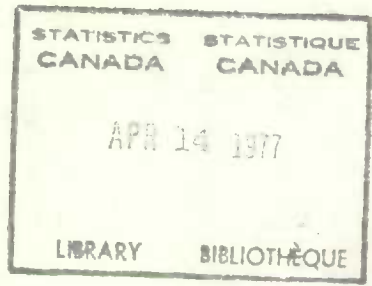


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1958 ANNUAL



THE ACIDS, ALKALIES AND SALTS INDUSTRY 1958

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PUBLICATIONS

The results of the annual Census of Industry are published by the Dominion Bureau of Statistics in a series of industry reports which are released each year as the compilations are completed. Reports for industries classified to the **Chemicals and Allied Products** Major Group are listed below, along with current and annual publications of related interest. Similar reports are issued for other industries. A complete catalogue of publications of the Bureau is available on request from the Information Services Division, Dominion Bureau of Statistics, Ottawa, or from the Queen's Printer, Ottawa.

Catalogue number	Title	Frequency	Price
		A - Annual B - Biennial M - Monthly S.C. - Special Compilation	
46-201	Chemicals and Allied Products - General Review (A)		.50
46-202	Acids, Alkalies and Salts Industry (A)		.50
46-203	Adhesives Industry (A)		.50
46-204	Coal Tar Distillation Industry (A)		.25
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46-210	Paints, Varnishes and Lacquers Industry (A)		.50
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32-005	Margarine Statistics (M)	per year	1.00
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46-003	Soaps and Synthetic Detergents (M)	per year	1.00
(S.C.)	Sulphuric Acid, Caustic Soda and Chlorine (A)		.25
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46-207	Fertilizer Trade (A)		.50
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Remittances should be in the form of cheque or money order, made payable to the Receiver General of Canada and forwarded to the Information Services Division, Dominion Bureau of Statistics, or to the Queen's Printer, Ottawa, Canada.

EXPLANATORY NOTES

This report is one in a series of about 130 publications which present the results of the 1958 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. An annual Census of Manufactures has been carried out by the Dominion Bureau of Statistics since 1916.

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 1958, 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, warehousing 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 of 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 Standard Industrial Classification Manual, prepared by the Dominion Bureau of Statistics, provides for 135 three-digit industries in the manufacturing sector, arranged in 17 major groups. Reporting establishments are classified or allotted to specific industries on the basis of the value of principal products made or shipped.

Short Forms

Prior to 1949 all manufacturing firms, regardless of size, were required to complete a standard form annually covering all census details, but for later years an effort was made to ease the reporting burden for smaller firms which usually do not maintain regular records in the required detail. A modified or short form was introduced in 1949 asking for the total value of shipments only, or in industries with a large number of small firms, for total value of shipments and quantities and values of a few principal products. Using the ratio of value of shipments in the current year to value of shipments in the base year, 1948, estimates of other census data were made for each plant for inclusion in the regular compilations. In general, the cut-off point for short forms was set at \$50,000 gross value of shipments annually, but there were lower cut-offs for a number of industries in which the small firms accounted for a larger share of total shipments. About 40 per cent of the total number of establishments reported on the modified or short form. They accounted for less than 3 per cent of the total value. In 1958, to establish a new base year, the small firms were again asked to report data on employees, salaries and wages, and other principal statistics together with some detail on material and products.

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*.

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.
- P preliminary figures.
- † revised figures.

THE ACIDS, ALKALIES AND SALTS INDUSTRY

1958

Fifty-nine plants in Canada, classified under the Acids, Alkalies and Salts Industry, were engaged chiefly in the production of chemicals in 1958. Factory shipments reported by this group were valued at \$260,967,832, an increase of 21 per cent over the total for the previous year. Thirty of these plants were located in Ontario, 18 in Quebec, 4 in Alberta, 4 in British Columbia and 1 in each of Nova Scotia, Saskatchewan and the Northwest Territories. These concerns gave employment to 10,073 people who were paid \$49,780,443 in salaries and wages. Materials used in manufacturing processes cost \$111,593,209 and expenditures for fuel and electricity amounted to \$24,563,054.

Except for sulphuric acid, caustic soda and chlorine, separate figures for the production of chemicals in this group are not published as many of the individual items were made by only one or two concerns. However, a special compilation which gives a fairly good summary of the total output of chemicals as gathered up from all industries is shown in Table 4. A list of the more important chemicals made by the factories in this group is shown in the directory which appears at the back of this bulletin.

The output of sulphuric acid (100% acid) increased to 1,586,000 tons in 1958, an increase of about 23 per cent over the 1957 total of 1,290,000 tons. Seventeen plants were operated by thirteen companies as follows: The Consolidated Mining and Smelting Company of Canada Limited at Kimberley and Trail, British Columbia; Canadian Industries Limited at Copper Cliff and Hamilton, Ontario; Nichols Chemical Company Limited, at Sulphide, Ontario, Valleyfield, Quebec, and Barnet, British Columbia; Dominion Steel and Coal Corporation Limited, at Sydney, Nova Scotia; Aluminum Company of Canada Ltd. at Arvida, Quebec; Cyanamid of Canada Limited, at Niagara Falls, Ontario; Gunnar Mines at Uranium City, Saskatchewan; Inland Chemicals Canada Limited, at Fort Saskatchewan,

Alberta, Eldorado Mining and Refining Ltd., at Port Radium, Northwest Territories; Canadian Titanium Pigments Limited, Varennes, Quebec; Noranda Mines Limited, Cutler, Ontario; Northwest Nitro Chemical Co., Medicine Hat, Alberta and Shawinigan Chemicals Limited, Shawinigan Falls, Quebec.

Production of chlorine totalled 268,000 tons in 1958, while output of caustic soda amounted to 313,000 tons. Ten firms were in production in 1958 operating eleven plants. Canadian Industries Limited, had works at Cornwall, Ontario, and at Shawinigan Falls, Quebec. Other producers included Dow Chemical of Canada, Limited, Sarnia, Ontario; Standard Chemical Company, Limited, Beauharnois, Quebec; Aluminum Company of Canada Limited, Arvida, Quebec; Western Chemical Limited, Duvernay, Alberta; Hooker Chemicals Limited, North Vancouver, British Columbia; the Canadian International Paper Company, Temiskaming, Quebec; the Howard Smith Paper Mills Limited, Cornwall, Ontario; the KVP Company Limited, Espanola, Ontario; and the Marathon Paper Mills of Canada Ltd., Marathon, Ontario. The last four concerns are paper mills which make these chemicals mainly for their own use.

Note: Due to lack of inventory data, figures for value added by manufacture prior to 1954 were obtained by subtracting the cost of materials used, including fuel and electricity, from the total value of factory shipments. In 1954 and 1955 the "Value added" adjustment incorporated the increase or decrease to shipments values resulting from changes in the value of inventories over the period. For these two years, the adjustments that were made used only the change in finished product inventory owned by manufacturers. Beginning with 1956 the calculation of the "Value added" figure was further adjusted to take into account the "Goods in process" as well as the finished goods held at plant or plant warehouse.

TABLE 1. Principal Statistics of the Acids, Alkalies and Salts Industry, Significant Years 1929-58 and by Provinces, 1957 and 1958

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 ¹	Gross selling value of products ¹
	number				dollars		
1929	15	2,897	4,338,686	2,921,121	6,301,121	18,799,722	28,021,972
1931	14	1,694	2,426,880	2,167,585	2,407,682	6,377,230	10,952,497
1937	21	3,359	4,893,418	2,810,364	6,008,977	13,590,827	22,410,168
1939	25	3,128	5,032,898	2,548,217	6,021,716	14,486,673	23,056,606
1944	28	7,964	15,752,782	8,980,955	29,540,390	42,801,806	81,323,151
1946	29	5,338	11,158,999	6,431,503	14,650,883	26,219,014	47,301,400
1949	28	5,861	16,504,908	7,355,353	27,392,521	39,663,922	74,411,796
1954	43	8,408	33,425,864	13,358,379	49,400,551	79,376,289	142,001,601
1955	45	8,597	35,547,851	15,033,501	61,686,514	95,023,999	172,255,750
1956	48	9,083	40,664,572	17,194,318	85,087,630	96,705,138	193,541,164
1957							
Nova Scotia	1	4,254	20,127,667	7,523,673	36,283,233	38,275,495	80,522,592
Quebec	17						
Ontario	26	5,023	23,660,540	11,637,265	52,987,617	55,849,725	119,336,880
Saskatchewan	1						
Alberta	4	499	2,309,208	831,475	4,552,010	7,346,960	11,814,781
British Columbia	4						
Northwest Territories	1	205	868,226	391,681	1,414,678	2,806,075	4,159,934
Canada	54						
1958							
Nova Scotia	1	4,215	20,543,342	7,805,283	42,115,951	50,896,141	100,122,424
Quebec	18						
Ontario	30	5,140	25,623,478	14,865,033	62,042,001	62,058,827	137,203,754
Saskatchewan	1						
Alberta	4	468	2,447,073	972,991	4,675,051	9,032,079	14,922,276
British Columbia	4						
Northwest Territories	1	250	1,166,550	919,747	2,760,206	4,844,659	8,719,378
Canada	59						

¹ See note to text.

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

TABLE 2. Inventories,¹ 1958

	Raw materials and supplies	Goods in process	Finished goods of own manufacture	Total
			dollars	
Opening:				
Nova Scotia and Quebec	7,915,697	1,724,835	5,847,149	15,487,681
Ontario	11,289,286	1,224,029	7,467,193	19,980,508
Saskatchewan and Alberta	1,745,393	497,355	1,614,777	3,857,525
British Columbia and Northwest Territories	1,612,514	1,299	687,899	2,301,712
Canada	22,562,890	3,447,518	15,617,018	41,627,426
Closing:				
Nova Scotia and Quebec	7,515,770	2,103,032	6,163,903	15,782,705
Ontario	11,869,914	1,548,968	8,904,361	22,323,243
Saskatchewan and Alberta	1,312,219	312,099	1,557,878	3,182,196
British Columbia and Northwest Territories	1,378,618	5,712	488,720	1,873,050
Canada	22,076,521	3,969,811	17,114,862	43,161,194

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

(b) Beginning with 1954 information on the value of year-end inventory holdings at plant and plant warehouses is being collected as part of the annual Census of Industry. These data were formerly collected by a separate survey. The summarized results for the Acids, Alkalies and Salts Industry for the year under review are shown in the above table.

(c) The opening inventory for 1958 does not necessarily agree with the closing inventory for 1957 because of the addition of new plants, the transfer of plants to other industries and plants going out of business, etc. However, the value added figures for the previous year have not been recalculated to allow for the revisions mentioned above.

TABLE 3. Materials Used in the Acids, Alkalies and Salts Industry, 1957 and 1958

Material	1957		1958		
	Quantity	Cost at works	Quantity	Cost at works	
		\$		\$	
Acetone	lb.	1,279,371	124,047	1,381,864	132,994
Acetylene	M cu. ft.	42,087	400,806	41,022	401,493
Acid - Acetic, 99 $\frac{1}{2}$ %	lb.	26,307	3,232	410,187	45,107
Fatty - Oleic	"	43,146	8,114	51,207	10,491
Other fatty acids	"	38,247	6,870	736,475	102,209
Hydrochloric (muriatic)	"	4,612,212 ¹	209,277	5,842,651	272,570
Nitric	"	2,938,926	148,969	5,406,027	309,415
Phosphoric	"	194,080	20,058	438,729	45,980
Sulphuric, as 100%	"	23,656,576	341,508	40,281,036	611,677
Alcohol, butyl (including isobutyl and normal)	"	894,531	111,459	1,242,862	161,448
Alcohol, ethyl	Imp. gal.	20,257	19,628	36,480	39,360
Alcohol, isopropyl	lb.	1,189,366	92,963	1,698,776	133,022
Ammonia liquor	lb. NH ₃	2,214,200	139,240	1,474,048	104,349
Ammonia, anhydrous	lb.	20,696,495	872,184	21,555,467	921,049
Barium chloride	"	625,811	49,801	1,095,724	72,266
Benzol	"	5,818,082	290,528	16,928,107	799,120
Calcium chloride	"	662,100	18,778	530,861	14,209
Carbon, activated	"	374,998	107,946	366,175	97,435
Chlorine, liquid	"	6,292,781	230,251	11,736,450	393,467
Coal, (except for fuel) - Anthracite	ton	22,647	357,874	55,616	876,050
Cobalt acetate	lb.	3,950	4,778	7,666	8,175
Cobalt sulphate	"	3,976	3,289	5,589	5,155
Coke (except for fuel) - Petroleum	ton	1,116	26,616	1,153	28,529
Other	"	195,339	3,148,138	181,861	3,236,924
Copper sulphate	lb.	3,060	451	-	-
Cresol (including cresylic acid)	"	245,150	31,892	38,730	5,071
Electrodes (purchased)	"	..	625,370	-	374,150
Ethanolamines	lb.	52,103	14,131	562,307	145,614
Fluorspar	ton	53,198	1,686,951	74,939	2,436,656
Formaldehyde	lb.	1,430,694	63,013	660,567 ¹	72,584
Glycerine	"	125,315	23,219	271,865	53,490
Glycols - Ethylene	"	-	-	2,082,436	224,283
Diethylene	"	137,426	24,736	258,451	44,374
Triethylene	"	866	216	1,425	356
Propylene	"	241,098	39,312	521,311	60,433
Other grades	"	287,645	52,975	83,416	13,661
Graphite	"	637,888	199,963	1,211,095	440,626
Lead sulphate	"	125,100	22,354	93,210	14,709
Limestone	ton	1,004,543	1,814,648	1,070,598	1,875,476
Lime, hydrated	"	12,618	132,352	13,838	151,893
Lime, quick	"	23,249	383,132	32,061	513,053
Litharge	lb.	524,375	90,720	521,028	75,550
Mercury	"	143,196	388,620	122,628	318,725
Oils - Castor	"	1,069,701	207,110	1,063,177	149,040
Cocanut	"	1,096,226	141,017	1,167,800	162,827
Other oils	"	44,574	5,349	47,390	4,503
Pentasol	"	20,400	3,476	153	33
Phenol	"	2,237,442	424,986	2,230,511	414,207
Petrochemical feed stocks	"	..	5,152,828	..	13,185,645
Phthalic anhydride	lb.	1,502,518	253,181	1,457,435	238,083
Pyrites	ton	176,122	1,569,723	232,763	2,133,596
Quartz, quartzite and silica sand	"	66,115	422,266	60,482	398,737
Sodium carbonate (soda ash)	lb.	104,493,472	2,288,024	97,212,206	2,221,558
Sodium chloride, dry and brine (salt content)	ton	800,406	3,571,008	975,447	4,503,721
Sodium bichromate	lb.	172,411	24,872	186,440	26,278
Sodium hydroxide (caustic soda)	"	30,112,056	1,025,353	38,773,616	1,326,387
Sodium nitrate	"	614,858	19,872	557,340	18,159
Sodium sulphide	"	238,428	12,135	569,652	35,052
Sulphur (brimstone)	ton	189,911	6,847,467	229,170	7,693,351
Urea	lb.	1,346,810	76,236	1,506,614	86,456
Xylene (xylo)	"	259,859	13,679	160,205	8,201
Zinc dross	"	-	-	83,113	5,403
Zinc oxide	"	135,594	17,127	130,288	15,512
Zinc spelter	"	17,394,550	1,915,650	17,718,504	1,736,672
Steel sheets for making containers	ton	4,581	773,461	3,870	659,058
Lumber for making containers and for crating	M bd. ft.	109	7,131	96	6,323
All other materials .....	...	...	54,016,479	...	56,534,320
Containers and packing materials .....	...	...	4,118,699	...	4,386,889
Totals .....	...	...	95,237,538	...	111,593,209

¹ 100% solids basis in 1958.

Total Production of Chemicals

It is very difficult to get, from official reports, the statistics covering the total production in Canada of heavy and fine chemicals. There are two reasons for this, the first being that data for many of the individual items cannot be shown because they were made by only one or two concerns, and the second being that chemicals are made in a number of different industries. Ethyl alcohol, for example, is a product of the distilled liquors industry; some fine chemicals are made in the pharmaceutical industry; ammonium sulphate is produc-

ed in coke plants; cobalt and nickel salts are made in the non-ferrous metal refineries, and so on. The Bureau has made, therefore, a special compilation shown in Table 4 which gives a fairly good summary of the total output as gathered up from all industries. 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 1958 was around \$431,789,000 compared with \$383,188,000 in 1957.

TABLE 4. Total Production of Chemicals, 1957 and 1958

	Selling value at works	
	1957	1958
	dollars	
<i>Acids, including acetic, muriatic, nitric, sulphuric, phosphoric, stearic, etc.</i>	28,970,000	36,396,000
<i>Calcium compounds, including carbide, chloride, phosphide, cyanamide, cyanide acid phosphate, grey acetate, arsenate, chloride of lime, etc.</i>	18,588,000	16,929,000
<i>Sodium compounds, including hydroxide, phosphate, cyanide, silicate, hypochlorite, bisulphite, saltcake, Glauber's salt, chlorate, acid pyrophosphate, soda ash, sal soda, bisulphate, etc., (pharmaceutical salts included elsewhere)</i>	37,385,000	42,384,000
<i>Organic chemicals, including acetic anhydride, butyl acetate, ethyl acetate, paraldehyde, glycols, pentasol acetate, vinyl acetate, ethyl alcohol, methyl hydrate, glycerine, phenol, cresol, benzol, etc., (acetic acid and acetylene included elsewhere)</i>	105,865,000	112,555,000
<i>Compressed and liquefied gases, etc., including acetylene, carbon dioxide, oxygen, nitrous oxide, liquid sulphur dioxide, liquid chlorine, anhydrous and aqua ammonia, liquefied petroleum gases, etc.</i>	53,651,000	57,089,000
<i>Fertilizer chemicals, including ammonium sulphate, ammonium nitrate (fertilizer grade), ammonium phosphate, and superphosphate</i>	45,848,000	49,142,000
<i>Synthetic resins, including casein type, vinyls, polystyrene, phenol-formaldehyde, urea-formaldehyde, alkyds, sodium carboxymethylcellulose, etc.</i>	54,930,000	66,441,000
<i>Other chemicals, including white lead, zinc oxide, red lead, litharge, cobalt salts, nickel salts, ferric chloride, lead arsenate, phosphorus, white arsenic, ammonium nitrate, fine chemicals, precious metal salts, etc.</i>	37,951,000	49,853,000
Totals	383,188,000	431,789,000

TABLE 5. Production, Imports, Exports and Apparent Consumption of Sulphuric Acid, 1925 - 58

Year	Production	Imports	Exports	Apparent consumption ¹
	short tons of 100% acid			
1925	77,700	52	19,179	58,573
1930	100,020	150	571	99,599
1935	209,083	83	1,027	208,139
1940	301,444	142	2,244	299,342
1945	664,302	149	11,203	653,248
1950	756,110	332	44,417	712,025
1955	950,277	151	29,578	920,850
1956	1,052,000	2,100	23,700	1,030,400
1957	1,290,000	1,000	29,500	1,261,500
1958	1,586,000	39,345	23,252	1,602,093

¹ No allowance made for changes in inventories.

PRODUCTION IN CANADA OF SULPHURIC ACID, 1930 - 1958
(THOUSAND NET TONS OF 100% ACID)

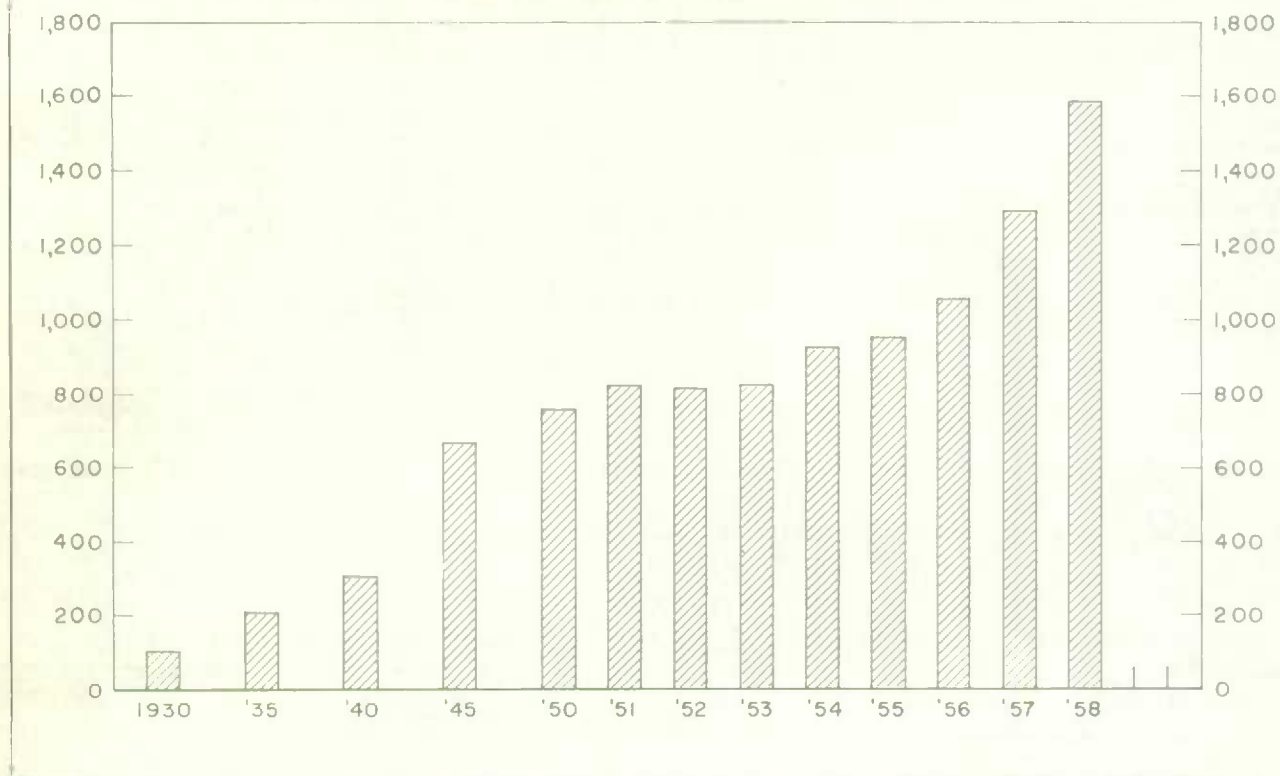


TABLE 6. Production, Imports and Exports of Chlorine and Caustic Soda, 1954 - 58

Year	Chlorine	Caustic soda ¹ (100% Na OH)
	tons	
(a) Production:		
1954	167,000	199,000
1955	193,000	226,000
1956	223,000	256,000
1957	226,000	264,000
1958	268,000	313,000
(b) Imports:		
1954	32,100	65,900
1955	38,000	73,300
1956	34,200	74,200
1957	33,828	53,200
1958	23,102	30,737
(c) Exports:		
1954	2,900	200
1955	10,400	100
1956	21,500	7
1957	10,500	285
1958	14,491	1,710

¹ Imports of caustic soda solution shown in Table 14 represent gross weight which is in terms of 50% Na OH approximately. Figures in Table 6 have been converted to 100% Na OH to agree with the basis used in production and exports.

TABLE 7. Consumption of Sulphuric Acid, by Industries, 1956-58

Industry	1956	1957	1958
Fertilizers	563,400	668,900	673,000
Heavy chemicals	188,700 ¹	177,900 ¹	176,300 ¹
Uranium ore processing			586,700
Non-ferrous metal smelting and refining	25,600 ²	29,300 ²	31,500 ²
Coke and gas	35,600	28,000	27,100
Petroleum refining	11,000	11,100	16,300
Leather tanning	2,300	2,100	2,200
Iron and steel	39,000	31,900	37,300
Electrical apparatus	6,800	8,400	8,600
Plastics	17,000	16,600	17,800
Soaps	12,200	13,700	14,300
Adhesives	400	900	700
Sugar refining	300	300	300
Pulp and paper	9,000	12,400	15,300
Vegetable oils	100	100	100
Miscellaneous ³	83,400	85,500	68,100
Total accounted for	994,800	1,087,100	1,675,600

¹ Includes consumption of "own make" or "captive" acid by uranium ore processing firms prior to 1958 — see separate total for 1958.

² Estimated.

³ Includes explosives, textiles, miscellaneous chemicals and sausage and sausage casings groups.

TABLE 8. Available Data on Consumption of Chlorine, by Industries, 1956-58

Industry	1956	1957	1958
Pulp and paper	133,500 ¹	134,400 ¹	150,030 ¹
Heavy chemicals	79,300 ¹	93,700 ¹	107,400 ¹
Soaps	4,000	4,100	5,080
Municipal waterworks	1,600 ²	2,100	2,420
Mining	3,000 ²	3,000 ²	3,000 ²
Starch and glucose	30	2	6
Dyeing and finishing of textiles	10	10	6
Miscellaneous chemicals	400	460	230
Fertilizers	50	50	30
Synthetic textiles	30	30	30
Primary plastics	300	260	270
Medicinal and pharmaceutical preparations	200	200 ²	—
Total accounted for	222,420	238,312	268,502

¹ Includes consumption of "own make" or "captive" chlorine by firms classified to these industries.

² Estimated.

TABLE 9. Available Data on Consumption of Caustic Soda, by Industries, 1956-58

Industry	1956	1957	1958
Pulp and paper	132,500 ¹	120,000 ¹	129,600 ¹
Soaps, washing compounds and cleaning preparations	20,800	21,700	21,500
Heavy chemicals	74,000 ¹	75,400 ¹	99,420 ¹
Petroleum refining	9,300	9,600	8,400
Primary plastics	10,900	10,600	12,400
Miscellaneous foods	1,400	1,400	1,300

See footnote at end of table.

TABLE 9. Available Data on Consumption of Caustic Soda, by Industry, 1956-58 - Concluded

Industry	1956	1957	1958
	tons		
Mining	1,400 ²	1,400 ²	1,400 ²
Coke and gas	1,000	1,000	1,100
Medicinals and pharmaceuticals	1,200	700	1,900
Non-ferrous metal refining	³	³	³
Starch and glucose	⁴	⁴	⁴
Dyeing and finishing of textiles	200	100	100
Toilet preparations	300	200	200
Compressed gases	300	300	300
Fertilizers	300	300	200
Sugar refining	60	90	100
Vegetable oils	50	50	50
Adhesives	70	90	80
Miscellaneous ⁵	36,020	34,240	29,900
Total accounted for.....	290,000	277,170	307,950

¹ Includes consumption of "own make" or "captive" caustic by firms classified to these industries.

² Estimated.

³ Included with "mining".

⁴ Included with miscellaneous foods.

⁵ Includes synthetic textiles, miscellaneous chemicals and sausage and sausage casings groups.

TABLE 10. Principal Statistics of the Acids, Alkalies and Salts Industry in Canada, grouped according to Size of Establishment, 1957 and 1958

Establishments reporting factory shipments valued at	Estab-lish-ments	Employees	Salaries and wages	Cost at plant of materials used	Selling value of factory shipments
	number		dollars		
1957					
\$100,000 to \$199,999	1	187	826,138	1,760,537	3,257,001
\$200,000 " \$499,999	9				
\$500,000 " \$999,999	9				
\$1,000,000 " \$4,999,999	21	1,807	7,985,385	23,367,184	48,705,248
\$5,000,000 and over	14	6,948	32,643,694	65,194,682	156,419,287
Head offices	—	740	4,188,421	—	—
Totals	54	9,981	46,965,641	95,237,538	215,834,187
1958					
\$10,000 to \$199,999	3	23	62,947	168,929	219,711
\$200,000 " \$499,999	6	81	385,390	1,018,123	1,993,894
\$500,000 " \$999,999	10	272	1,279,488	4,412,330	7,465,239
\$1,000,000 " \$4,999,999	22	1,700	8,120,204	22,520,316	51,400,806
\$5,000,000 and over	18	7,385	36,117,953	83,473,511	199,888,182
Head offices	—	612	3,814,461	—	—
Totals	59	10,073	49,780,443	111,593,209	260,967,832

TABLE 11. Employees and Earnings, by Provinces, 1957 and 1958

Province	Employees					Earnings		Total earnings
	Administrative		Workmen		Total	Admin-istrative	Workmen	
	Male	Female	Male	Female				
	number					dollars		
1957								
Quebec	1,073	337	2,830	4	4,244	7,570,518	12,497,017	20,067,535
Ontario	1,332	353	3,294	44	5,023	9,077,010	14,583,530	23,660,540
Other provinces	181	48	472	13	714	1,028,492	2,209,074	3,237,566
Canada	2,586	738	6,596	61	9,981	17,676,020	29,289,621	46,963,641
1958								
Quebec	1,087	345	2,770	3	4,205	8,045,111	12,438,099	20,483,210
Ontario	1,287	300	3,517	36	5,140	9,076,218	16,547,260	25,623,478
Other provinces	170	46	504	8	728	1,164,028	2,509,727	3,673,755
Canada	2,544	691	6,791	47	10,073	18,285,357	31,495,086	49,780,443

TABLE 12. Production Workers, by Months, 1957 and 1958

Month	1957			1958		
	Male	Female	Total	Male	Female	Total
	number					
January	6,184	55	6,239	6,688	44	6,732
February	6,270	59	6,329	6,811	43	6,854
March	6,387	63	6,450	6,763	52	6,815
April	6,542	66	6,608	6,770	45	6,815
May	6,670	64	6,734	6,895	50	6,945
June	6,396	65	6,461	6,969	47	7,016
July	6,501	61	6,562	6,885	47	6,932
August	6,482	57	6,539	6,775	46	6,821
September	6,998	58	7,056	6,804	48	6,852
October	6,950	59	7,009	6,721	45	6,766
November	6,958	58	7,016	6,754	48	6,802
December	6,804	62	6,866	6,670	43	6,713
Average	6,596	61	6,657	6,791	47	6,838

TABLE 13. Capital and Repair Expenditures in the Acids, Alkalies and Salts Industry, 1954-58

Year	Capital expenditures		Sub-total	Repair and maintenance expenditures		Sub-total	Total capital and repair expenditures
	Construction	Machinery and equipment		Construction	Machinery and equipment		
	thousands of dollars						
1954	2,350	6,258	8,608	2,525	12,334	14,859	23,467
1955	6,090	14,619	20,709	1,949	12,922	14,871	35,580
1956	21,190	41,067	62,257	2,440	14,540	16,980	79,237
1957	44,501	47,180	91,681	3,731	17,173	20,904	112,585
1958 ^P	22,083	27,056	49,139	4,857	19,223	24,070	73,219

TABLE 14. Imports of Acids and Certain Inorganic Chemicals, 1957 and 1958

Commodity	1957		1958	
	Quantity	Value	Quantity	Value
		\$		\$
Acids				
Inorganic acids:				
Acid, boracic, in packages of not less than 25 pounds .. lb.	3,180,706	210,278	3,263,749	197,836
Acid, hydrofluosilicic	180,989	14,208	200,511	15,176
Acid, muriatic	4,637,780	58,312	3,146,122	39,301
Acid, nitric	319,563	17,684	4,810,552	185,275
Acid, phosphoric	294,415	18,478	424,358	25,164
Acid, sulphuric	2,092,577	34,867	78,689,486	827,459
Acid, arsenic	519,361	18,262	507,657	16,011
Acid, chromic	1,151,528	307,767	852,407	230,794
Organic acids:				
Acid, salicylic and acetylsalicylic	907,460	473,944	1,188,909	642,191
Acid, lactic	507,956	117,765	573,365	124,927
Acid, nicotinic	45,076	99,265	20,184	49,313
Acid, oleic, or red oil	133,666	26,209	230,592	38,993
Acid, acetic and pyroligneous	gal. 556	386	1,093	4,760
Acid, cresylic	lb. 429,385	64,577	464,272	55,509
Xanthates and sulpho-thiophosphoric (dithiophosphoric compounds, for concentrating ores, metals or minerals) ..	6,658,078	1,699,699	5,432,683	1,408,885
Acid, oxalic	922,043	111,000	1,317,341	166,104
Acid, stearic	905,931	136,517	2,125,853	284,770
Acid, tannic	43,949	51,529	118,048	94,037
Tartaric acid crystals or powder	727,071	240,469	665,780	229,865
Acid, ascorbic .....	..	273,828	..	390,958
Acid, formic	lb. 1,760,079	175,576	1,264,981	127,700
Acid, carbolic or phenol	4,355,140	755,065	3,599,208	635,862
Acids, other, n.o.p.	9,750,864	2,167,482	10,986,998	2,230,092
Total acids .....	...	7,073,167	...	8,020,982
Inorganic chemicals, n.o.p.				
Alum, in bulk, ground or unground, but not calcined	cwt. 21,471	77,597	19,416	68,045
Chloralum or chloride of aluminum .....	.. 29,043	393,187	33,004	459,685
Sulphate of iron (copperas) .....	.. 19,188	30,322	19,616	30,897
Sulphate of alumina or alum cake .....	.. 300,950	581,280	122,939	228,002
Ammonia, nitrate of	lb. 208,084	15,643	58,180	6,032
Sal ammoniac .....	.. 547,559	36,852	246,007	14,618
Sal ammoniac skimmings .....	.. 1,363,517	81,598	917,881	66,610
Ammonia, anhydrous .....	.. 54,129,103	1,990,038	34,289,870	1,379,372
Ammonia compounds, n.o.p. ....	.. 9,249,799	401,838	6,886,183	511,517
Antimony, arsenic, copper, tin and zinc compounds:				
Antimony salts, viz, tartar emetic, chloride and lactate (antimonine) .....	.. 25,235	16,629	42,451	20,253
Arsenious oxide and arsenic sulphide .....	.. 1,559	420	..	..
Copper, sub-acetate of, or verdigris, dry, and precipitate of .....	.. 100	64	..	..
Copper, sulphate of .....	.. 2,035,687	263,268	2,250,202	238,303
Tin, bichloride of, and tin crystals .....	.. 13,363	13,518	12,785	10,751
Zinc, chloride of .....	.. 323,365	34,499	224,047	22,741
Zinc, sulphate of .....	.. 3,063,070	139,128	1,973,073	89,641
Bismuth and lead compounds:				
Bismuth salts .....	.. ..	24,739	..	20,541
Lead, acetate of, not ground	lb. 121,075	20,491	110,563	17,401
Lead, arsenate of .....	.. 73,056	15,421	130,400	25,854
Lead, nitrate of, not ground .....	.. 234,616	35,940	209,056	26,957
Compounds of tetraethyl lead .....	.. 6,593,798	2,373,402	6,477,840	2,307,328
Bromine, chlorine and iodine compounds:				
Bromine .....	.. 19,065	13,207	17,397	10,819
Chlorine, liquid, or chlorine gas .....	.. 67,656,950	1,917,361	46,204,258	1,311,245
Iodine, crude .....	.. 93,122	100,322	80,694	77,486
Iodized mineral salts, for use in the feeding of animals ..	.. ..	5,256	..	14,524

TABLE 14. Imports of Acids and Certain Inorganic Chemicals, 1957 and 1958 - Concluded

Commodity	1957		1958	
	Quantity	Value	Quantity	Value
		\$		\$
Calcium compounds:				
Calcium arsenate..... lb.	..	4,952	85,500	6,142
Calcium chloride..... cwt.	908,258	1,336,776	683,426	1,023,219
Chloride of lime..... "	26,318	212,437	30,480	253,757
Calcium molybdate, vanadium oxide and tungsten oxide, for the manufacture of steel..... lb.	285,576	468,115	135,333	109,247
Calcium compounds, n.o.p. "	6,430,054	715,527	8,388,224	801,777
Potash and potassium compounds, n.o.p.:				
Cream of tartar in crystals..... "	275,676	70,785	298,680	75,825
Potash and pearl ash..... "	587,654	49,679	730,110	62,075
Potash, bicarbonate of..... "	19,820	2,550	—	—
Potash, bichromate of, crude..... "	313,727	51,702	274,157	44,877
Potash, caustic..... "	7,301,665	349,807	8,838,296	459,775
Potash, chlorate of, not further prepared than ground..... "	142,703	19,273	81,294	12,251
Potash, red and yellow, prussiate of..... "	26,575	9,353	23,550	7,169
Potash, nitrate of, or saltpetre..... "	1,045,566	57,105	1,359,097	81,757
Potash, compounds, n.o.p. "	6,059,444	760,792	6,602,636	769,240
Soda and sodium compounds, n.o.p.:				
Borax, in packages of not less than 25 pounds, and fused borax known as borax-glass..... "	20,568,611	607,613	20,331,363	640,853
Glauber's salt..... "	3,023,404	50,527	2,434,866	38,792
Soda, arseniate, binarsenate and stannate of..... "	156,402	43,885	121,921	31,406
Soda ash or barilla..... "	182,943,617	2,927,367	67,031,525	1,060,915
Soda, bicarbonate of..... "	15,063,953	343,001	14,959,107	351,507
Soda, bichromate of..... "	6,187,491	727,462	6,256,320	729,739
Soda, bisulphate of, or nitre cake..... "	3,655,715	83,725	4,285,520	87,260
Soda, bisulphite of..... "	793,365	36,983	1,384,020	72,242
Soda, caustic, in packages..... "	15,919,017	623,826	7,476,971	381,547
Soda, caustic, in solution..... "	181,045,701	2,354,856	107,994,324	1,524,744
Soda, chlorate of..... "	920	244	703,100	53,784
Sodium cyanide..... "	8,285,047	1,065,606	8,393,388	1,110,822
Sodium glutamate..... "	461,784	505,027	652,395	660,632
Soda, hyposulphite of..... "	1,063,622	54,385	911,050	46,262
Soda, nitrite of..... "	1,162,137	51,235	1,482,955	60,422
Soda, peroxide of..... "	870,894	130,658	613,320	93,218
Soda, phosphate, di-sodium..... "	208,825	16,258	—	—
Soda, phosphate, tri-sodium..... "	798,167	41,305	1,912,731	113,093
Soda, phosphate, n.o.p. "	6,477,561	645,732	5,164,508	646,738
Soda, prussiate of..... "	683,896	73,279	565,986	60,997
Soda, sal..... "	70,850	1,349	110,850	2,617
Soda, silicate of, in crystals or in water solution..... "	7,233,020	321,251	7,489,435	348,019
Soda, sulphate of, crude, or salt cake..... "	56,175,688	511,457	51,624,952	478,215
Soda, sulphide of..... "	3,329,386	163,712	2,354,840	124,754
Soda, sulphite of..... "	9,609,005	237,844	9,045,995	206,180
Soda, benzoate of..... "	40,483	13,209	60,875	9,669
Soda, bromide of..... "	51,933	16,799	79,806	24,711
Soda, citrate of..... "	5,388	1,947	2,977	1,601
Soda, fluoride of..... "	640,227	78,258	409,375	51,622
Soda, antimonate of..... "	234,100	60,219	242,240	57,261
Sodium compounds, n.o.p. "	23,330,555	1,996,020	23,720,715	2,282,296
Other inorganic chemicals:				
Acid phosphate, not medicinal..... "	1,891,121	178,977	1,651,994	153,572
Hydrogen peroxides, solution of..... "	2,813,199	598,058	494,327	129,115
Magnesium carbonate, basic or otherwise, excepting crude rock; and magnesium carbonate, for use in the compounding or manufacture of rubber products..... "	676,112	48,852	722,250	53,369
Magnesium salts or compounds, n.o.p. "	8,693,221	351,332	9,964,638	370,731
Magnesium sulphate, or Epsom salts..... "	5,116,234	71,295	4,905,157	71,209
Mercury salts..... "	..	24,225	..	10,918
Phosphorus and compounds thereof, n.o.p. lb.	238,044	39,927	270,277	39,389
Radium..... "	—	1,334,011	—	528,288
Molybdenum oxide..... lb.	477,304	401,928	304,822	217,960
Total inorganic chemicals, n.o.p. ....	...	29,524,517	...	23,592,202

TABLE 15. Exports of Acids and Inorganic Chemicals, 1957 and 1958

Commodity	1957		1958		
	Quantity	Value	Quantity	Value	
		\$		\$	
Acid, sulphuric	cwt.	590,979	547,679	465,041	422,381
Acids, n.o.p.	"	503,494	3,564,936	391,304	3,186,475
Total acids .....	...	...	4,112,615	...	3,608,856
Ammonium sulphate .....		..	9,300,315	..	8,223,655
Ammonium compounds, n.o.p.	cwt.	7,551	24,765	11,319	36,287
Arsenic	"	32,298	119,616	17,032	67,731
Calcium compounds	"	1,641,513	7,203,438	1,120,519	4,893,866
Lye .....		..	1,164	..	1,975
Baking powder	cwt.	6	96	8	115
Soda and sodium compounds, n.o.p.	"	13,731	173,802	21,479	254,577
Cobalt oxide and cobalt salts	lb.	620,042	1,102,902	522,144	869,326
Chlorine, liquid, or chlorine gas	cwt.	209,876	623,934	289,815	610,909
Caustic soda	"	5,697	18,846	34,196	20,189
Total other chemicals .....	...	...	22,681,493	...	14,978,630

TABLE 16. Fuel and Electricity Used in the Acids, Alkalies and Salts Industry, 1957 and 1958

Kind	1957		1958		
	Quantity	Cost at works	Quantity	Cost at works	
		\$		\$	
Bituminous coal:					
Canadian	ton	22,333	269,987	9,405	110,079
Imported	"	300,544	3,045,047	286,982	2,824,183
Anthracite coal	"	54	1,563	111	2,076
Coke	"	410	9,228	299	6,451
Gasoline	Imp. gal.	337,752	116,320	374,276	129,827
Kerosene	"	4,227	974	17,538,876	1,666,536
Fuel oil	"	15,714,278	1,817,451		
Gas:					
Liquefied petroleum gases	"	155,598	34,503	53,318	13,549
Other manufactured gas	M cu. ft.	837,934	463,001	1,186,897	637,368
Natural	"	6,674,008	826,174	8,553,319	1,310,563
Other fuel .....		...	562,687	...	378,500
Electricity purchased	kwh.	2,942,623,950	13,237,159	3,678,890,699	15,097,130
Steam purchased .....		..	..	..	2,386,792
Totals .....	...	...	20,384,094	...	24,563,054
Electricity generated for own use	kwh.	149,681,194	—	110,618,248	—

TABLE 17. Total Horsepower Rating of Equipment in Use or Available for Use at the End of 1958 in the Acids, Alkalies and Salts Industry

Type of equipment	Driving generators	Not driving generators
	horsepower	
A. Prime movers:		
Steam engines	—	6,357
Steam turbines	31,468	12,396
Diesel engines	13,799	2,803
Gasoline, gas and oil engines, other than diesel engines	16,147	8,131
Hydraulic turbines or water wheels	11,000	180
Totals	72,414	29,867
B. Electric motors (one quarter horsepower and over)	—	259,300

List of Firms in the Acids, Alkalies and Salts Industry, 1958

Name and location of plant	Principal chemicals made for sale
Nova Scotia:	
Dominion Steel & Coal Corp. Ltd. Sydney	Sulphuric acid
Quebec:	
Aluminum Company of Canada, Ltd. Arvida	Sulphuric acid; aluminum sulphate (alum); aluminum fluoride; refined fluor-spar; liquid chlorine; recovered cryolite; sodium hydroxide (caustic soda)
B.A. - Shawinigan Limited Montreal East	Acetone; phenol, isopropyl alcohol
Canadian Industries Limited Shawinigan Falls	Perchloroethylene; trichloroethylene; chlorine (liquid); anhydrous hydrogen chloride; sodium hydroxide (caustic soda); hydrogen peroxide (liquid); chloroform, hydrogen gas.
Canadian Titanium Pigments Ltd Varenes	Sulphuric acid, titanium oxide pigment
Carbide Chemicals Company, Div. of Union Carbide Canada Ltd Montreal East	Ethylene glycol; diethylene glycol; anti-freeze; polyethylene resin; ethan-lamines; brake fluid; cellosolve compounds.
Durham Industries (Canada) Limited Montreal	Zinc oxide
Electric Reduction Co. Limited of Canada Buckingham	Phosphoric acid; acid calcium phosphate; phosphorus (amorphous); potas-sium chlorate; sodium acid pyrophosphate; sodium chlorate; phosphates of sodium (mono-di-tri-tetra); weed-killing mixtures; phosphorus sesqui-sulphide; rock wool; sodium tripolyphosphate; sodium metaphosphate.
Electric Reduction Co. Limited of Canada Varenes	Yellow phosphorus, ferrophosphorus
Laurentide Chemicals & Sulphur Ltd Montreal	Sulphur
National Silicates Ltd. Valleyfield	Sodium silicate
The Nichols Chemical Co. Ltd. Valleyfield	Sulphuric acid; aluminum sulphate; pyrites cinder; hydrofluoric acid
The Ogilvie Flour Mills Co. Limited Montreal	Monosodium glutamate
Shawinigan Chemicals Ltd. Shawinigan Falls	Monochloroacetic acid; acetaldehyde; acetic anhydride; acetylene black; acetylene gas; acetic acid; butyl acetate; butyl alcohol; calcium carbide; dibutyl phthalate; ethyl acetate; pentasol acetate; vinyl acetate; vinyl acetate resins; cerium; paraldehyde; butyraldehyde; formvar resin; sul-phuric acid; isopropyl acetate; methyl acetone.
Shell Oil Company of Canada, Limited Montreal East	Acetone; isopropyl alcohol
Standard Chemical Limited Beauharnois	Chlorine (liquid); sodium hydroxide (caustic soda); javelle concentrate
St. Maurice Chemicals Limited Varenes	Formaldehyde; pentaerythritol
Sturge (Canada) Limited Valleyfield	Citric acid
Zinc Oxide Co. Of Canada, Ltd. Montreal	Zinc oxide
Ontario:	
Brunner Mond Canada, Ltd. Amherstburg	Calcium chloride; sodium carbonate (soda ash)

List of Firms in the Acids, Alkalies and Salts Industry, 1958 - Continued

Name and location of plant	Principal chemicals made for sale
Ontario - Continued:	
Cabot Carbon of Canada, Limited Sarnia	Carbon black
Canadian Felling Zinc Oxide Ltd. Milton	Zinc oxide
Canadian Industries Limited Hamilton	Sulphuric acid; ammonium chloride; sodium sulphite (anhydrous); sodium metabisulphite; sodium thiosulphite; zinc chloride (50% solution); soldering and galvanizing fluxes.
Canadian Industries Limited Cornwall	Hydrochloric (muriatic) acid; chlorine (liquid); sodium hydroxide (caustic soda); sodium hypochlorite; hydrogen gas.
Canadian Industries Limited Copper Cliff	Sulphuric acid; liquid sulphur dioxide
Canadian Industries Ltd. Millhaven	Ammonia, anhydrous
Church & Dwight Ltd. Amherstburg	Sodium carbonate (sal soda)
Cornwall Chemicals Limited Cornwall	Carbon bisulphide; sodium hydrosulphide, carbon tetrachloride
Cyanamid of Canada Ltd. Niagara Falls	Calcium cyanamide; sodium cyanide; lime, unhydrated; calcium carbide
Cyanamid of Canada Ltd. (Welland Works) Niagara Falls	Ammonia (anhydrous); dicyandiamide; guanidine nitrate; sulphuric acid; urea-formaldehyde adhesives; nitric acid; picrite; thiourea; aminotriazole; xanthates; sulfas; ammonium nitrate; resins.
Dow Chemical of Canada Ltd. Sarnia	Ethylene glycol; diethylene glycol; triethylene glycol; ethylene dichloride; chlorine (liquid); sodium hydroxide (caustic soda); carbon tetrachloride; trichlorethylene; perchlorethylene; hydrochloric (muriatic) acid; ammonia, anhydrous, 100%; ethylene oxide; sodium carbonate; ethanolamines.
Dupont Co. of Canada Ltd. Maitland	Adipic acid; hexamethylenediamine; nitric acid
Dupont Co. of Canada Ltd. Maitland	Chlorofluoromethanes (Freons); hydrochloric acid
Emery Industries (Canada) Ltd. London	Stearic acid; animal and vegetable fatty acids; lard oil; oleic acid; glycerine.
Ethyl Corporation of Canada Ltd. Corunna	Tetraethyl lead
W.C. Hardesty Co. of Canada Ltd. New Toronto	Hydrogenated stearic acid; vegetable fatty acids; animal fatty acids; glycerine; oleic acid; castor fatty acids; pressed stearic acid.
Howards & Sons (Canada) Ltd. Cornwall	Di-cyclohexanol phthalate; di-methylcyclohexanol phthalate; methylcyclohexanol; cyclohexanol; dibutyl phthalate; di iso octyl phthalate.
Imperial Oil Limited Sarnia	Liquefied petroleum gas; alkylate; ethylene; petroleum derivatives
Kemball, Bishop, & Co. (Canada) Ltd. Cornwall	Citric acid; sodium citrate
Mid-Canada Chemical Industries Ltd. Port Arthur	Phenyl mercuric acetate
Naukatuck Chemicals Division of Dominion Rubber Co. Ltd. Elmira	Aniline; rubber accelerators and specialities; 2, 4-D; sodium sulphamethazine; nitrobenzol; ammonia, anhydrous, 100%; synthetic resin (alkyd polyester type); weed killer; hydrochloric acid; aniline oil; nonyl phenol; special pest control products.
National Silicates Ltd. New Toronto	Sodium silicate; sodium metasilicate

List of Firms in the Acids, Alkalies and Salts Industry, 1958 — Concluded

Name and location of plant	Principal chemicals made for sale
Ontario — Concluded:	
The Nichols Chemical Co. Ltd. Sulphide	Hydrochloric (muriatic) acid; nitric acid; sulphuric acid; ammonia (aqua); pyrites cinder; aluminum chloride.
The Nichols Chemical Co. Ltd. Thorold	Aluminum sulphate (alum)
The Nichols Chemical Co. Ltd. Port Arthur	Aluminum sulphate (alum)
Noranda Mines Limited Port Robinson	Sulphur dioxide; iron sinter
Noranda Mines Limited Cutler	Sulphuric acid; sintered iron ore
Nuodex Products of Canada, Ltd. Leaside	Lead naphthenate; cobalt naphthenate; manganese naphthenate; zinc naphthenate; copper naphthenate; calcium naphthenate; iron naphthenate; zinc octoate; cobalt octoate; calcium octoate; naphthenic acid.
Witco Chemical Co. (Canada) Ltd. Oakville	Metallic soaps
Saskatchewan:	
Gunnar Mines Limited Uranium City	Sulphuric acid
Alberta:	
Canadian Chemical Company Limited Edmonton	Acetone; acetic anhydride; acetic acid; iso-butyl alcohol; propylene glycol; formaldehyde; methyl alcohol; pentaerythritol; n-propyl acetate; n-propyl alcohol; solvents; normal butyl alcohol; butyl acetate; diethylene glycol; methyl isobutyl carbinol; methyl isobutyl ketone; methyl anyl acetate; solvents.
Northwest Nitr-Chemicals Ltd. Medicine Hat	Sulphuric acid
Western Chemicals Limited Duvernay	Chlorine (liquid); sodium hydroxide (caustic soda); hydrochloric acid
Inland Chemicals Ltd. Fort Saskatchewan	Sulphuric acid
British Columbia:	
Consolidated Mining and Smelting Co. of Canada, Ltd. Tadanac	Hydrofluosilicic acid; sulphuric acid; liquid sulphur dioxide
Electric Reduction Co. of Canada Ltd. North Vancouver	Sodium chlorate
Hooker Chemicals Ltd. North Vancouver	Chlorine liquid, sodium hydroxide (caustic soda)
The Nichols Chemical Co. Ltd. Barnet	Sulphuric acid; pyrites cinder; aluminum sulphate
Northwest Territories:	
Eldorado Mining & Refining Ltd. Port Radium	Sulphuric acid



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