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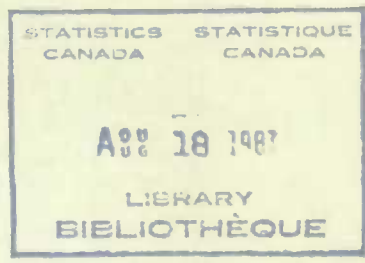
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CANADA

THE PRIMARY PLASTICS INDUSTRY
1949



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NOTICE

The Industry and Merchandising Division of the Bureau of Statistics collects and compiles figures on (a) the primary industries in Canada—mining, forestry and fishing; (b) manufacturing; (c) construction, and (d) merchandising and services.

For the purpose of annual compilation and publication, the manufacturing industries have been classified into major groups, prefaced by two reports of a general nature, as follows:

- I Summary Report on Manufacturing Industries
- II Manufacturing Industries by Geographical Distribution
- III Foods and Beveragee
- IV Tobacco and Tobacco Products
- V Rubber Products
- VI Leather Products
- VII Miscellaneous Manufactures
- VIII Textiles
- IX Wood and Paper Products
- X Printing Trades
- XI Operations in the Woods
- XII Iron and Steel Products
- XIII Transportation Equipment
- XIV Non-ferrous Metal Products
- XV Electrical Apparatus and Supplies
- XVI Non-metallic Mineral Products
- XVII Products of Petroleum and Coal
- XVIII Chemicals and Allied Products

The present report belongs in Group XVIII. 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
- B The Acids, Alkalies and Salts Industry
- C The Fertilizers Industry
- D The Fertilizer Trade in Canada
- E The Medicinal and Pharmaceutical Preparations Industry
- F The Paints, Varnishes and Lacquers Industry
- G The Primary Plastics Industry
- H The Soaps, Washing Compounds and Cleaning Preparations Industry
- I The Toilet Preparations Industry
- J The Vegetable Oil Industry
- K The Inks Industry
- L The Adhesives Industry
- M The Polishes and Dressings Industry
- N The Compressed Gases Industry
- O The Coal Tar Distillation Industry
- P The Miscellaneous Chemical Products Industry

THE PRIMARY PLASTICS INDUSTRY 1949

Production in 1949 by firms in the Primary Plastics Industry in Canada amounted to \$21,022,219, an increase of 27.9 per cent over the 1948 total of \$16,440,747.

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, 1947-1949

Year	Number of plants	Average 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
			\$	\$	\$	\$
1947.....	10	1,060	2,351,244	203,221	5,176,706	11,782,525
1948.....	12	1,149	2,770,529	331,932	7,630,498	16,440,747
1949.....	14	1,286	3,496,087	461,318	10,897,184	21,022,219

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, 1948 and 1949

Province	Number of plants	Average 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
			\$	\$	\$	\$
1948						
Ontario.....	7	296	757,605	65,110	3,669,136	6,927,866
Quebec.....	4	853	2,012,924	266,822	3,961,362	9,512,881
British Columbia.....	1					
Canada.....	12	1,149	2,770,529	331,932	7,630,498	16,440,747
1949						
Ontario.....	8	342	923,318	83,158	4,370,643	8,318,621
Quebec.....	5	944	2,572,769	378,160	6,526,541	12,703,598
British Columbia.....	1					
Canada.....	4	1,286	3,496,087	461,318	10,897,184	21,022,219

TABLE 3. Materials Used in the Primary Plastics Industry, 1948 and 1949

Material	1948		1949	
	Quantity	Cost at Works	Quantity	Cost at Works
		\$		\$
Acetic anhydride..... lb.	30, 173	4, 234	19, 428	2, 623
Carbon bisulphide..... "	2, 354, 187	114, 355	2, 839, 015	140, 702
Chlorine, liquid..... "	151, 422	3, 466	188, 766	4, 393
Cresol..... "	738, 629	126, 826	666, 993	109, 045
Ethyl acetate..... "	309, 115	34, 261	367, 885	41, 026
Ethyl alcohol..... Imp. gal.	24, 630	28, 543	55, 121	39, 812
Ethylene glycol..... lb.	535, 021	78, 686	756, 550	128, 302
Formaldehyde..... "	6, 260, 433	256, 259	5, 854, 373	221, 313
Hydrogen peroxide..... "	32, 115	6, 510	19, 187	4, 384
Glycerine..... "	1, 339, 907	516, 282	1, 485, 318	471, 828
Linseed oil..... Imp. gal.	35, 466	74, 480	25, 456	45, 353
Phenol..... lb.	4, 249, 032	487, 118	4, 410, 919	536, 211
Phthalic anhydride..... "	759, 751	171, 992	1, 631, 878	366, 552
Sodium hydroxide..... "	6, 257, 357	144, 262	8, 223, 024	190, 506
Sulphuric acid, 100%..... "	8, 487, 000	103, 228	11, 948, 455	141, 953
Plasticizers..... "	1, 826, 907	771, 624	2, 216, 515	878, 643
Urea crystals..... "	1, 090, 404	81, 491	628, 920	35, 525
Wood pulp..... "	8, 378, 416	651, 113	10, 739, 074	849, 463
Wood flour..... "	2, 300, 462	51, 653	1, 848, 892	43, 929
Shipping containers and packaging materials.....	—	211, 161	—	316, 281
All other materials and process supplies ¹	—	3, 712, 954	—	6, 329, 340
Total.....	—	7, 630, 498	—	10, 897, 184

1. Includes acetylene gas, casein, styrene monomer, polyvinyl chloride, etc.

TABLE 4. Employees and Their Earnings in the Primary Plastics Industry, 1948 and 1949

Province	Average number of employees					Earnings		
	Supervisory and office		Production workers		Total	Supervisory workers	Production workers	Total
	Male	Female	Male	Female				
					\$	\$	\$	
1948								
Ontario.....	63	15	212	6	296	234, 302	523, 303	757, 605
Quebec and British Columbia.....	232	54	538	29	853	733, 913	1, 279, 011	2, 012, 924
Canada.....	295	69	750	35	1, 149	968, 215	1, 802, 314	2, 770, 529
1949								
Ontario.....	67	26	245	4	342	309, 486	613, 832	923, 318
Quebec and British Columbia.....	270	102	542	30	944	1, 156, 991	1, 415, 778	2, 572, 769
Canada.....	337	128	787	34	1, 286	1, 466, 477	2, 029, 610	3, 496, 087

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 chemicals 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 1949 was around \$14,371,000 compared with \$11,998,000 in 1948.

TABLE 5. Total Production of Synthetic Resins¹ in Canada, 1948 and 1949

Year	Selling value at works
	\$
1948.....	11,998,000
1949.....	14,371,000

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, 1948 and 1949

Item	Value	
	1948	1949
	\$	\$
CELLULOSE PRODUCTS		
Cellulose nitrate or pyroxylin plastics, not further manufactured than moulded or pressed, when for use in Canadian manufactures.....	1,306,403	1,153,331
Moulding compositions of cellulose acetate or other derivatives of cellulose, in powder or granular form.....	342,642	526,264
Interlined sheet stock, composed of sheets of cellulose plastics cemented to cotton fabric.....	29,038	51,389
Manufactures of pyroxylin plastics, or of which pyroxylin plastic is the component of chief value, n.o.p.	795,236	599,114
Cellulose, regenerated and cellulose acetate, transparent, in sheets, not printed.....	190,610	561,267
Cellulose, regenerated, and cellulose acetate, manufactures of, n.o.p.	1,351,103	1,951,820
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.....	347,015	393,982
Sheet cellulose acetate, in rolls, for the manufacture of sensitized photographic film.....	85,634	407,638
Collodion and emulsions thereof, iodizers for collodion, and stripping solutions, for use by photo-engravers, lithographers, rotogravure printers, or engravers of copper rollers.....	3,791	8,956
SYNTHETIC RESINS		
Synthetic resins, manufactures of, n.o.p.	2,611,330	3,667,442
Synthetic resin moulding compositions containing synthetic resin derived from phenol and formaldehyde or their homologues or mixtures thereof, in powder or granular form.....	83,030	134,136
Synthetic resin moulding composition, n.o.p. in powder or granular form.....	693,352	767,283
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.....	9,200,131	8,739,729
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.....	644,694	830,230
(ii) With a base of cotton fabric or other woven fabric.....	197,428	188,233
Synthetic plastic materials with a basis of casein, soybean, 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.....	7,695	6,473
Casings, synthetic for meats and meat products.....	1,215,792	1,489,655

TABLE 7. Exports from Canada of Synthetic Resins and Synthetic Resin Products, 1948 and 1949

Item	1948	1949
Synthetic resins..... \$	15,292,560	17,841,251
	4,578,755	4,929,147
Synthetic resins, manufactures of \$	639,574	295,170

TABLE 8. Exports of Synthetic Resins and Plastics from the United States to Canada, 1949
(From the "United States Exports of Domestic and Foreign Merchandise", (Calendar Year, 1949))

Item	Quantity	Value
	lb.	\$
Ester gums.....	2,512,257	372,448
Polystyrene resins copolymers, all types.....	2,966,370	557,633
Alkyd resins:		
Phthalic anhydride type.....	4,186,654	915,259
Except phthalic anhydride.....	2,981,568	647,042
Vinyl chloride, vinylidene chloride and their copolymers.....	3,650,373	1,089,472
Vinyl resins, except chloride.....	1,443,796	698,998
Phenol formaldehyde:		
For moulding and casting.....	1,101,940	331,967
For other uses.....	3,993,642	598,370
Other tar acid resins:		
For moulding and casting.....	15,351	5,692
For other uses.....	1,297,637	352,371
Urea melamine resins:		
For protective coatings.....	309,525	96,653
For adhesives.....	1,506,436	193,830
Other uses.....	3,849,646	1,142,472
Synthetic resins, other:		
For moulding compositions.....	1,883,501	636,284
Other unfinished forms.....	8,868,577	1,941,617
Cellulose nitrate (pyroxylin):		
Scrap and film scrap.....	183,298	25,053
Film support and base.....	801,030	442,476
Sheets, rods, etc.....	361,181	409,177
Cellulose acetate, cellulose acetate butyrate, and cellulose acetate propionate:		
Moulding powder.....	1,096,384	504,045
Film support.....	512,114	387,243
Sheets, etc.....	429,709	433,394
Other unfinished forms (including scrap).....	43,588	17,741
Nitro and aceto cellulose:		
In solution.....	83,819	35,634
Not in solution.....	1,591,603	546,657
Regenerated cellulose, except rayon.....	951,428	501,203
Casein and other protein plastics.....	45,659	12,966
Thermosetting plastics products:		
Phenolic.....	—	593,510
Other.....	—	574,589
Thermo plastics products:		
Styrene.....	—	585,869
Vinyls.....	—	151,891
Acrylics.....	—	101,814
Other (including nylon).....	—	274,755
Cellulose acetate manufactures, other.....	—	542,788
Cellulose manufactures, other except acetate.....	—	367,621

List of Firms in the Primary Plastics Industry, 1949

Name and Location of Plant	Principal Product Made
Quebec:	
Canadian Industries Limited, (2 divisions) Summit Ave., Shawinigan Falls	Cellulose film ("Cellophane"); cellulose sponges.
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 type).
Ontario:	
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); wire enamels.
Clarkson, R.C., Manufacturing Co., 491 Dundas St., Galt	Synthetic resin (compounded only) (polyvinyl chloride acetate type).
Dow Chemical of Canada Limited, Sarnia	Synthetic resin (polystyrene type).
Goodrich, B.F., Chemical Co., 251 King St. W., Kitchener	Synthetic resin (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).
Standard Chemical Company Limited, Longford Mills.	Sodium carboxymethylcellulose.
Varcum Chemical Corp. (Canada) Ltd., St. David St., Lindsay	Synthetic resin (compounded only) (phenol-formaldehyde type).
British Columbia:	
American Marietta Company of Canada Limited, Keary St., New Westminster	Synthetic resin (phenol-formaldehyde type).

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