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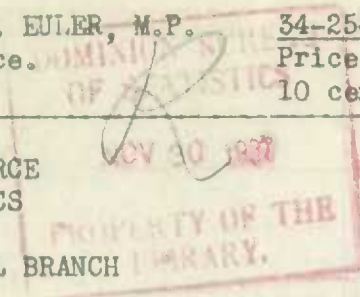
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DEPARTMENT OF TRADE AND COMMERCE  
DOMINION BUREAU OF STATISTICS  
CENSUS OF INDUSTRY  
MINING, METALLURGICAL AND CHEMICAL BRANCH  
OTTAWA - CANADA



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ANNUAL INDUSTRY REPORT

CHEMICALS AND ALLIED PRODUCTS GROUP

THE ADHESIVES INDUSTRY, 1936.

The statistics in this report on the Adhesives Industry cover only the factories which make glue, paste, etc., as their chief products. Nineteen firms were classified to this group in 1936, 9 being in Ontario, 8 in Quebec, and 2 in British Columbia.

Compared with 1935, production for the industry increased 25 per cent in 1936 to \$1,799,200; the number of employees advanced 8 per cent to 420 and payments for salaries and wages increased 8 per cent to \$457,170. The capital investment also rose to \$2,266,199 from \$2,066,754, and the cost of materials for manufacturing increased to \$813,291 from \$550,700.

Output of animal glue increased 17 per cent in quantity and 37 per cent in value to 2,428 tons worth \$691,926 from 2,073 tons at \$503,900 in 1935. Other glues also advanced in value to \$544,160 in 1936 from \$354,086 in 1935, but mucilage and paste declined to \$140,060 from \$203,871. Mucilage and paste were made also in other industries, particularly by the manufacturers of writing inks; the total production from all sources was about \$228,897 in 1936 compared with \$269,525 in 1935.

Imports of adhesives into Canada during 1936 were as follows - vegetable glue, 901 tons at \$58,348; animal glue, 926 tons at \$141,064; liquid glue, 99 tons at \$31,158; and mucilage and paste, 173 tons at \$36,082.

Exports of glue amounted to 43 tons valued at \$15,181 and exports of glue stock totalled 1,458 tons appraised at \$28,372.

Table 1 - PRINCIPAL STATISTICS OF THE ADHESIVES INDUSTRY, 1929 - 1936.

| Years      | Number of plants | Capital employed | 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 |
|------------|------------------|------------------|-----------------------------|--------------------|---------------------------------------|----------------------------|--|
|            |                  | \$               |                             | \$                 | \$                                    | \$                         | \$                                       |
| 1929 ..... | 13               | 1,850,273        | 267                         | 321,296            | 68,157                                | 962,940                    | 1,830,644                                |
| 1930 ..... | 12               | 1,921,406        | 226                         | 286,825            | 64,380                                | 882,908                    | 1,650,634                                |
| 1931 ..... | 13               | 2,850,507        | 297                         | 375,598            | 75,149                                | 877,802                    | 1,742,553                                |
| 1932 ..... | 14               | 2,501,171        | 229                         | 263,142            | 53,300                                | 457,146                    | 1,087,215                                |
| 1933 ..... | 16               | 2,271,071        | 283                         | 314,005            | 78,712                                | 463,199                    | 1,141,761                                |
| 1934 ..... | 16               | 2,123,205        | 332                         | 366,008            | 77,198                                | 587,535                    | 1,307,393                                |
| 1935 ..... | 17               | 2,066,754        | 389                         | 423,513            | 114,604                               | 550,700                    | 1,436,259                                |
| 1936 ..... | 19               | 2,266,199        | 420                         | 457,170            | 123,865                               | 813,291                    | 1,799,200                                |

Table 2 - PRINCIPAL STATISTICS, BY PROVINCES, 1935 and 1936.

| Provinces         | Number of plants | Capital employed | 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 |
|-------------------|------------------|------------------|-----------------------------|--------------------|---------------------------------------|----------------------------|--|
|                   |                  | \$               |                             | \$                 | \$                                    | \$                         | \$                                       |
| <u>1935</u>       |                  |                  |                             |                    |                                       |                            |  |
| Quebec .....      | 8                | 612,758          | 119                         | 126,963            | 31,672                                | 218,898                    | 512,546                                  |
| British Columbia) | 1                |                  |                             |                    |                                       |                            |  |
| Ontario .....     | 8                | 1,453,996        | 270                         | 296,550            | 82,932                                | 331,802                    | 923,713                                  |
| CANADA .....      | 17               | 2,066,754        | 389                         | 423,513            | 114,604                               | 550,700                    | 1,436,259                                |
| <u>1936</u>       |                  |                  |                             |                    |                                       |                            |  |
| Quebec .....      | 8                | 678,460          | 130                         | 134,575            | 31,360                                | 303,713                    | 622,474                                  |
| British Columbia) | 2                |                  |                             |                    |                                       |                            |  |
| Ontario .....     | 9                | 1,587,739        | 290                         | 322,595            | 92,505                                | 509,578                    | 1,176,726                                |
| CANADA .....      | 19               | 2,266,199        | 420                         | 457,170            | 123,865                               | 813,291                    | 1,799,200                                |

Table 3 - CAPITAL EMPLOYED, BY PROVINCES, 1935 and 1936.

| Provinces         | Present value of lands, buildings, machinery and equipment | Inventory value of materials, finished products, fuel and other supplies on hand, and stocks in process | Operating capital (cash, bills and accounts receivable, etc.) | TOTAL CAPITAL EMPLOYED |
|-------------------|--|---|---|------------------------|
|                   | \$   | \$  | \$  | \$                     |
| <u>1935</u>       |  |   |   |                        |
| Quebec .....      | 349,180  | 114,482   | 149,096   | 612,758                |
| British Columbia) |  |   |   |                        |
| Ontario .....     | 874,867  | 386,243   | 192,886   | 1,453,996              |
| CANADA .....      | 1,224,047  | 500,725   | 341,982   | 2,066,754              |
| <u>1936</u>       |  |   |   |                        |
| Quebec .....      | 364,718  | 140,891   | 172,851   | 678,460                |
| British Columbia) |  |   |   |                        |
| Ontario .....     | 871,453  | 522,690   | 193,596   | 1,587,739              |
| CANADA .....      | 1,236,171  | 663,581   | 366,447   | 2,266,199              |

Table 4 - SIZE OF ESTABLISHMENTS ACCORDING TO PRODUCTION, NUMBER OF EMPLOYEES AND CAPITAL EMPLOYED, 1936.

|                           | Number of plants | Capital employed<br>\$ | Number of employees | Gross selling value of products at works<br>\$ |
|---------------------------|------------------|------------------------|---------------------|--|
| <b>(a) PRODUCTION</b>     |                  |                        |                     |  |
| Under \$10,000 .....      | 6                | 29,918                 | 17                  | 36,761   |
| \$10,000 to \$50,000 .... | 5                | 170,477                | 31                  | 136,607  |
| Over \$50,000 .....       | 8                | 2,065,804              | 372                 | 1,625,832                                      |
| TOTAL .....               | 19               | 2,266,199              | 420                 | 1,799,200                                      |
| <b>(b) EMPLOYEES</b>      |                  |                        |                     |  |
| 1 to 10 .....             | 10               | 163,304                | 33                  | 133,015  |
| Over 10 .....             | 9                | 2,102,895              | 387                 | 1,666,185                                      |
| TOTAL .....               | 19               | 2,266,199              | 420                 | 1,799,200                                      |
| <b>(c) CAPITAL</b>        |                  |                        |                     |  |
| Under \$25,000 .....      | 9                | 64,334                 | 28                  | 87,110   |
| \$25,000 to \$100,000 ... | 4                | 203,114                | 45                  | 266,620  |
| Over \$100,000 .....      | 6                | 1,998,751              | 347                 | 1,445,470                                      |
| TOTAL .....               | 19               | 2,266,199              | 420                 | 1,799,200                                      |

Table 5 - EMPLOYEES, SALARIES AND WAGES, 1935 and 1936.

| Provinces          | AVERAGE NUMBER OF EMPLOYEES |        |          |        |       | Salaries<br>\$ | Wages<br>\$ | TOTAL<br>SALARIES<br>and WAGES<br>\$ |
|--------------------|-----------------------------|--------|----------|--------|-------|----------------|-------------|--------------------------------------|
|                    | On Salaries                 |        | On Wages |        | TOTAL |                |             |                                      |
|                    | Male                        | Female | Male     | Female |       |                |             |                                      |
| <b>1935</b>        |                             |        |          |        |       |                |             |                                      |
| Quebec .....       | 27                          | 5      | 81       | 6      | 119   | 49,019         | 77,944      | 126,963                              |
| British Columbia.) |                             |        |          |        |       |                |             |                                      |
| Ontario .....      | 24                          | 13     | 230      | 3      | 270   | 79,944         | 216,606     | 296,550                              |
| CANADA .....       | 51                          | 18     | 311      | 9      | 389   | 128,963        | 294,550     | 423,513                              |
| <b>1936</b>        |                             |        |          |        |       |                |             |                                      |
| Quebec .....       | 33                          | 6      | 81       | 10     | 130   | 56,948         | 77,627      | 134,575                              |
| British Columbia.) |                             |        |          |        |       |                |             |                                      |
| Ontario .....      | 36                          | 12     | 238      | 4      | 290   | 91,370         | 231,225     | 322,595                              |
| CANADA .....       | 69                          | 18     | 319      | 14     | 420   | 148,318        | 308,852     | 457,170                              |

Table 6 - WAGE-EARNERS, BY MONTHS, 1935 and 1936. (On 15th or nearest representative date)

| Months          | 1935 |        |       | 1936 |        |       |
|-----------------|------|--------|-------|------|--------|-------|
|                 | Male | Female | TOTAL | Male | Female | TOTAL |
| January .....   | 308  | 9      | 317   | 311  | 12     | 323   |
| February .....  | 312  | 10     | 322   | 314  | 13     | 327   |
| March .....     | 311  | 9      | 320   | 317  | 14     | 331   |
| April .....     | 315  | 10     | 325   | 322  | 14     | 336   |
| May .....       | 315  | 9      | 324   | 323  | 13     | 336   |
| June .....      | 322  | 10     | 332   | 324  | 15     | 339   |
| July .....      | 302  | 8      | 310   | 316  | 15     | 331   |
| August .....    | 294  | 10     | 304   | 304  | 15     | 319   |
| September ..... | 279  | 10     | 289   | 315  | 13     | 328   |
| October .....   | 279  | 10     | 289   | 319  | 14     | 333   |
| November .....  | 325  | 11     | 336   | 324  | 14     | 338   |
| December .....  | 343  | 10     | 353   | 338  | 13     | 351   |
| AVERAGE .....   | 311  | 9      | 320   | 319  | 14     | 333   |

Table 7 - FUEL AND ELECTRICITY USED, 1935 and 1936.

| Kinds                          | Unit of measure | 1935       |                     | 1936       |                     |
|--------------------------------|-----------------|------------|---------------------|------------|---------------------|
|                                |                 | Quantity   | Cost at works<br>\$ | Quantity   | Cost at works<br>\$ |
| Anthracite coal .....          | short tons      | 6          | 85                  | 7          | 99                  |
| Bituminous coal - Canadian ... | short tons      | 2,048      | 11,448              | 2,292      | 12,287              |
| Foreign .....                  | short tons      | 12,487     | 75,326              | 13,795     | 83,692              |
| Coke .....                     | short tons      | 11         | 87                  | 8          | 82                  |
| Fuel oil .....                 | Imp. gal.       | 205,111    | 9,809               | 215,366    | 10,300              |
| Wood .....                     | cords           | 6          | 43                  | 4          | 28                  |
| Gas - Manufactured .....       | M cu.ft.        | 70         | 61                  | 189        | 191                 |
| Electricity purchased .....    | K.W.H.          | 1,314,403  | 17,745              | 1,246,048  | 17,186              |
| <b>TOTAL .....</b>             | <b>\$</b>       | <b>...</b> | <b>114,604</b>      | <b>...</b> | <b>123,865</b>      |

Table 8 - POWER EQUIPMENT, 1935 and 1936.

|  | 1935            |                         | 1936            |                         |
|--|-----------------|-------------------------|-----------------|-------------------------|
|  | Number of units | Total rated horse power | Number of units | Total rated horse power |
| Steam engines and steam turbines .           | 6               | 580                     | 7               | 685                     |
| Hydraulic turbines and waterwheels           | ...             | ...                     | 1               | 25                      |
| Total Primary Equipment .....                | 6               | 580                     | 8               | 710                     |
| Electric motors run by purchased power ..... | 133             | 1,018                   | 142             | 1,270                   |
| <b>TOTAL .....</b>                           | <b>139</b>      | <b>1,598</b>            | <b>150</b>      | <b>1,980</b>            |
| Boilers .....                                | 19              | 2,000                   | 14              | 1,165                   |

Table 9 - MATERIALS USED IN MANUFACTURING, 1935 and 1936.

| Materials                            | Unit of measure | 1935       |                     | 1936       |                     |
|--------------------------------------|-----------------|------------|---------------------|------------|---------------------|
|                                      |                 | Quantity   | Cost at works<br>\$ | Quantity   | Cost at works<br>\$ |
| Bones, hides and glue stock .....    | ton             | 18,598     | 163,673             | 23,797     | 257,231             |
| Dextrine .....                       | lb.             | 1,196,700  | 56,372              | 2,642,013  | 104,654             |
| Flour, tapioca .....                 | lb.             | 328,554    | 16,199              | 447,911    | 22,243              |
| Flour, other .....                   | lb.             | 1,648,193  | 42,960              | 2,989,313  | 78,079              |
| Glycerine .....                      | lb.             | 85,414     | 11,916              | 131,473    | 18,610              |
| Gums .....                           | lb.             | 48,461     | 5,228               | 27,888     | 3,161               |
| Lime .....                           | ton             | 740        | 11,628              | 819        | 6,388               |
| Resin .....                          | lb.             | 37,398     | 1,201               | 72,473     | 2,366               |
| Rubber .....                         | lb.             | 26,361     | 4,946               | 22,080     | 4,242               |
| Shellac .....                        | lb.             | 11,100     | 1,720               | 10,200     | 1,700               |
| Soda ash .....                       | lb.             | 7,250      | 142                 | 18,280     | 393                 |
| Solvents (benzol, naphtha, etc.) ... | gal.            | 50,548     | 8,094               | 48,762     | 8,431               |
| Starch .....                         | lb.             | 685,175    | 35,391              | 635,150    | 29,422              |
| Sulphur .....                        | lb.             | 134,000    | 2,187               | 118,700    | 1,963               |
| Sulphuric acid, 66° Be .....         | lb.             | 505,936    | 6,870               | 1,130,291  | 9,869               |
| Tallow .....                         | lb.             | 1,570,368  | 15,704              | 1,760,177  | 18,347              |
| All other materials .....            | xx              | ...        | 127,249             | ...        | 200,156             |
| Bottles, tops, brushes, boxes, etc.. | xx              | ...        | 39,220              | ...        | 41,036              |
| <b>TOTAL .....</b>                   | <b>\$</b>       | <b>...</b> | <b>550,700</b>      | <b>...</b> | <b>813,291</b>      |

Table 10 - PRODUCTS MADE, 1935 and 1936.

| Products  | Unit of measure | 1 9 3 5    |                        | 1 9 3 6    |                        |
|---|-----------------|------------|------------------------|------------|------------------------|
|   |                 | Quantity   | Selling value at works | Quantity   | Selling value at works |
| Bone and hide glue .....                                    | lb.             | 4,145,216  | \$ 503,900             | 4,855,379  | \$ 691,926             |
| Vegetable glue (including flexible glue), dry and liquid .. | lb.             | 4,146,490  | 262,409                | 7,237,347  | 435,317                |
| Other glues (casein, soya bean, fish, etc.) .....           | xx              | ...        | 91,677                 | ...        | 108,843                |
| Grease .....  | lb.             | 3,296,934  | 107,419                | 4,042,486  | 116,529                |
| Mucilage and paste (xx) .....                               | xx              | ...        | 203,871                | ...        | 140,060                |
| All other products (x) .....                                | xx              | ...        | 266,983                | ...        | 306,725                |
| <b>TOTAL</b> .....  | <b>\$</b>       | <b>...</b> | <b>1,436,259</b>       | <b>...</b> | <b>1,799,200</b>       |

(xx) In addition to the output here reported, there was some mucilage and paste made in other industries. The total output of mucilage and paste from all industries was about \$228,897 in 1936 compared with \$269,525 in 1935.

(x) Includes liquid solder, sealing wax, mixed fertilizers, poultry food, fox food, raw bone, steamed bone, and other such products which were reported by only one or two firms in this industry.

Table 11 - IMPORTS INTO CANADA AND EXPORTS OF GLUE, MUCILAGE AND PASTE, 1935 and 1936.

|                                   | 1 9 3 5   |         | 1 9 3 6   |         |
|-----------------------------------|-----------|---------|-----------|---------|
|                                   | Quantity  | Value   | Quantity  | Value   |
| <b>(a) IMPORTS</b>                |           |         |           |         |
| Glue, vegetable -                 |           |         |           |         |
| TOTAL IMPORTS .....               | 1,210,897 | 44,575  | 1,801,329 | 58,348  |
| From United Kingdom .....         | 5,366     | 363     | 7,460     | 604     |
| United States .....               | 678,648   | 29,833  | 674,477   | 28,447  |
| Mucilage and adhesive paste -     |           |         |           |         |
| TOTAL IMPORTS .....               | 309,595   | 34,046  | 346,674   | 36,082  |
| From United Kingdom .....         | 37,237    | 5,952   | 34,011    | 5,592   |
| United States .....               | 269,370   | 27,883  | 312,027   | 30,434  |
| Glue, animal, powdered or sheet - |           |         |           |         |
| TOTAL IMPORTS .....               | 1,760,814 | 135,577 | 1,851,230 | 141,064 |
| From United Kingdom .....         | 1,429,907 | 101,380 | 1,581,507 | 109,866 |
| United States .....               | 179,225   | 22,022  | 131,895   | 19,953  |
| Glue, liquid -                    |           |         |           |         |
| TOTAL IMPORTS .....               | 133,571   | 25,009  | 197,233   | 31,158  |
| From United Kingdom .....         | 73,208    | 13,749  | 121,634   | 17,021  |
| United States .....               | 60,323    | 11,226  | 75,599    | 14,137  |
| <b>(b) EXPORTS</b>                |           |         |           |         |
| Glue -                            |           |         |           |         |
| TOTAL EXPORTS .....               | 82,700    | 14,783  | 86,400    | 15,181  |
| To United Kingdom .....           | 64,200    | 11,435  | 61,100    | 10,584  |
| United States .....               | 7,500     | 695     | 6,000     | 718     |
| Glue stock -                      |           |         |           |         |
| TOTAL EXPORTS .....               | 7,767,700 | 57,072  | 2,916,300 | 28,372  |
| To United Kingdom .....           | ...       | ...     | ...       | ...     |
| United States .....               | 7,767,700 | 57,072  | 2,916,300 | 28,372  |

Table 12 - PRODUCTION OF ANIMAL GLUES IN CANADA, 1926 - 1936.

| Years      | Short tons | Selling value | Years      | Short tons | Selling value |
|------------|------------|---------------|------------|------------|---------------|
|            |            | at works      |            |            | at works      |
|            |            | \$            |            |            | \$            |
| 1926 ..... |            | 583,928       | 1932 ..... | 1,215      | 361,201       |
| 1927 ..... | NOT        | 726,915       | 1933 ..... | 1,181      | 302,013       |
| 1928 ..... |            | 759,977       | 1934 ..... | 1,437      | 335,903       |
| 1929 ..... | AVAIL-     | 723,315       | 1935 ..... | 2,073      | 503,900       |
| 1930 ..... |            | 737,117       | 1936 ..... | 2,428      | 691,926       |
| 1931 ..... | ABLE       | 659,410       |            |            |               |

DIRECTORY OF FIRMS IN THE ADHESIVES INDUSTRY, 1936.

NOTE - The Adhesives Industry includes only the concerns which made adhesives as their main products. Some concerns in other industrial groups made paste, mucilage, etc., as minor products but these works are not listed in this directory.

Name of Firm and  
Location of Plant

Main Products - 1936.

|  |  |
|--|--|
| Auger, F. X.<br>2 Garagonthie St., St. Malo, P.Q.  | Bone and hide glue; grease and tallow.   |
| Boston Blacking Co. of Canada, Limited<br>1505 Cabot St., Cote St. Paul,<br>Montreal, P.Q. | Rubber cement and coated cotton duck.  |
| Bulldog Grip Cement Co. Inc.,<br>2101 Bennett Ave., Montreal, P.Q.                         | Casein glue; buttermilk powder; casein.  |
| Canada Glue Co. Limited,<br>Brantford, Ont.  | Bone and hide glue; grease; steamed<br>bone; raw bone meal.                                    |
| Dominion Flour Paste Co.,<br>2122 $\frac{1}{2}$ Champlain St., Montreal, P.Q.              | Size and liquid glue and paste.  |
| Gypsum, Lime & Alabastine, Canada, Ltd.,<br>1 Strange St., Kitchener, Ont.                 | Hide glue; grease.   |
| Harris, W., & Co. Limited<br>200 Keating St., Toronto, 2, Ont.                             | Bone and hide glue; grease; tankage;<br>fox food; poultry food; hides; tallow;<br>fertilizers. |
| Hasco Products Limited,<br>131-8th St., New Westminster, B.C.                              | Marine glue.   |
| Hercules Glue Co.,<br>Bedford, P.Q.  | Casein glue; size.   |
| Laucks Laboratories Ltd.,<br>1206 Homer St., Vancouver, B.C.                               | Casein and dry vegetable glues.  |
| Machon Sealing Wax Co.,<br>678 Parliament St., Toronto, Ont.                               | Sealing wax.   |
| Marquis, F. Canac, Reg'd.,<br>3 Courcelette St., Quebec, P.Q.                              | Bone and hide glue; grease and tallow;<br>fertilizers; tankage.                                |

DIRECTORY OF FIRMS IN THE ADHESIVES INDUSTRY, 1936 (concluded)

Name of Firm and  
Location of Plant

Main Products - 1936.

Meredith, Simmons & Co. Limited,  
5565 Cote St. Paul, Montreal, P.Q.  
and  
371 Wallace Ave., Toronto, Ont.

Liquid and dry vegetable glue;  
size; bone and hide glue; liquid  
and dry paste; grease.

Metalite Products,  
347 Main St., Toronto, Ont.

Liquid solder and transparent  
cement.

Russia Cement Co.,  
4105 Richelieu St., Montreal, P.Q.

Paste and mucilage; liquid solder.

Stuart & Foster, Limited,  
361 King St. E., Toronto, Ont.

Vegetable glue; paste; size;  
casein glue; mucilage; binders.

Toronto Adhesive Co.,  
27 Jarvis St., Toronto, Ont.

Bone and hide glue; liquid vegetable  
glue; laminated board; flexible glue.

Wolverine Cement Co.,  
99 Grand River Ave., Brantford, Ont.

Linoleum cement, and wax.

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