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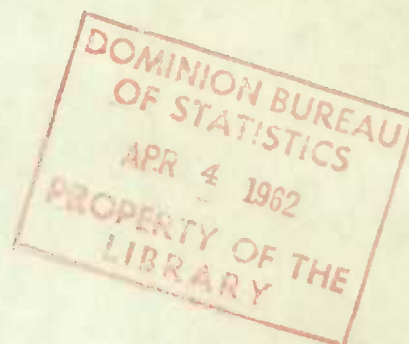
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MANUFACTURERS OF PLASTICS AND SYNTHETIC RESINS

1960

Formerly included in The Primary Plastics Industry

ANNUAL CENSUS
OF MANUFACTURES



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SYMBOLS

The interpretation of the symbols used in the tables throughout this publication is as follows:

- .. figures not available.
- ... figures not appropriate or not applicable.
- nil or zero.

EXPLANATORY NOTES

This report is one in a series of about 140 publications which present the results of the 1960 Census of Manufactures. Most reports in this series refer to specific industries, but there are summary reports for Canada and the provinces and for major industry groups. Adoption of the revised Standard Industrial Classification for 1960 compilations has necessitated changes in titles of many reports in this annual series. The content of many industries has also been affected (see following note on Industrial Classification).

Industry statistics given in these reports refer to number of establishments, employees, salaries and wages, cost of materials, supplies, fuel and electricity, gross value of shipments, inventories and value added by manufacturing. Details of materials used and products shipped are also given. Descriptions of the principal industry statistics, with special reference to 1960 are as follows:

Period Covered

Firms are asked to submit figures for the calendar year, if at all possible, and most reports are on this basis. Financial year reports for periods differing from the calendar year are accepted in instances where the firms find it impossible to supply calendar year data from accounting records. However the data on employees, salaries and wages are requested on a calendar year basis in all cases.

Establishment

Data for the annual census is collected on an establishment basis. A firm with more than one plant is required to file a report for each plant. In most cases an establishment is a complete factory; sometimes, however, a plant is divided into two or more establishments when it carries out operations classifiable to different industries and when separate accounting records are available. Usually the statistics for an establishment relate only to the manufacturing activities. Other activities such as construction at the plant by its own employees, wholesale or retail activities carried on at the plant location, etc., are not included. Plants engaged solely in repair work (except in the case of furniture, shipbuilding, boat building, aircraft and railway rolling stock industries) are not included but plants occupied in assembling parts into complete units are included.

Employees

Administrative and office employees include all executives and supervisory officials such as presidents, vice-presidents, secretaries, treasurers, etc., together with managers, professional and technical employees, superintendents and factory supervisors above the working foremen level, and clerical employees. Working owners and partners are also included in this category.

Production and related workers include all other factory workmen whether paid on a monthly, weekly, hourly or piece-work basis. Working foremen doing work similar to that of the employees they supervise are included, as are maintenance, ware-

housing and delivery staffs. Employees on new construction work, in retail or wholesale operations, on outside piece work etc. are not included.

Production workers are reported by months, an average for the year being obtained by summing the monthly figures and dividing by twelve. This procedure is followed even though the plant did not operate in all months. Figures on employment refer to calendar years whether or not some establishments reported other data on a financial year basis.

Salaries and Wages

Salaries and wages refer to gross earnings of the employees described above, including salaries, wages, commissions, bonuses, the value of room and board where provided, deductions for income tax and social services such as sickness and unemployment insurance, pensions, etc., as well as any other allowances forming part of the employees' wages. Payments for overtime are included.

Salaries refer to amounts paid to administrative and office employees. Withdrawals by working owners or partners for normal living expenses for self and family are included but not their withdrawals for income tax. Wages refer to the amounts paid to production and related workers as defined above. Data on earnings refer to the calendar year whether or not some establishments reported other data on a financial year basis.

Cost of Fuel and Electricity

Figures for fuel refer to amounts actually used, (including fuel used in cars and trucks), not to purchases unless the quantities are the same. Values refer to the laid-down cost at the works, including freight, duty, etc.

Materials and Supplies Used

Figures represent quantities and laid-down cost values, at the works, of materials and supplies actually used during the year whether purchased from others or received as transfers from other plants of the reporting company. Amounts paid to other manufacturers for work done on materials owned by the reporting company are included. Returnable containers or any other items charged to capital account are not included. Fuels are not included. Goods bought from others or received as transfers from other plants or reporting companies for resale without further processing are not included. Maintenance and repair supplies not chargeable to capital account are included.

Factory Shipments

Factory shipments refer to shipments of goods made from own materials either in the reporting plant or by other manufacturers on the basis of a charge to the reporting plant for work done. All products and by-products shipped from the establishment are included whether for domestic use, export, or for government departments. Transfer shipments to sales outlets, distributing warehouses or to other manufacturing units of the reporting firm are included. Goods bought or received as transfers

and resold without further processing are not included. Values are computed on f.o.b. plant or plant warehouse basis, and do not include sales tax or excise duties. Values of containers not returnable are included. Amounts received in payment for work done on materials owned by others are included.

In a few industries such as shipbuilding, aircraft, etc., where work on principal products extend over a relatively long period, the value of production is recorded rather than the value of shipments. For those industries production is computed from the value of deliveries of complete units during the year plus the value of work done during the year on unfinished units less the value of work done in previous years on finished units delivered in the year under review.

Inventories

Values represent the book values of manufacturing inventories owned and held at the reporting plant. Figures include inventories held in warehouses or selling outlets which have been included with plant operations for purposes of reporting shipments.

Value added by Manufacturing

Figures are computed from value of shipments plus or minus changes in inventories of finished goods and goods in process less cost of materials, fuel and electricity. This figure is sometimes referred to as net production.¹

Standard Industrial Classification

The revised Standard Industrial Classification which has been introduced with the 1960 Census of Manufactures provides for a breakdown of the universe into 140 industries arranged in 20 major groups compared with 135 industries in 17 major groups in the old classification which was used in the compilations for the years 1949 to 1959 inclusive. It incorporates changes considered desirable on the basis of experience in using the earlier classification as well as those which take account of changes in the structure of Canadian industries associated with the rapid developments of the past decade. Full details are contained in the Standard Industrial Classification Manual, Catalogue No. 12-501, which is available from either the Queen's Printer or the Dominion Bureau of Statistics. Reporting establishments are classified or allotted to specific industries on the basis of the value of principal products made or shipped.

Many industries remain unchanged in the new classification but in many instances there have been substantial changes in content because of the shifting of establishments from one industry to another or in re-grouping of establishments. Where

¹ To arrive at the National Accounts concept of "gross domestic product at factor cost", it would be necessary to subtract also the cost of office supplies used, advertising, insurance and other goods and services obtained from other businesses. Data on these inputs are not collected on the annual Census of Manufactures. Value added figures for "The primary industries and construction" are published in D.B.S. publication 61-202, *Survey of Production*.

changes have occurred the principal statistics for 1957, 1958 and 1959 have been re-compiled to provide data on a basis comparable with those for 1960.

Short Forms

Between 1949 and 1957, in an effort to ease the reporting burden for smaller firms, a short form was used asking for the total value of shipments only or, in a few cases where losses of detail were significant, for quantities and values of principal products. For purposes of publication, missing data were estimated on the basis of appropriate ratios. In general the cut-off point for these short forms was set at \$50,000 value of shipments. About 40% of the total number of establishments reported on the short form and accounted for less than 3 per cent of the total value of shipments.

In 1958, in order to establish a new base year, the small firms were asked to report all items of principal statistics together with some detail on materials and products.

For the 1959 Census, the short form was used again, but further steps were taken to ease the respondents' burden. First, the general limit for short forms was raised to \$100,000 value of shipments. In addition, a new intermediate form was developed. This form is a shortened version of the long form in that most of the general questions were pared down and the detailed lists of materials and products were limited to the more important items. The general limits for firms in this category were set at between \$100,000-\$500,000 value of shipments, but in the case of both the short and intermediate forms there were lower cut-offs for a number of industries in which the smaller firms accounted for a larger share of total shipments. On the other hand, limits were raised where this could be done without a significant loss of coverage. On most of the short forms for 1959, in addition to total value of shipments, data on principal products were requested. In a few industries, where loss of employment and earnings data were considered too large because of higher cut-offs, a question on total payroll was placed on the short form. This practice was followed again in 1960.

The intermediate and long forms provide complete data for the compilation of all elements of principal industry statistics and the details of materials and products. The one-page short form, although containing data on principal products and total value of shipments, does not request information on other elements of principal statistics such as value of inventories, materials, fuel and electricity and, in most cases, employment and salaries and wages, nor does it contain detailed data on volume and value of materials used. For purposes of compiling aggregates of principal statistics by industry and by geographic location, the missing data for each establishment were estimated for 1959 by using, in general, ratios based on the change in the value of shipments between 1958 and 1959. The proportion of the estimated data was generally less than 5 per cent of the total in each category of principal statistics.

MANUFACTURERS OF PLASTICS AND SYNTHETIC RESINS

1960

Data presented in this report under the heading of Manufacturers of Plastics and Synthetic Resins reflect implementation of the revised Standard Industrial Classification (SIC) which is being used by the Dominion Bureau of Statistics in its compilation of 1960 industry statistics—see item “Standard Industrial Classification” in the Explanatory Notes section of this report. For statistical purposes the industry titled Manufacturers of Plastics and Synthetic Resins in the revised Standard Industrial Classification covers the operations of establishments primarily engaged in manufacturing synthetic resins in such forms as powders, granules, flakes, liquids or simple sheets. This industry also includes establishments primarily engaged in manufacturing transparent cellulose film; however, establishments primarily engaged in making film as such from purchased resins are classified in the industry, Plastics Fabricators, n.e.s. Not all producers of synthetic resins were included in this industry as some concerns made synthetic resins as secondary or minor products, or as intermediates for the further use of the producer, e.g. in the manufacture of laminates, paints, etc. Statistics relating to the latter have been included in the appropriate industries which are reviewed in separate bulletins.

In many instances, adoption of the revised Standard Industrial Classification effected a radical shifting of manufacturing establishments as between industry groupings; however, changes brought about by the implementation of the revised Standard Industrial Classification in the case of establish-

ments engaged in manufacturing synthetic resins were minimal as evidenced in the comparative series of statistics presented in Tables 1A and 1B. Table 1A shows data for these establishments according to the “old” concept while Table 1B carries figures re-compiled on the “new” or revised Standard Industrial Classification basis. (Note: In addition to changes resulting from implementation of the revised Standard Industrial Classification, the 1960 figures coincidentally happen to reflect the effect of a change in industry classification of one of the major establishments in this industry so that this fact should be taken into account in any comparison of the 1960 data with earlier years).

There were 33 establishments classified as Manufacturers of Plastics and Synthetic Resins in 1960, there being 9 in Quebec, 17 in Ontario, 4 in Alberta and 3 in British Columbia. Employees in this industry numbered 4,000; salaries and wages totalled \$21,270,993; fuel and electricity cost \$4,835,008; materials used in manufacturing processes cost \$68,630,527 and factory shipments were valued at \$128,657,676.

Separate figures for many of the synthetic resin types made in Canada cannot be published as, for the most part, they were made by only one or two firms; however, figures for several types available for publication are shown in Table 5 while a special compilation which gives a fairly good summary of the total output of synthetic resins, as gathered up from all industries, is shown in Table 4.

TABLE 1A. Principal Statistics of the Primary Plastics Industry, Significant Years, 1948 - 59
Basis: Standard Industrial Classification in use prior to 1960

Year	Estab-lish-ments	Em-ployees	Salaries and wages	Cost of fuel and electricity at plant	Cost at plant of materials used	Value added by manufacture	Gross selling value of products
	number				dollars		
1948	12	1, 149	2, 770, 529	331, 932	7, 630, 498	8, 478, 317	16, 440, 747
1949	14	1, 286	3, 496, 087	461, 318	10, 897, 184	9, 663, 717	21, 022, 219
1954	22	2, 808	11, 190, 653	1, 685, 824	30, 973, 562	26, 892, 324	58, 881, 800
1955	23	3, 036	12, 332, 507	1, 490, 621	40, 264, 982	33, 760, 502	75, 052, 166
1956	25	3, 260	13, 855, 172	1, 703, 084	46, 911, 807	34, 886, 821	82, 738, 552
1957	29	3, 443	15, 709, 733	1, 995, 912	48, 088, 585	42, 475, 576	91, 836, 820
1958	34	3, 435	16, 255, 231	2, 832, 055	52, 091, 681	42, 565, 649	97, 802, 453
1959	34	3, 469	17, 079, 990	3, 330, 095	57, 802, 935	43, 779, 167	103, 538, 744

Note: Separate statistics for this industry were not compiled before 1947.

**TABLE 1 B. Principal Statistics, Manufacturers of Plastics and Synthetic Resins,
by Provinces, 1957 - 60**

Basis: Standard Industrial Classification revised 1960

Year and province	Estab- lish- ments	Em- ployees	Salaries and wages	Cost of fuel and electricity at plant	Cost at plant of materials used	Value added by manufacture	Selling value of factory shipments
	number				dollars		
1957							
Quebec	7	1,841	8,638,747	783,946	17,621,307		34,037,757
Ontario	15	891	3,840,497	666,160	20,987,361		36,732,760
Alberta	4	491	2,342,056	445,170	5,268,580		13,903,332
British Columbia	3	94	363,451	40,061	3,280,945		5,345,386
Canada	29	3,317	15,184,751	1,935,337	47,158,293		90,019,235
1958							
Quebec	8	1,792	8,781,803	1,040,714	18,588,454		34,468,878
Ontario	16	917	4,109,114	1,238,239	22,817,341	1	38,526,771
Alberta	4	496	2,431,585	449,958	5,778,077		15,884,012
British Columbia	3	86	408,573	37,963	3,594,693		5,011,751
Canada	31	3,291	15,731,075	2,766,874	50,778,565		94,891,412
1959							
Quebec	8	1,667	8,512,110	1,084,176	19,070,875		34,948,919
Ontario	16	989	4,675,467	1,568,586	25,679,632		41,825,299
Alberta	4	502	2,539,266	561,966	7,868,774		17,642,113
British Columbia	3	99	491,299	39,673	3,492,493		5,582,683
Canada	31	3,257	16,218,142	3,254,401	56,111,774		79,999,014
1960							
Quebec	9	2,172	11,611,663	2,088,972	33,443,887	39,263,771	58,047,033
Ontario	17	1,232	6,256,734	2,004,409	38,500,499	14,560,814	44,436,406
Alberta	4	498	2,913,804	699,245	7,962,748	10,999,994	19,216,317
British Columbia	3	98	488,792	42,382	3,721,393	2,173,801	5,957,921
Canada	33	4,000	21,270,993	4,835,008	68,630,527	56,943,380	128,657,676

¹ The changeover to the new classification has delayed the recompilation of "Value added" figures for these years and same will not be available until the next issue of this report.

TABLE 2. Inventories:¹ Manufacturers of Plastics and Synthetic Resins, 1960

Province	Raw materials and supplies	Goods in process	Finished goods of own manufacture	Total
	dollars			
Opening:				
Quebec	3,054,620	1,290,962	4,058,800	8,404,382
Ontario	3,102,909	395,550	2,354,200	5,852,659
Alberta	1,564,826	71,439	1,963,138	3,599,403
British Columbia	234,027	611	142,913	377,551
Canada	7,956,382	1,758,562	8,519,051	18,233,995
Closing:				
Quebec	2,801,245	991,234	5,055,126	8,847,605
Ontario	3,484,684	400,069	2,978,997	6,863,750
Alberta	1,188,623	117,444	2,362,803	3,668,870
British Columbia	239,136	786	122,393	362,315
Canada	7,713,688	1,509,533	10,519,319	19,742,540

¹ Book value of all manufacturing inventories owned and held at plant and plant warehouses.

TABLE 3. Materials Used: Manufacturers of Plastics and Synthetic Resins, 1960

Materials	Quantity	Cost at works
		\$
Acetic anhydride	lb. 110,079	14,068
Acid—Adipic	" 978,682	299,648
Fatty—Oleic	" 2,510	484
Stearic	" 80,245	11,721
Other fatty acids	" 1,320,380	221,620
Formic	" 127,681	17,650
Hydrochloric (muriatic), 100%	" 153,903	6,044
Sulphuric, all grades, including oleum (as 100%).....	" 40,515,217	527,076
Other	" 25,965,300	2,809,507
Alcohol—Ethyl	Imp. gal. 60,746	58,636
Isopropyl	lb. 472,007	59,505
Methyl	Imp. gal. 1,390,510	489,799
Other	lb. 6,539,845	1,092,970
Casein	" 278,887	67,896
Chlorine, liquid	" 582,137	13,594
Cresol (Including cresylic acid)	" 1,075,017	144,623
Dibutyl phthalate	" 454,802	131,379
Dyes and pigments .....	..	881,378
Ethyl acetate	lb. 1,321,271	149,628
Formaldehyde (100% solids content)	" 16,806,103	1,668,361
Glycerine	" 3,641,874	1,122,551
Glycols—Ethylene	" 5,622,268	836,837
Diethylene	" 424,685	70,857
Propylene	" 1,395,945	182,141
Other grades	" 389,520	74,150
Maleic anhydride	" 490,517	123,909
Oils, vegetable—Castor	" 825,683	141,181
Chinawood	" 329,374	60,811
Linseed	Imp. gal. 155,981	242,239
Soya bean	lb. 7,019,811	759,490
Tall	" 413,793	29,152
Other vegetable oils	" 99,946	18,220
Pentaerythritol	lb. 1,322,006	389,636
Phenol	" 21,845,681	3,251,149
Phthalic anhydride	" 9,462,782	1,819,663
Plasticizers (not elsewhere specified)	" 3,339,131	1,110,873
Polyethylene type resin (all forms; for compounding only).....	" 7,042,385	1,426,175
Resins, other (all forms; for compounding only).....	" 15,009,821	2,535,501
Resorcinol	" 172,240	124,843
Sodium hydroxide (caustic soda).....	" 29,202,645	704,809
Styrene monomer	" 29,006,643	2,950,209
Toluene (toluol).....	" 670,141	29,307
Urea	" 7,314,359	387,951
Vinyl monomers—Vinylacetate type	" 3,943,631	576,585
Other vinyl monomers	" 20,876,800	2,874,271
Xylene (xylo)	" 2,244,788	99,133
All other materials and process supplies .....	..	35,746,389
Shipping containers and packaging materials .....	..	2,276,908
Totals .....	...	68,630,527

**TABLE 4. Factory Shipments of Synthetic Resins¹ in Canada, 1951-60
(from All Industries)**

Year	Selling value at works
	\$
1951	23,097,000
1952	19,100,000
1953	26,251,000
1954	36,647,000
1955	49,430,000
1956	50,530,000
1957	54,930,000
1958	66,441,000
1959	73,827,000
1960	88,178,000

¹ (a). Includes casein-type, vinyls, polystyrene, alkyds, phenol-formaldehyde, urea-formaldehyde, sodium carboxymethyl-cellulose, polyethylene, cellulose acetate, nylon flake, etc.

(b). Includes only resins or equivalent forms made for sale as there is no adequate record of resins made for own or captive use.

**TABLE 5. Factory Shipments¹ of Specified Synthetic Resins, 1959 and 1960
(from All Industries)**

Type	1959		1960	
	Quantity	Selling value at works	Quantity	Selling value at works
	lbs.	\$	lbs.	\$
Alkyd (excluding polyester)	2	5,282,000	2	5,294,000
Alkyd polyester	2	2,465,000	2	2,465,000
Phenol-formaldehyde	2	8,912,000	2	8,902,000
Urea-formaldehyde	2	2,091,000	2	1,931,000
Vinyl chloride ²	41,245,000	10,886,000	38,862,000	10,013,000
Polystyrene ³	52,615,000	10,193,000	55,839,000	10,261,000

¹ Does not include resins made for own or captive use such as alkyds in paints, phenol-formaldehyde in laminates; however, phenol-formaldehydes and urea-formaldehydes sold as glues are included in the relevant categories.

² These resins are marketed, for the most part, in solution form of varying concentration and may be reported in terms of gross weight of solution or net resin content. Under these circumstances it is difficult to develop meaningful quantity data. For this reason quantity figures are not shown.

³ Figures shown in the quantity column for these categories reflect the weight of the resins in all forms including equivalent forms such as sheet, moulding compounds, etc. and, therefore, totals shown are not necessarily indicative of total net weight of resin sold.

**TABLE 6. Principal Statistics classified according to Type of Ownership:
Manufacturers of Plastics and Synthetic Resins, 1957 and 1960**

Type	Estab-lish-ments	Em-ployees	Salaries and wages	Cost of fuel and electricity	Cost at plant of materials used	Selling value of factory shipments
	number		dollars			
1957						
Incorporated companies	29	3,317	15,184,751	1,935,337	47,158,293	90,019,235
Totals	29	3,317	15,184,751	1,935,337	47,158,293	90,019,235
1960						
Incorporated companies	33	4,000	21,270,993	4,835,008	68,630,527	128,657,678
Totals	33	4,000	21,270,993	4,835,008	68,630,527	128,657,678

TABLE 7. Principal Statistics Grouped according to Selling Value of Factory Shipments: Manufacturers of Plastics and Synthetic Resins, 1957 and 1960

Establishments reporting a value of factory shipments	Estab-lish-ments	Em-ployees	Salaries and wages	Cost of fuel and electricity	Cost at plant of materials used	Selling value of factory shipments
1957						
\$ 50,000 to \$ 99,999	2	35	109,105	21,355	403,487	627,898
100,000 " 199,999	3					
200,000 " 499,999	3					
500,000 " 999,999	3	43	180,038	20,852	1,236,661	1,792,920
1,000,000 " 4,999,999	11	573	2,360,779	388,495	15,973,575	25,105,627
5,000,000 and over	7	2,326	10,739,436	1,487,208	28,633,016	61,261,964
Head offices	—	307	1,671,327	—	—	—
Totals	29	3,317	15,184,751	1,935,337	47,158,293	90,019,235
1960						
\$ 50,000 to \$ 99,999	1	301	1,645,387	271,924	3,801,918	3,982,826
100,000 " 199,999	1					
200,000 " 499,999	8					
500,000 " 999,999	2	663	3,250,169	490,560	21,518,590	30,543,406
1,000,000 " 4,999,999	13	2,841	15,112,452	4,072,524	43,310,019	94,131,444
5,000,000 and over	8	195	1,262,985	—	—	—
Head offices	—	195	1,262,985	—	—	—
Totals	33	4,000	21,270,993	4,835,008	68,630,527	128,657,676

TABLE 8. Employees and their Earnings: Manufacturers of Plastics and Synthetic Resins, 1959 and 1960

Province	Employees					Earnings		
	Supervisory and office		Production workers		Total	Supervisory and office	Production workers	Total
	Male	Female	Male	Female				
1959								
Quebec	472	165	1,003	27	1,667	3,788,551	4,723,559	8,512,110
Ontario	230	65	675	19	989	1,562,468	3,112,999	4,675,467
Alberta and British Columbia	226	63	309	3	601	1,447,191	1,583,374	3,030,565
Canada	928	293	1,987	49	3,257	6,798,210	9,419,932	16,218,142
1960								
Quebec	678	211	1,266	17	2,172	5,280,566	6,331,097	11,611,663
Ontario	332	74	805	21	1,232	2,311,733	3,945,001	6,256,734
Alberta and British Columbia	210	55	327	4	596	1,530,992	1,871,604	3,402,598
Canada	1,220	340	2,398	42	4,000	9,123,291	12,147,702	21,270,993

TABLE 9. Production Workers,¹ by Months: Manufacturers of Plastics and Synthetic Resins, 1960

Month	Male	Female	Total
January	2,267	42	2,309
February	2,312	40	2,352
March	2,344	42	2,386
April	2,354	43	2,397
May	2,419	44	2,463
June	2,468	46	2,514
July	2,480	43	2,523
August	2,479	41	2,520
September	2,444	42	2,486
October	2,419	41	2,460
November	2,420	39	2,459
December	2,381	39	2,420
Average	2,398	42	2,440

¹ The number of production workers by months was collected only for establishments reporting value of shipments of \$200,000 and over. For establishments reporting value of shipments of less than \$200,000 no data on number of workers was collected. The average was estimated by using the change in the value of shipments to arrive at the value of payroll which was then used in conjunction with estimated average earnings to arrive at the number of workers. This number was then included in each month's total.

TABLE 10. Fuel and Electricity Used: Manufacturers of Plastics and Synthetic Resins, 1960

Kind	Quantity	Cost at plant
		\$
Bituminous coal:		
(a) From Canadian mines..... ton	18,352	204,393
(b) Imported..... "	3,854	43,760
Gasoline (including gasoline used in cars and trucks)..... Imp. gal.	183,716	63,820
Fuel oil including kerosene or coal oil..... "	10,376,275	748,930
Gas:		
(a) Liquefied petroleum gases..... Imp. gal.	86,798	20,323
(b) Natural gas..... M cu. ft.	3,821,044	659,688
Other fuel.....	..	78,892
Electricity purchased..... kwh.	371,747,875	1,544,209
Steam purchased.....	..	1,470,993
Total.....	...	4,835,008

TABLE 11. Imports¹ into Canada of Plastics and Manufactures thereof, 1959 and 1960

Item	Value	
	1959	1960
	dollars	
Casings, synthetic, for meats	507,004	544,140
Esters, or ethers, or combinations thereof, of cellulose, without admixture	2,075,852	2,074,325
Esters, or ethers, or combinations thereof, of cellulose, compounded with other materials, for moulding, casting, extruding or pressing	1,459,551	1,453,241
Foamed and expanded cellulose plastics in sheets, blocks, boards, granules or powder	29,484	32,627
Compositions of esters or ethers of cellulose with other materials, n.o.p.	53,311	45,459
Cellulose plastic plates, sheets, strip, film, blocks, bars, rods, tubes or other primary shapes	2,044,837	2,745,741
Reinforced or supported cellulose plastic plates, sheets, strip, tubing, blocks, bars, rods, in which is incorporated a layer of paper, fibreboard or textile fabric, or a core of fibres, whether matted or otherwise arranged n.o.p.	638,162	391,693
Laminated moulded plastic products having cellulose plastics as the chief binding agents	189,936	164,053
Synthetic resin or cellulose plastic sheets or plates for the production of printers' engravings	149,261	125,170
Manufactures of cellulose plastics, n.o.p.	2,110,178	1,911,974
Manufactures of regenerated cellulose, n.o.p.	1,781,830	2,355,699
Synthetic resins without admixture	19,947,446	22,382,461
Synthetic resins in solutions or solvents	6,259,078	6,321,304
Synthetic resins compounded with other materials for moulding, casting or extruding, including uncured preforms or blanks for compression moulding	8,248,129	7,319,161

¹ Source: Trade of Canada - Imports.

TABLE 11. Imports¹ into Canada of Plastics and Manufactures thereof, 1959 and 1960 - Concluded

Item	Value	
	1959	1960
	dollars	
Foamed and expanded synthetic resins in logs, sheets, blocks, boards, flakes, granules or powder	967,330	1,000,388
Synthetic resin composition, n.o.p.	2,585,748	2,718,922
Synthetic resins or protein plastics in bars, rods, sheets, plates, strip, film, tubing or other primary shapes, n.o.p., whether coated or decorated or not	10,633,620	11,821,483
Reinforced or supported synthetic resin plates, sheets, strip, blocks, tubing, bars, rods, in which is incorporated a layer of paper, fibreboard or textile fabric, or a core of fibres, whether matted or otherwise arranged n.o.p.	3,266,416	3,659,552
Laminated moulded plastic products having synthetic resins as the chief binding agents	985,055	1,204,920
Manufactures, n.o.p. of synthetic resins, or of protein plastics	23,690,440	27,311,079

¹ Source: Trade of Canada - Imports.

TABLE 12. Exports From Canada of Synthetic Resins and Synthetic Resin Products, 1959 and 1960

Item	1959	1960
Synthetic resins, n.o.p. lb.	23,367,732	1
..... \$	8,594,430	
Synthetic resins, manufactures of	\$ 4,393,635	1,569,505
Polystyrene	lb. 33,903,300	35,455,600
..... \$	8,382,237	7,583,492
Plastic film and sheet	\$ 1	3,645,382
Plastics basic shapes and forms, n.o.p.	\$ 1	1,489,632

¹ No longer available.

² New category in 1960.

TABLE 13. Exports of Synthetic Resins and Plastics from the United States to Canada, 1959 and 1960

Item	1959		1960	
	Quantity	Value	Quantity	Value
	pounds	\$	pounds	\$
Ester gums, except laminated	3,675,000	825,000	3,041,000	756,000
Styrene polymer and copolymer resins, 60 per cent or more styrene	13,468,000	3,711,000	15,229,000	4,167,000
Alkyd resins	8,772,000	2,538,000	7,562,000	2,282,000
Vinyl and vinyl copolymer resins, uncompounded	11,096,000	3,193,000	9,800,000	2,912,000
Vinyl and vinyl copolymer resins, compounded	6,723,000	2,323,000	5,516,000	1,893,000
Vinyl and vinyl copolymer resins, semi-finished	1,073,000	653,000	1,528,000	861,000
Tar acid resins, powder, flake, lump, etc.	9,163,000	2,597,000	8,296,000	2,694,000
Urea-formaldehyde, melamine-formaldehyde and other amine resins	14,475,000	5,094,000	12,066,000	3,846,000
Resins, n.e.c., unfinished and semi-finished	11,895,000	3,269,000	12,966,000	3,949,000
Film and sheeting, synthetic resin	10,113,000	9,035,000	9,634,000	9,083,000
Cellulose ethers and derivatives in all unfinished forms	308,000	223,000	316,000	233,000
Regenerated cellulose, excluding rayon, in rolls and sheets	701,000	560,000	2,023,000	1,191,000
Vulcanized fiber sheets, rolls and other shapes made therefrom	1,511,000	764,000	1,135,000	636,000
Polyethylene, unfinished and semi-finished	17,131,000	4,856,000	29,625,000	7,891,000
Acrylic and methyl methacrylate unfinished and semi-finished	4,912,000	1,402,000	2,957,000	1,025,000
Ion exchange resins	2,238,000	680,000	3,269,000	800,000
Polyethylene film and sheeting except laminated	951,000	669,000	1,278,000	967,000
Laminated shapes, synthetic except, molded and decorative	2,004,000	1,444,000	749,000	1,110,000
Laminated shapes, synthetic molded, except decorative	948,000	768,000	570,000	523,000
Laminates synthetic decorative	799,000	715,000	658,000	603,000
Cellulose ester moulding and extrusion compositions	2,730,000	1,534,000	2,446,000	1,351,000
Cellulose ester plastic	1,000	800	10,000	3,000
Cellulose ester, plastics except mouldings extrusions and scrap	3,031,000	3,384,000	3,105,000	3,546,000
Plastics except synthetic resins semi-finished or unfinished	1,140,000	873,000	836,000	587,000

Source: "United States Exports of Domestic and Foreign Merchandise".



List of Firms in the Manufacturers of Plastics and Synthetic Resins, 1960

Name	Location of plant
Quebec:	
Canadian Plastics Limited	1850 St. Antoine St., Montreal
Carbide Chemicals Co. Division of Union Carbide Canada Ltd.	10555 Metropolitan Blvd., Montreal East
Carlew Chemicals Limited	St. Remi de Napierville
Du Pont of Canada Limited	Shawinigan Falls
Monsanto (Canada) Limited	425 St. Patrick St., Ville la Salle
Reichhold Chemicals (Canada) Limited	Ste. Therese de Blainville
Shawinigan Chemicals Limited, Canadian Resins Division ..	Shawinigan Falls
Trilon Chemical Limited	260 Victoria St., Lachine
Waldor Enterprises Ltd.	7498 - 19th Ave., Ville St. Michel
Ontario:	
Bakelite Company, Division of Union Carbide Canada Limited	Belleville
Canadian General Electric Co. Ltd.	940 Lansdowne Ave., Toronto
Chemical Oil and Resin Co.	82 Peter St., Toronto
Dow Chemical of Canada Limited	Sarnia
Du Pont Co. of Canada Ltd.	Corunna
Goodrich, B.F. Chemical Co.	251 King St., Kitchener
Goodrich, B.F. Chemical Co.	Welland
Hysol Canada Limited	44 Beechwood Drive, Toronto
Kayson Rubber & Plastics Limited	1790 Eagle St. N., Preston
Kaydot Chemical Ltd.	1790 Eagle St. N., Preston
Perkins Glue Co. of Canada Limited	629 Queen St. S., Kitchener
Polyresins Limited,	44 Beechwood Drive, Toronto
Reichhold Chemicals (Canada) Limited	1919 Wilson Ave., Weston
Rohm & Haas Company of Canada Ltd.	2 Manse Rd., West Hill
Schenectady Varnish Canada Ltd.	309 Comstock Rd., Scarborough
T C F of Canada Ltd.	Cornwall
Varcum Chemical Division of Reichhold Chemicals Inc.	Lindsay
Alberta:	
Canadian Chemical Co. Ltd.	Edmonton
Canadian Industries Limited	Hwy. 16 - A, Edmonton
Canadian-Marietta Ltd.	156th St. and 125th Ave., Sturgeon No. 19
Monsanto Canada Limited	Clover Bar
British Columbia:	
Canadian-Marietta Ltd.	Foot of Kerry St., New Westminster
Monsanto Canada Limited	1550 West 75th Ave., Vancouver
Reichhold Chemicals (Canada) Limited	Foot of Douglas St., Port Moody