetic resins and rubbers	7,735	10,941	12,492	10,208	10,466
Synthetic fibres	430	485	537	513	491

• Commodity Data

Within these industries, Statistics Canada reports production data only for polyethylene (Table 28).

Table 31: Canadian Production of Synthetic Resins, Kilotonnes

	2019	2020	2021	2022	2023
Polyethylene	3,599	3,871	4,052	3,820	3,790

Table 32: Canadian Exports of Select Synthetic Resins and Rubbers

	Value, $M	Quantity, kt	Top Markets
Butyl and halobutyl rubbers	302	65.4	USA 35% China 27% Belgium 8%
Polyethylene	5,394	3,730	USA 86% Mexico 4%
Polypropylene	83	21.7	95% USA Mexico 2%

Table 33: Canadian Imports of Select Synthetic Resins and Rubbers

	Value, $M	Quantity, kt	Top Markets
Butyl and Halobutyl Rubbers	12.0	2.6	Belgium 40% USA 45%
Polyethylene	1,800	845	USA 96%

• CIAC Members Producing Synthetic Resins, Rubbers and Fibres in Canada

- ARLANXEO Canada Inc.
- BASF Canada
- Dow Chemical Canada ULC
- DuPont Canada Company
- Imperial Oil
- NOVA Chemicals Corporation

d. Specialty Chemicals

This profile is different from the others in the series. There is no Statistics Canada aggregation that provides data for an industry called specialty chemicals. Therefore, a number of assumptions have been made to derive an approximation for the size of this industry grouping.

Examples of the types of specialty chemicals produced by CIAC members include: fatty acids, maleic anhydride, plasticizers, citric acid, photochemicals, and additives for lubricants, plastics and rubber.

- Assumption #1: Specialty chemicals are a subset of NAICS 32519 – Other organic chemicals. Very little, if any, specialty chemicals fall within the petrochemical industry as it is comprised primarily of commodity products. For this analysis it is assumed that inorganic chemicals and synthetic resins and rubbers can also be excluded.

- Assumption #2: The ratio of specialty chemical to commodity chemical exports can be used to estimate the value of shipments and employment attributable to specialty chemicals. This assumption allows the use of relatively-detailed trade data to gain a measure of the level of specialty chemical production in Canada. However, deciding which products are commodity versus which are specialty remains subjective.

There are about 15 facilities in Canada producing ethanol that are captured within the other organic chemical industry. Since ethanol is primarily used for fuel, these facilities are not considered part of specialty chemicals.

Estimated statistics for the total other organic chemicals industry and the specialty component are shown in Table 30. The data for the other organic chemicals industry includes both commodity and specialty chemicals, and is repeated from the Petrochemicals profile. It is presented again to provide an indication of the relative size of the commodity versus specialty element of the industry.

Table 34: Estimated Principal Statistics for Specialty Chemicals

	2020	2021	2022	2023	2024
Establishments					
Other organic chemicals	145	145	X	X	X
Specialty chemicals	113	113	X	X	X
Shipments $M					
Other organic chemicals	4,716	5,635	7,881	7,596	7,842
Specialty chemicals	2,660	2,660	2,600	2,600	2,600
Employment, 000					
Other organic chemicals	2,917	2,852	3,464	3,464	3,464
Specialty chemicals	1,880	1,880	2,335	2,335	2,335
Exports $M					
Other organic chemicals	4,057	4,396	5,837	6,428	5,853
Specialty chemicals	1,620	1,620	1,620	1,620	1,620
Imports $M					
Other organic chemicals	6,497	8,152	11,806	11,968	14,181
Specialty chemicals	2,720	2,720	4,840	4,840	5,670

• Commodity Data

Table 34 shows the exports for a select range of specialty chemicals, in both tonnage and dollar value terms in 2014.

Table 35: Canadian Exports of Select Specialty Chemicals, Tonnes

	Value, $M	Quantity, kt	Top Markets
Palmitates and stearates	10.5	3.3	USA 83% Hong Kong 4% China 3%
Dinonyl or didecyl orthophthalates	4.9	1.46	USA 99%
Azo compounds	4.8	0.68	USA 83% Japan 10%
Cyanine dyes	31.1	1.91	USA 100%
Azo dyes	5.0	0.2	USA 92% Spain 2% China 2%
Other fatty acids	9.9	6.8	USA 85% Germany 10%

Table 36: Canadian Imports of Select Specialty Chemicals. Kilotonnes

	Value, $M	Quantity, kt	Top Markets
Palmitates and stearates	70.1	18.9	USA 42% Malaysia 42% India 4% Indonesia 2%
Dinonyl or didecyl orthophthalates	7.0	4.96	Germany 37% Sweden 32% USA 25%
Azo compounds	0.6	0.35	Mexico 89% USA 4% Japan 3%
Cyanine dyes	4.81	0.235	USA 50% China 19% Germany 12% India 9%
Azo dyes	38	2.54	USA 42% China 24% Germany 15% India 15%
Other fatty acids	38	30.9	Malaysia 66% USA 21% India 9%

CIAC Members Producing Specialty Chemicals in Canada

- BASF Canada
- Evonik Oil Additives Canada Inc.
- H.L. Blachford Ltd.
- Imperial Oil
- Jungbunzlauer Canada Inc.
- Lanxess Canada Co./Cie
- Nouryon
- Procter and Gamble, Inc.
- SEQENS
- Stepan Canada Inc.
- W.R. Grace Canada Corp

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