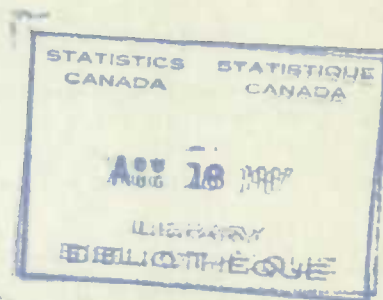


46-2176-20  
FEB 6 1953

DOMINION BUREAU OF STATISTICS — DEPARTMENT OF TRADE AND COMMERCE  
CANADA

THE PRIMARY PLASTICS INDUSTRY  
1951



Published by  
Authority of the Rt. Hon. C. D. Howe  
Minister of Trade and Commerce

Prepared in the Mining, Metallurgical and Chemical Section  
Industry and Merchandising Division  
Dominion Bureau of Statistics  
Ottawa

## NOTICE

The annual reports prepared by the Industry and Merchandising Division of the Bureau of Statistics are divided into 4 volumes, as follows: **Volume I**—The Primary Industries, including mining, forestry and fisheries; **Volume II**—Manufacturing; **Volume III**—Construction; **Volume IV**—Merchandising and Services. The volumes are made up of parts, and the parts in turn are subdivided according to the industries which they comprise.

Volume II consists of the following parts, the first two of which deal with manufacturing as a whole and the balance with the major manufacturing groups.

- I—General Review of the Manufacturing Industries, \$1.50.
- II—The Manufacturing Industries, by Provinces
  - Section 1. Principal Statistics of Major Industrial Groups and Leading Industries, 50¢.
  - Section 2. Principal Statistics of Individual Industries, 75¢.
  - Section 3. Principal Statistics by Regional Distribution, 75¢.
- III—Foods and Beverages
- IV—Tobacco and Tobacco Products
- V—Rubber Products
- VI—Leather Products
- VII—Textiles
- VIII—Wood and Paper Products
- IX—Printing Trades
- X—Iron and Steel Products
- XI—Transportation Equipment
- XII—Non-ferrous Metal Products
- XIII—Electrical Apparatus and Supplies
- XIV—Non-metallic Mineral Products
- XV—Products of Petroleum and Coal
- XVI—Chemicals and Allied Products
- XVII—Miscellaneous Manufactures

The present report belongs in Part XVI, Chemicals and Allied Products. It is punched to permit of filing in a ring binder along with others of the group. The reports in this group are:

- A—General Review, 25¢.
- B—The Acids, Alkalies and Salts Industry, 25¢.
- C—The Fertilizer Manufacturing Industry, 25¢.
- D—The Fertilizer Trade in Canada, 25¢.
- E—The Medicinal and Pharmaceutical Preparations Industry, 25¢.
- F—The Paints, Varnishes and Lacquers Industry, 25¢.
- G—The Primary Plastics Industry, 25¢.
- H—The Soaps, Washing Compounds and Cleaning Preparations Industry, 25¢.
- I—The Toilet Preparations Industry, 25¢.
- J—The Vegetable Oils Industry, 25¢.
- K—The Inks Industry, 25¢.
- L—The Adhesives Industry, 25¢.
- M—The Polishes and Dressings Industry, 25¢.
- N—The Compressed Gases Industry, 25¢.
- O—The Coal Tar Distillation Industry, 25¢.
- P—The Miscellaneous Chemical Products Industry, 25¢.

# THE PRIMARY PLASTICS INDUSTRY

## 1951

Production in 1951 by firms in the Primary Plastics Industry in Canada amounted to \$39,370,423 an increase of 28.1 per cent over the 1950 total of \$30,728,353.

This industry covers the operations of establishments engaged chiefly in the manufacture of synthetic resins in the form of sheets, rods, tubes, granules or liquids for use in further manufacture. Not all producers of synthetic resins were included in this group as some concerns made synthetic resins as secondary or minor products or as intermediates

for the further use of the producers. Statistics relating to the latter have been included in the appropriate industries which are reviewed in separate bulletins. Separate figures for the production of synthetic resins are not published as many of the individual items were made by only one or two firms. However, 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 5. A list of the products made by the factories in this group is shown in the directory which appears at the back of this bulletin.

**TABLE 1. Principal Statistics of the Primary Plastics Industry, 1947-1951**

Year	Number of plants	Number of employees	Salaries and wages	Cost of fuel and electricity at works	Cost of materials at works	Gross selling value of products at works	Net <sup>1</sup> value of production
			\$	\$	\$	\$	\$
1947 .....	10	1,060	2,351,244	203,221	5,176,706	11,782,525	6,402,598
1948 .....	12	1,149	2,770,529	331,932	7,630,498	16,440,747	8,478,317
1949 .....	14	1,286	3,496,087	461,318	10,897,184	21,022,219	9,663,717
1950 .....	14	1,392	3,965,070	603,388	14,000,584	30,728,353	16,124,381
1951 .....	16	1,648	5,402,853	707,334	20,571,434	39,370,423	18,091,655

1. Gross value less cost of materials, fuel and electricity.

Note. Profits or losses cannot be calculated from the above figures as data are not available for general expense items, such as interest, rent, depreciation, taxes, insurance, advertising, etc.

**TABLE 2. Principal Statistics of the Primary Plastics Industry, by Provinces, 1950 and 1951**

Province	Number of plants	Number of employees	Salaries and wages	Cost of fuel and electricity at works	Cost of materials at works	Gross selling value of products at works
			\$	\$	\$	\$
<b>1950</b>						
Ontario .....	8	381	980,965	107,832	6,001,746	13,138,467
Quebec .....	5	1,011	2,984,105	495,556	7,998,838	17,589,886
British Columbia .....	1					
<b>Canada .....</b>	<b>14</b>	<b>1,392</b>	<b>3,965,070</b>	<b>603,388</b>	<b>14,000,584</b>	<b>30,728,353</b>
<b>1951</b>						
Ontario .....	8	426	1,296,713	122,673	8,278,642	14,927,646
Quebec .....	6	1,222	4,106,140	584,661	12,292,792	24,442,777
British Columbia .....	2					
<b>Canada .....</b>	<b>16</b>	<b>1,648</b>	<b>5,402,853</b>	<b>707,334</b>	<b>20,571,434</b>	<b>39,370,423</b>

TABLE 3. Materials Used in the Primary Plastics Industry, 1950 and 1951

Material	1950		1951	
	Quantity	Cost at works	Quantity	Cost at works
		\$		\$
Acetic anhydride .....	lb. 56,925	7,688	118,943	15,925
Carbon bisulphide .....	" 3,520,801	187,847	4,032,130	234,268
Chlorine, liquid .....	" 242,801	5,536	279,107	7,884
Cresol .....	" 592,800	75,794	1,017,843	157,471
Dyes and pigments .....	— 2	2	—	294,766
Ethyl acetate .....	lb. 527,094	59,782	569,256	66,629
Ethyl alcohol .....	Imp. gal. 27,023	20,432	42,021	46,907
Ethylene glycol .....	lb. 1,462,425	271,603	1,792,303	356,808
Formaldehyde .....	" 8,215,345	299,652	10,058,934	402,220
Glycerine .....	" 1,772,410	623,866	1,631,411	1,031,598
Isopropyl alcohol .....	" 2		306,480	20,056
Methyl alcohol .....	" 2		111,292	60,704
Oils, vegetable:				
Linseed .....	Imp. gal. 22,290	42,000	22,731	50,035
Soya bean .....	" 2		1,496,284	266,740
Other oils .....	— 2		—	13,682
Pentaerythritol .....	lb. 2		931,170	471,338
Phenol .....	" 5,818,564	814,737	6,064,194	1,113,845
Phthalic anhydride .....	" 2,421,701	476,874	3,441,667	764,007
Sodium hydroxide .....	" 11,037,362	272,058	12,198,534	307,829
Sulphuric acid, 100% .....	" 15,558,783	200,177	17,761,792	248,749
Plasticizers .....	" 2,948,064	985,473	2,223,768	974,411
Urea crystals .....	" 676,426	43,202	863,700	57,643
Wood pulp .....	" 14,997,964	1,172,328	16,618,289	1,533,747
Wood flour .....	" 2,757,974	71,970	2,310,032	65,241
Shipping containers and packaging materials .....	— —	454,310	—	600,864
All other materials and process supplies <sup>1</sup> .....	— —	7,915,255	—	11,408,067
<b>Total</b> .....	— —	<b>14,000,584</b>	—	<b>20,571,434</b>

1. Includes acetylene gas, casein, styrene monomer, polyvinyl chloride, etc.
2. Not classified separately in 1950.

TABLE 4. Employees and Their Earnings in the Primary Plastics Industry, 1950 and 1951

Province	Number of employees					Earnings		
	Supervisory and office		Production workers		Total	Supervisory and office	Production workers	Total
	Male	Female	Male	Female				
					\$	\$	\$	
<b>1950</b>								
Ontario .....	63	24	289	5	381	262,218	718,747	980,965
Quebec and British Columbia .....	283	114	573	41	1,011	1,293,605	1,690,500	2,984,105
<b>Canada</b> .....	<b>346</b>	<b>138</b>	<b>862</b>	<b>46</b>	<b>1,392</b>	<b>1,555,823</b>	<b>2,409,247</b>	<b>3,965,070</b>
<b>1951</b>								
Ontario .....	88	30	304	4	426	435,244	861,469	1,296,713
Quebec and British Columbia .....	364	127	685	46	1,222	1,858,091	2,248,049	4,106,140
<b>Canada</b> .....	<b>452</b>	<b>157</b>	<b>989</b>	<b>50</b>	<b>1,648</b>	<b>2,293,335</b>	<b>3,109,518</b>	<b>5,402,853</b>



## Total Production Of Synthetic Resins In Canada

Separate figures for the production of synthetic resins are not published as many of the individual items are made by only one or two firms; nor is it possible to classify all producers of synthetic resins to the Primary Plastics group. Alkyd resins, for example, are made in the paints and varnishes industry, vinyl resins in the heavy chemical industry, and so on. The Bureau has made, therefore,

a special compilation which gives a fairly good summary of the total output value as gathered up from all industries, this being shown below. The values cover only the products made for sale as there is no adequate record of the intermediates made for the further use of the producers. The output in 1951 was around \$23,097,000 compared with \$19,068,000 in 1950.

TABLE 5. Total Production of Synthetic Resins<sup>1</sup> in Canada, 1948-1951

Year	Selling value at works
	\$
1948 .....	11,998,000
1949 .....	14,371,000
1950 .....	19,068,000
1951 .....	23,097,000

1. Includes casein type, vinyls, polystyrene, alkyds, phenol-formaldehyde, urea-formaldehyde, sodium carboxymethylcellulose, etc.

TABLE 6. Imports into Canada of Cellulose Products and Synthetic Resins, 1950 and 1951

Item	Value	
	1950	1951
	\$	\$
Cellulose Products		
Cellulose nitrate or pyroxylin plastics, not further manufactured than moulded or pressed, when for use in Canadian manufactures .....	891,361	1,141,209
Moulding compositions of cellulose acetate or other derivatives of cellulose, in powder or granular form .....	752,161	812,789
Interlined sheet stock, composed of sheets of cellulose plastics cemented to cotton fabric .....	46,582	71,252
Manufactures of pyroxylin plastics, or of which pyroxylin plastic is the component of chief value, n.o.p. ....	828,267	976,870
Cellulose, regenerated, and cellulose acetate, transparent, in sheets, not printed .....	212,412	153,543
Cellulose, regenerated, and cellulose acetate, manufactures of, n.o.p. ....	2,209,870	2,311,158
Cellulose acetate in sheets not less than five one-thousandths of an inch in thickness, and in rods or bars, not further manufactured than moulded, extruded or pressed, when for use in Canadian manufactures .....	402,264	550,775
Sheet cellulose acetate, in rolls, for the manufacture of sensitized photographic film .....	887,865	1,205,278
Collodion and emulsions thereof, iodizers for collodion, and stripping solutions, for use by photo-engravers, lithographers, rotogravure printers, or engravers of copper rollers .....	2,737	3,646
Synthetic Resins		
Synthetic resins, manufactures of, n.o.p. ....	5,124,393	7,446,143
Synthetic resin moulding compositions containing synthetic resin derived from phenol and formaldehyde or their homologues, or mixtures thereof, in powder or granular form .....	105,322	105,990
Synthetic resin moulding composition, n.o.p., in powder or granular form .....	1,206,969	1,281,673
Synthetic resins, n.o.p., in liquid, powder, granular or lump form; or in tubes, cylinders, strips, sheets, plates, blocks, bars, rods, angles, channels, tees or other shapes or sections, and materials for the manufacture of the foregoing .....	11,852,118	15,891,495
Laminated products of which any synthetic resin or resin-like substance is the chief binding agent, in tubes, cylinders, strips, sheets, plates, blocks, bars, rods, angles, channels, tees or other shapes or sections, n.o.p.:		
(i) With a base of paper or of fibreboard .....	1,026,400	810,758
(ii) With a base of cotton fabric or other woven fabric .....	164,415	379,625
Synthetic plastic materials with a base of casein, soyabean, gelatine or starch, in tubes, cylinders, strips, sheets, plates, blocks, bars, rods, angles, channels, tees or other shapes or sections, not further manufactured than moulded, extruded or pressed, but not including casein button blanks in the rough .....	5,054	7,240
Casings, synthetic, for meats and meat products .....	666,483	494,528

**TABLE 7. Exports from Canada of Synthetic Resins and Synthetic Resin Products, 1950 and 1951**

Item	1950	1951
Synthetic resins .....	17,312,654	9,795,014
.....lb.		
.....\$	4,818,634	3,529,268
Synthetic resins, manufactures of .....	218,017	666,329
.....\$		
Polystyrene <sup>1</sup> .....	8,649,500	17,257,600
.....lb.		
.....\$	2,128,780	6,776,438

1. Resin only in 1951 but 1950 figures include both resin and styrene monomer.

**TABLE 8. Exports of Synthetic Resins and Plastics from the United States to Canada, 1950 and 1951**  
(From the 'United States Exports of Domestic and Foreign Merchandise')

Item	1950		1951	
	Quantity	Value	Quantity	Value
	Pounds	\$	Pounds	\$
Ester gums .....	3,446,324	502,854	2,821,619	560,182
Polystyrene resins and copolymers, all types .....	3,841,884	698,062	8,127,705	1,491,146
Alkyd resins, except laminated .....	7,993,817	1,738,230	7,166,519	2,088,178
Vinyl resins, except laminated .....	7,598,968	2,694,905	8,709,961	4,245,109
Tar acid resins, except laminated .....	6,606,206	1,383,681	9,522,086	2,129,434
Urea and melamine resins, except laminated .....	7,068,277	1,794,048	7,312,019	2,042,292
Synthetic gums and resins, n.e.s., except laminated .....	12,894,317	3,271,316	11,624,031	4,202,368
Synthetic gums and resins, laminated .....	516,086	529,026	756,411	885,195
Cellulose nitrate (pyroxylin):				
Scrap and film scrap .....	249,561	37,363	37,969	6,305
Film support and base .....	271,760	168,789	—	—
Sheets, rods, tubes and other unfinished forms .....	203,836	258,547	205,595	295,274
Cellulose acetate, cellulose acetate-butyrate, and cellulose acetate-propionate:				
Moulding powders, granules and pellets .....	1,351,869	610,614	1,096,617	653,653
Film support and base .....	915,558	720,871	1,422,133	1,204,496
Sheets, rods, tubes and other similar forms .....	568,966	518,467	675,068	687,942
Other unfinished forms, including scrap .....	81,321	29,398	83,159	33,800
Nitro and aceto cellulose:				
In solution (collodion, etc., except lacquers) .....	64,547	25,374	244,921	64,722
Not in solution, wet down with water or diluent .....	1,325,102	527,653	1,699,518	824,265
Casein and other protein plastics .....	29,051	10,001	56,151	21,233
Regenerated cellulose, except rayon .....	471,365	293,967	502,588	360,684
Vulcanized fibre sheets, strips, rods and tubes .....	1,716,570	602,252	2,028,460	798,653
Cellulose acetate flake waste and scrap, not plasticized .....	321,320	118,434	200,494	98,533

## List of Firms in the Primary Plastics Industry, 1951

Name and location of plant	Principal product made
<b>Quebec:</b>	
Canadian Industries Limited (2 divisions), Summit Ave., Shawinigan Falls .....	Cellulose film ("Cellophane"); cellulose sponges; polythene film and tubing
Canadian Plastics Limited, 1850 St. Antoine St., Montreal	Synthetic resin (casein type)
Canadian Resins & Chemicals Limited, Cedar Ave., Shawinigan Falls .....	Synthetic resin (vinyl chloride type); vinyl film, sheeting and granular; dioctyl phthalate; 2 ethyl hexanol
Monsanto (Canada) Limited, 425 St. Patrick St., Ville La Salle .....	Synthetic resin (polystyrene and vinyl chloride types)
Panelyte Division, St. Regis Paper Co. (Canada) Ltd., Montcalm Blvd., St. Jean .....	Synthetic resin (for own use) (phenol-formaldehyde type); laminated plastic sheets, rods and tubes.
<b>Ontario:</b>	
Bakelite Company (Canada) Limited, Belleville .....	Synthetic resins (phenol-formaldehyde and urea-formaldehyde types); phenolic impregnated and laminated sheets
Canadian General Electric Co. Ltd., 940 Lansdowne Ave., Toronto .....	Synthetic resin (alkyd type)
Dow Chemical of Canada Limited, Sarnia .....	Synthetic resin (polystyrene type)
Goodrich, B.F., Chemical Co., 251 King St.W., Kitchener	Synthetic resin (compounded only) (vinyl chloride type); vinyl film and tape
Kayson Rubber & Plastics Limited, 144 Water St.S., Galt	Synthetic resin (compounded only) (cellulose acetate and polystyrene types)
Reichhold Chemicals (Canada) Limited, 1919 Wilson Ave., Weston .....	Synthetic resin (alkyd type)
Standard Chemical Company Limited, Longford Mills.	Sodium carboxymethylcellulose
Varcum Chemical Corp. (Canada) Ltd., St. David St., Lindsay .....	Synthetic resin (compounded only) (phenol-formaldehyde type)
<b>British Columbia:</b>	
American Marietta Company of Canada Limited, Keary St., New Westminster .....	Synthetic resin (phenol-formaldehyde type)
Reichhold Chemicals (Canada) Limited, Foot of Douglas St., Port Moody	Synthetic resins (phenol-formaldehyde and urea-formaldehyde types)

STATISTICS CANADA LIBRARY  
BIBLIOTHÈQUE STATISTIQUE CANADA



1010651054