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THE ACIDS, ALKALIES AND SALTS INDUSTRY

1959

Published by Authority of
The Honourable George Hees, Minister of Trade and Commerce

DOMINION BUREAU OF STATISTICS
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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.

A — Annual **B — Biennial** **M — Monthly** **S.C. — Special Compilation**

Catalogue number	Title		Price
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
46-205	Compressed Gases Industry (A)		.50
46-206	Fertilizers Industry (A)		.50
46-208	Inks Industry (A)		.50
46-209	Medicinal and Pharmaceutical Preparations Industry (A)		.50
46-210	Paints, Varnishes and Lacquers Industry (A)		.50
46-211	Primary Plastics Industry (A)		.50
46-213	Polishes and Dressings Industry (A)		.50
46-214	Soaps, Washing Compounds and Cleaning Preparations Industry (A)		.50
46-215	Toilet Preparations Industry (A)		.50
46-216	Miscellaneous Chemical Products Industry (A)		.50
46-217	Chemicals and Allied Products — Preliminary Summary Statistics (A)		.25
32-005	Margarine Statistics (M)	per year	1.00
32-006	Oils and Fats (M)	per year	1.00
32-206	Distilling Industry (A)		.50
32-205	Brewing Industry (A)		.50
32-222	Sugar Refining Industry (A)		.50
32-223	Vegetable Oils Industry (A)		.50
33-202	Leather Tanning Industry (A)		.50
33-206	Rubber Products Industry (A)		.50
34-208	Synthetic Textiles and Silk Industry (A)		.50
36-204	Pulp and Paper Industry (A)		.75
45-205	Petroleum Products Industry (A)		.50
45-004	Refined Petroleum Products (M)	per year	3.00
46-003	Soaps and Synthetic Detergents (M)	per year	1.00
(S.C.)	Sulphuric Acid, Caustic Soda and Chlorine (A)		.25
46-401	Consumption of Chemicals in Municipal Waterworks (B)		.25
46-207	Fertilizer Trade (A)		.50
46-212	Sales of Pest Control Products by Canadian Registrants (A)		.25
46-001	Sales of Paints, Varnishes and Lacquers (M)	per year	1.00
46-002	Specified Chemicals (10 items) (M)	per year	1.00
31-001	Inventories, Shipments and Orders in Manufacturing Industries (M)	per year	4.00
31-201	General Review of the Manufacturing Industries (A)		2.00
65-004	Trade of Canada — Exports (M)	per year	7.50
65-007	Trade of Canada — Imports (M)	per year	7.50

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 1959 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 1959 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

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

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

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

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

The general request for the principal items of products on the short form for 1959 permitted a fairly complete compilation of the detailed quantities and values of commodity shipments. In the case of the detailed quantities and values of materials, fuel and electricity, however, and the monthly distribution of production workers, only the totals of data actually reported on the intermediate and long forms are contained in published reports and no attempt was made as in past years to estimate the generally small proportion of individual totals represented by detailed items omitted from the short forms.

The new approach has relieved an additional 12,000 establishments from filling out the regular long form. Establishments now receiving the short form number in excess of 20,000 and account for more than 54 per cent of the total number of establishments and a little more than 3 per cent of the total value of shipments.

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[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*.

THE ACIDS, ALKALIES AND SALTS INDUSTRY

1959

Fifty-seven plants in Canada, classified under the Acids, Alkalies and Salts Industry, were engaged chiefly in the production of chemicals in 1959. Factory shipments reported by this group were valued at $297,482,108, an increase of 14 per cent over the total for the previous year. Twenty-nine of these plants were located in Ontario, 17 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 10,452 people who were paid $53,527,783 in salaries and wages. Materials used in manufacturing processes cost $127,361,965 and expenditures for fuel and electricity amounted to $27,985,958.

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 1,739,000 tons in 1959, an increase of about 10 per cent over the 1958 total of 1,586,000 tons. Nineteen plants were operated by fourteen companies as follows: The Consolidated Mining and Smelting Company of Canada Limited at Kimberley and Trail, British Columbia; Canadian Industries Limited at McMasterville, Quebec, 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, Shawinigan Chemicals Limited, Shawinigan Falls, Quebec and Lorado Uranium Mines Ltd. at Uranium City, Saskatchewan.

Production of chlorine totalled 282,000 tons in 1959 while output of caustic soda amounted to 341,000 tons. Eleven firms were in production in 1959 operating twelve 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; Shawinigan Chemicals Ltd., Montreal, Quebec; 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 1929-59 and by Provinces, 1958 and 1959

Year and province	Establishments	Employees	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
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	54	9,981	46,965,641	20,384,094	95,237,538	104,278,255	215,834,187
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	468	2,447,073	972,991	4,675,051	9,032,079	14,922,276
Alberta	4						
British Columbia	4	250	1,166,550	919,747	2,760,206	4,844,659	8,719,378
Northwest Territories	1						
Canada	**59**	**10,073**	**49,780,443**	**24,563,054**	**111,593,209**	**126,831,706**	**260,967,832**
1959							
Nova Scotia	1	4,454	22,657,133	8,734,800	48,961,075	53,340,719	111,163,951
Quebec	17						
Ontario	29	5,250	27,266,459	17,216,091	71,430,450	72,338,540	160,458,479
Saskatchewan	1	495	2,419,353	1,003,224	4,800,128	11,009,214	17,216,819
Alberta	4						
British Columbia	4	253	1,184,838	1,031,843	2,170,312	5,721,329	8,642,859
Northwest Territories	1						
Canada	**57**	**10,452**	**53,527,783**	**27,985,958**	**127,361,965**	**142,409,802**	**297,482,108**

[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] 1959

	Raw materials and supplies	Goods in process	Finished goods of own manufacture	Total
	dollars			
Opening:				
Nova Scotia and Quebec	7,599,560	2,250,563	6,623,446	16,473,569
Ontario	11,330,126	1,567,297	8,594,321	21,491,744
Saskatchewan and Alberta	1,312,219	312,099	1,943,553	3,567,871
British Columbia and Northwest Territories	1,379,000	5,712	488,720	1,873,432
Canada	**21,620,905**	**4,135,671**	**17,650,040**	**43,406,616**
Closing:				
Nova Scotia and Quebec	7,671,606	2,629,278	6,117,374	16,418,258
Ontario	10,035,158	1,402,654	9,285,566	20,723,378
Saskatchewan and Alberta	1,237,837	382,768	1,468,631	3,089,236
British Columbia and Northwest Territories	1,275,295	5,903	769,154	2,050,352
Canada	**20,219,896**	**4,420,603**	**17,640,725**	**42,281,224**

[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 1959 does not necessarily agree with the closing inventory for 1958 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, 1958 and 1959

Material		1958		1959	
		Quantity	Cost at works	Quantity	Cost at works
			$		$
Acetone	lb.	1,381,864	132,994	1,430,255	132,663
Acetylene	M cu. ft.	41,022	401,493	42,823	426,533
Acid – Acetic, 99½%	lb.	410,187	45,107	324,580	37,527
Fatty – Oleic	"	51,207	10,491	85,760	15,322
Other fatty acids	"	736,475	102,209	1,466,616	139,853
Hydrochloric (muriatic)	"	5,842,651	272,570	6,347,830	292,605
Nitric	"	5,406,027	309,415	2,327,997	122,489
Phosphoric	"	438,729	45,980	682,652	72,394
Sulphuric, as 100%	"	40,281,036	611,677	38,944,208	598,020
Alcohol, butyl (including isobutyl and normal)	"	1,242,862	161,448	1,922,969	270,811
Alcohol, ethyl	Imp. gal.	36,480	39,360	2,979	1,833
Alcohol, isopropyl	lb.	1,698,776	133,022	2,053,207	176,725
Ammonia liquor	lb. NH_3	1,474,048	104,349	1,571,621	112,146
Ammonia, anhydrous	lb.	21,555,467	921,049	26,616,573	1,120,770
Barium chloride	"	1,095,724	72,266	1,131,694	73,544
Benzol	"	16,928,107	799,120	15,836,906	686,473
Calcium chloride	"	530,861	14,209	635,090	17,860
Carbon, activated	"	366,175	97,435	261,729	82,607
Chlorine, liquid	"	11,736,450	393,467	13,562,677	449,272
Coal, (except for fuel) – Anthracite	ton	55,616	876,050	62,604	900,103
Cobalt acetate	lb.	7,666	8,175	7,600	7,359
Cobalt sulphate	"	5,589	5,155	7,209	3,605
Coke (except for fuel) – Petroleum	ton	1,153	28,529	885	19,020
Other	"	181,861	3,236,924	188,653	3,408,592
Cresol (including cresylic acid)	lb.	38,730	5,071	64,430	8,376
Electrodes (purchased)		—	374,150	—	632,000
Ethanolamines	lb.	562,307	145,614	420,514	115,665
Fluorspar	ton	74,939	2,436,656	70,046	2,218,220
Formaldehyde, 100% solids basis	lb.	660,567	72,584	829,165	87,261
Glycerine	"	271,865	53,490	354,910	78,098
Glycols – Ethylene	"	2,082,436	224,283	13,743,826	1,442,165
Diethylene	"	258,451	44,374	310,031	48,245
Triethylene	"	1,425	356	545	136
Propylene	"	521,311	60,433	592,813	79,184
Other grades	"	83,416	13,661	511,455	99,163
Graphite	"	1,211,095	440,626	834,174	293,130
Lead sulphate	"	93,210	14,709	76,450	12,211
Limestone	ton	1,070,598	1,875,476	1,093,779	2,234,589
Lime, hydrated	"	13,838	151,893	14,654	149,704
Lime, quick	"	32,061	513,053	38,796	614,929
Litharge	lb.	521,028	75,550	484,755	67,866
Mercury	"	122,628	318,725	125,621	314,145
Oils – Castor	"	1,063,177	149,040	1,394,190	193,044
Cocoanut	"	1,167,800	162,827	2,295,805	371,381
Other oils	"	47,390	4,503	248,416	24,511
Pentasol	"	153	33	—	—
Phenol	"	2,230,511	414,207	2,288,287	402,560
Petrochemical feed stocks		..	13,185,645	..	20,472,291
Phthalic anhydride	lb.	1,457,435	238,083	1,636,842	254,593
Pyrites	ton	232,763	2,133,596	280,677	2,513,888
Quartz, quartizite and silica sand	"	60,482	398,737	75,708	461,191
Sodium chloride, dry and brine (salt content)	ton	975,447	4,503,721	1,066,748	4,795,277
Sodium bichromate	lb.	186,440	26,278	190,859	27,631
Sodium hydroxide (caustic soda)	"	38,773,616	1,326,387	45,757,885	1,591,358
Sodium nitrate	"	557,340	18,159	550,193	20,748
Sodium sulphide	"	569,652	35,052	432,678	18,816
Sulphur (brimstone)	ton	229,170	7,693,351	193,737	6,382,416
Urea	lb.	1,506,614	86,456	677,877	34,795
Xylene (xylol)	"	160,205	8,201	177,187	8,057
Zinc dross	"	83,113	5,403	125,331	9,877
Zinc oxide	"	130,288	15,512	108,180	14,691
Steel sheets for making containers	ton	3,870	659,058	2,040	357,402
Lumber for making containers and for crating	M bd. ft.	96	6,323	86	6,710
All other materials		...	60,492,550	...	67,215,547
Containers and packing materials		...	4,386,889	...	4,521,968
Totals		...	**111,593,209**	...	**127,361,965**

.. Figures not available.
... Figures not appropriate or not applicable.

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 produced 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 1959 was around $477,758,000 compared with $431,789,000 in 1958.

TABLE 4. Total Production of Chemicals, 1958 and 1959

	Selling value at works	
	1958	1959
	dollars	
Acids, including acetic, muriatic, nitric, sulphuric, phosphoric, stearic, etc.	36,396,000	40,192,000
Calcium compounds, including carbide, chloride, phosphide, cyanamide, cyanide acid phosphate, grey acetate, arsenate, chloride of lime, etc.	16,929,000	18,622,000
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)	42,384,000	45,551,000
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)	113,555,000	131,142,000
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.	57,089,000	58,237,000
Fertilizer chemicals, including ammonium sulphate, ammonium nitrate (fertilizer grade), ammonium phosphate, and superphosphate	49,142,000	54,595,000
Synthetic resins, including casein type, vinyls, polystyrene, phenol-formaldehyde, urea-formaldehyde, alkyds, sodium carboxymethylcellulose, etc.	66,441,000	73,827,000
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.	49,853,000	55,592,000
Totals	**431,789,000**	**477,758,000**

TABLE 5. Production, Imports, Exports and Apparent Consumption of Sulphuric Acid, 1925-59

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
1957	1,290,000	1,000	29,500	1,261,500
1958	1,586,000	39,345	23,252	1,602,093
1959	1,739,000	18,489	27,863	1,729,626

[1] No allowance made for changes in inventories.

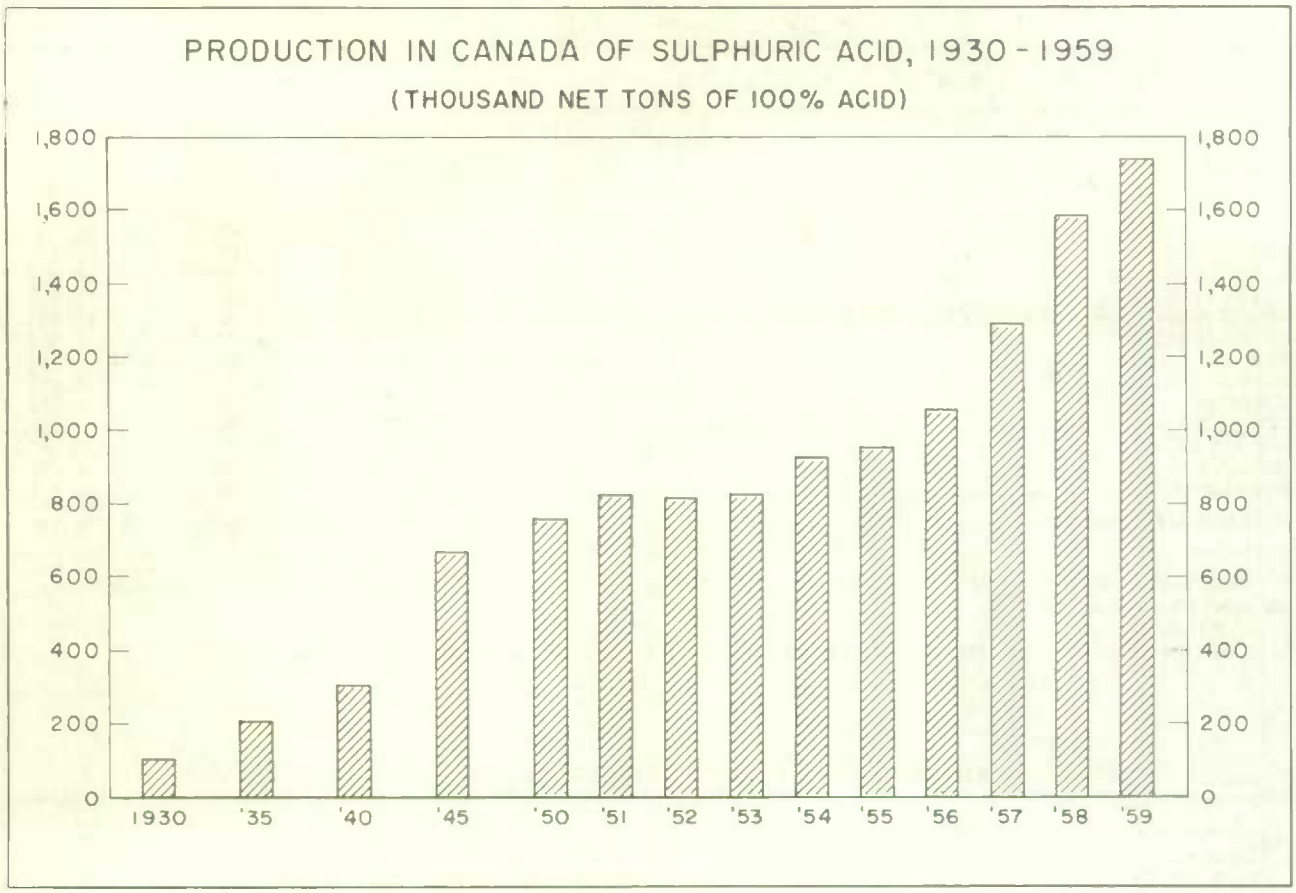

TABLE 6. Production, Imports and Exports of Chlorine and Caustic Soda, 1955-59

Year	Chlorine	Caustic soda[1] (100% Na OH)
	tons	
(a) Production:		
1955	193,000	226,000
1956	223,000	256,000
1957	226,000	264,000
1958	268,000	313,000
1959	282,000	341,000
(b) Imports:		
1955	38,000	73,300
1956	34,200	74,200
1957	33,828	53,200
1958	23,102	30,737
1959	26,584	35,972
(c) Exports:		
1955	10,400	100
1956	21,500	7
1957	10,500	285
1958	14,491	1,710
1959	16,844	2,799

[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, 1957-59

Industry	1957	1958	1959
	short tons of 100% acid		
Fertilizers	668,900	673,000	687,796
Heavy chemicals	177,900[1]	176,300[1]	181,357[1]
Uranium ore processing	..	586,700	619,558
Non-ferrous metal smelting and refining	29,300[2]	31,500[2]	30,863[2]
Coke and gas	28,000	27,100	26,102
Petroleum refining	11,100	16,300	18,870
Leather tanning	2,100	2,200	2,019
Iron and steel	31,900	37,300	46,045
Electrical apparatus	8,400	8,600	6,083
Plastics	16,600	17,800	19,391
Soaps	13,700	14,300	14,328
Adhesives	900	700	550
Sugar refining	300	300	380
Pulp and paper	12,400	15,300	18,487
Vegetable oils	100	100	50
Miscellaneous[3]	85,500	68,100	96,786
Total accounted for	**1,087,100**	**1,675,600**	**1,768,665**

[1] Includes consumption of "own make" or "captive" acid by uranium ore processing firms prior to 1958 — see separate total for 1958 and 1959.
[2] Estimated.
[3] Includes explosives, textiles, miscellaneous chemicals and sausage and sausage casings groups.
.. Figures not available.

TABLE 8. Available Data on Consumption of Chlorine, by Industries, 1957-59

Industry	1957	1958	1959
	tons		
Pulp and paper	134,400[1]	150,030[1]	145,433[1]
Heavy chemicals	93,700[1]	107,400[1]	115,909[1]
Soaps	4,100	5,080	4,230
Municipal waterworks	2,100	2,420	2,721
Mining	3,000[2]	3,000[2]	3,000[2]
Starch and glucose	2	6	2
Dyeing and finishing of textiles	10	6	4
Miscellaneous chemicals	460	230	114
Fertilizers	50	30	39
Synthetic textiles	30	30	—
Primary plastics	260	270	280
Distilled liquors	—	—	130
Medicinal and pharmaceutical preparations	200	—	—
Total accounted for	**238,312**	**268,502**	**271,862**

[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, 1957-59

Industry	1957	1958	1959
	tons		
Pulp and paper	120,000[1]	129,600[1]	145,682[1]
Soaps, washing compounds and cleaning preparations	21,700	21,500	21,635
Heavy chemicals	75,400[1]	99,420[1]	112,920[1]
Petroleum refining	9,600	8,400	8,576
Primary plastics	10,600	12,400	13,752
Miscellaneous foods	1,400	1,300	1,181

See footnote at end of table.

TABLE 9. Available Data on Consumption of Caustic Soda, by Industry, 1957-59 – Concluded

Industry	1957	1958	1959
	tons		
Mining	1,400[2]	1,400[2]	1,398[2]
Coke and gas	1,000	1,100	1,529
Medicinals and pharmaceuticals	7000	1,900	1,473
Non-ferrous metal refining	[3]	[3]	[3]
Starch and glucose	[4]	[4]	[4]
Dyeing and finishing of textiles	100	100	121
Toilet preparations	200	200	163
Compressed gases	300	300	326
Fertilizers	300	200	147
Sugar refining	90	100	81
Vegetable oils	50	50	67
Adhesives	90	80	149
Miscellaneous[5]	34,240	29,900	33,474
Total accounted for	**277,170**	**307,950**	**342,674**

[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, 1958 and 1959

Establishments reporting factory shipments valued at	Establishments	Employees	Salaries and wages	Cost at plant of materials used	Selling value of factory shipments
	number		dollars		
1958					
$ 100,000 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**
1959					
$ 25,000 to $ 49,999	1	32	97,494	316,893	514,715
100,000 " 199,999	3				
200,000 " 499,999	6	79	384,237	1,334,246	2,439,193
500,000 " 999,999	7	207	915,932	2,772,126	5,375,199
1,000,000 " 4,999,999	21	1,767	9,060,045	22,444,073	52,015,886
5,000,000 and over	19	7,719	38,901,380	100,494,627	237,137,115
Head offices	–	648	4,168,695	–	–
Totals	**57**	**10,452**	**53,527,783**	**127,361,965**	**297,482,108**

TABLE 11. Employees and Earnings, by Provinces, 1958 and 1959

Province	Employees					Earnings		Total earnings
	Administrative		Workmen		Total	Administrative	Workmen	
	Male	Female	Male	Female				
	number					dollars		
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**
1959								
Quebec	1, 224	365	2, 855	3	4, 447	8, 955, 087	13, 664, 970	22, 620, 057
Ontario	1, 350	335	3, 530	35	5, 250	9, 523, 971	17, 742, 488	27, 266, 459
Other provinces	213	44	487	11	755	1, 303, 575	2, 337, 692	3, 641, 267
Canada	**2, 787**	**744**	**6, 872**	**49**	**10, 452**	**19, 782, 633**	**33, 745, 150**	**53, 527, 783**

TABLE 12. Production Workers, by Months, 1959

Month	Establishments reporting monthly detail	
	Male	Female
	number	
January	6, 796	50
February	6, 808	50
March	6, 753	55
April	6, 802	50
May	6, 839	48
June	6, 873	50
July	6, 933	48
August	6, 850	50
September	7, 026	47
October	6, 994	46
November	6, 950	46
December	6, 833	49

TABLE 13. Capital and Repair Expenditures in the Acids, Alkalies and Salts Industry, 1955-59

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						
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	20, 524	24, 788	45, 312	4, 624	17, 536	22, 160	67, 472
1959p	6, 337	15, 210	21, 547	5, 961	19, 229	25, 190	46, 737

p Preliminary figures.

TABLE 14. Imports of Acids and Certain Inorganic Chemicals, 1958 and 1959

Commodity		1958		1959	
		Quantity	Value	Quantity	Value
			$		$
Acids					
Inorganic acids:					
Acid, boracic, in packages of not less than 25 pounds ..	lb.	3,263,749	197,836	4,518,488	247,669
Acid, hydrofluosilicic	"	200,511	15,176	224,205	15,646
Acid, muriatic	"	3,146,122	39,301	1,659,400	22,558
Acid, nitric	"	4,810,552	185,275	214,076	18,473
Acid, phosphoric	"	424,358	25,164	87,528	8,199
Acid, sulphuric	"	78,689,486	827,459	36,978,102	321,260
Acid, arsenic	"	507,657	16,011	595,674	20,081
Acid, chromic	"	852,407	230,794	1,143,156	307,849
Organic acids:					
Acid, salicylic and acetylsalicylic	"	1,188,909	642,191	1,052,648	555,278
Acid, lactic	"	573,365	124,927	534,957	133,467
Acid, nicotinic	"	20,184	49,313	53,402	91,740
Acid, oleic, or red oil	"	230,592	38,993	361,249	63,278
Acid, acetic and pyroligneous	gal.	1,093	4,760	1,144	3,850
Acid, cresylic	lb.	464,272	55,509	688,816	65,790
Xanthates and sulpho-thiophosphoric (dithiophosphoric compounds, for concentrating ores, metals or minerals)	"	5,432,683	1,408,885	4,726,648	1,209,380
Acid, oxalic	"	1,317,341	166,104	1,601,235	176,952
Acid, stearic	"	2,125,853	284,770	1,338,233	172,272
Acid, tannic	"	118,048	94,037	81,514	89,771
Tartaric acid crystals or powder	"	665,780	229,865	826,219	295,449
Acid, ascorbic		..	390,958	..	410,822
Acid, formic	lb.	1,264,981	127,700	1,156,613	114,192
Acid, carbolic or phenol	"	3,599,208	635,862	6,613,885	1,069,538
Acids, other, n.o.p.	"	10,986,998	2,230,092	11,907,289	2,530,912
Total acids		...	**8,020,982**	...	**7,944,426**
Inorganic chemicals, n.o.p.					
Alum, in bulk, ground or unground, but not calcined	cwt.	19,416	68,045	20,226	71,568
Chloralum or chloride of aluminum	"	33,004	459,685	33,374	453,439
Sulphate of iron (copperas)	"	19,616	30,897	33,281	47,144
Sulphate of alumina or alum cake	"	122,939	228,002	147,405	267,884
Ammonia, nitrate of	lb.	58,180	6,032	51,358	4,145
Sal ammoniac	"	246,007	14,618	202,264	12,688
Sal ammoniac skimmings	"	917,881	66,610	1,008,684	91,100
Ammonia, anhydrous	"	34,289,870	1,379,372	11,185,763	422,975
Ammonia compounds, n.o.p.	"	6,886,183	511,517	7,907,847	529,732
Antimony, arsenic, copper, tin and zinc compounds:					
Antimony salts, viz, tartar emetic, chloride and lactate (antimonine)	"	42,451	20,253	38,838	19,889
Copper, sulphate of	"	2,250,202	238,303	2,617,143	288,646
Tin, bichloride of, and tin crystals	"	12,785	10,751	11,015	9,654
Zinc, chloride of	"	224,047	22,741	331,527	28,670
Zinc, sulphate of	"	1,973,073	89,641	2,041,114	85,478
Bismuth and lead compounds:					
Bismuth salts		..	20,541	..	26,268
Lead, acetate of, not ground	lb.	110,563	17,401	118,745	18,046
Lead, arsenate of	"	130,400	25,854	84,448	18,430
Lead, nitrate of, not ground	"	209,056	26,957	256,420	32,531
Compounds of tetraethyl lead	"	6,477,840	2,307,328	[1]	..
Bromine, chlorine and iodine compounds:					
Bromine	"	17,397	10,819	66,434	24,957
Chlorine, liquid, or chlorine gas	"	46,204,258	1,311,245	53,167,462	1,492,006
Iodine, crude	"	80,694	77,486	111,812	99,880
Iodized mineral salts, for use in the feeding of animals		..	14,524	..	12,829

See footnotes at end of table.

TABLE 14. Imports of Acids and Certain Inorganic Chemicals, 1958 and 1959 – Concluded

Commodity		1958		1959	
		Quantity	Value	Quantity	Value
			$		$
Calcium compounds:					
Calcium arsenate	lb.	85,500	6,142	87,526	3,347
Calcium chloride	cwt.	683,426	1,023,219	720,878	1,037,294
Chloride of lime	"	30,480	253,757	27,257	282,446
Calcium molybdate, vanadium oxide and tungsten oxide, for the manufacture of steel	lb.	135,333	109,247	75,987	82,653
Calcium compounds, n.o.p.	"	8,388,224	801,777	9,412,162	912,793
Potash and potassium compounds, n.o.p.:					
Cream of tartar in crystals	"	298,680	75,825	379,870	99,958
Potash and pearl ash	"	730,110	62,075	911,050	76,626
Potash, bichromate of, crude	"	274,157	44,877	264,027	43,340
Potash, caustic	"	8,838,296	459,775	8,485,883	428,398
Potash, chlorate of, not further prepared than ground	"	81,294	12,251	86,532	12,590
Potash, red and yellow, prussiate of	"	23,550	7,169	16,778	5,884
Potash, nitrate of, or saltpetre	"	1,359,097	81,757	1,482,522	104,161
Potash, compounds, n.o.p.	"	6,602,636	769,240	9,654,003	1,000,913
Soda and sodium compounds, n.o.p.:					
Borax, in packages of not less than 25 pounds, and fused borax known as borax-glass	"	20,331,363	640,853	20,157,760	616,217
Glauber's salt	"	2,434,866	38,792	1,931,551	39,907
Soda, arseniate, binarseniate and stannate of	"	121,921	31,406	207,134	40,919
Soda ash or barilla	"	67,031,525	1,060,915	66,579,876	1,034,707
Soda, bicarbonate of	"	14,959,107	351,507	16,997,111	399,319
Soda, bichromate of	"	6,256,320	729,739	6,559,915	760,627
Soda, bisulphate of, or nitre cake	"	4,285,520	87,260	4,558,130	91,952
Soda, bisulphite of	"	1,384,020	72,242	2,036,373	98,892
Soda, caustic, in packages	"	7,476,971	381,547	6,775,833	357,179
Soda, caustic, in solution	"	107,994,324	1,524,744	130,337,645	1,746,065
Soda, chlorate of	"	703,100	53,784	4,374,754	191,811
Sodium cyanide	"	8,393,388	1,110,822	9,260,454	1,234,505
Sodium glutamate	"	652,395	660,632	639,186	604,284
Soda, hyposulphite of	"	911,050	46,262	752,160	34,519
Soda, nitrite of	"	1,482,955	60,422	1,627,528	71,192
Soda, peroxide of	"	613,320	93,218	856,334	137,779
Soda, phosphate, tri-sodium	"	1,912,731	113,093	3,074,315	184,716
Soda, phosphate, n.o.p.	"	5,164,508	646,738	6,840,239	824,359
Soda, prussiate of	"	565,986	60,997	588,476	64,186
Soda, sal	"	110,850	2,617	39,950	829
Soda, silicate of, in crystals or in water solution	"	7,489,435	348,019	9,946,423	435,243
Soda, sulphate of, crude, or salt cake	"	51,624,952	478,215	54,314,349	511,162
Soda, sulphide of	"	2,354,840	124,754	2,602,099	135,910
Soda, sulphite of	"	9,045,995	206,180	15,992,846	364,834
Soda, benzoate of	"	60,875	9,669	39,086	6,688
Soda, bromide of	"	79,806	24,711	87,918	28,979
Soda, citrate of	"	2,977	1,601	2,540	1,521
Soda, fluoride of	"	409,375	51,622	562,668	66,608
Soda, antimonate of	"	242,240	57,261	122,204	28,608
Sodium compounds, n.o.p.	"	23,720,715	2,282,296	26,070,464	2,435,255
Other inorganic chemicals:					
Acid phosphate, not medicinal	"	1,651,994	153,572	1,770,696	163,801
Hydrogen peroxides, solution of	"	494,327	129,115	794,288	232,283
Magnesium carbonate, basic or otherwise, excepting crude rock: and magnesium carbonate, for use in the compounding or manufacture of rubber products	"	722,250	53,369	606,859	50,763
Magnesium salts or compounds, n.o.p.	"	9,964,638	370,731	4,470,523	336,151
Magnesium sulphate, or Epsom salts	"	4,905,157	71,209	5,442,515	70,697
Mercury salts		..	10,918	..	6,137
Phosphorus and compounds thereof, n.o.p.	lb.	270,277	39,389	456,283	54,706
Radium		—	528,288	..	383,983
Molybdenum oxide	lb.	304,822	217,960	305,762	241,510
Total inorganic chemicals, n.o.p.		...	**23,592,202**	...	**22,237,165**

[1] No longer available separately.
.. Figures not available.
... Figures not appropriate or not applicable.

TABLE 15. Exports of Acids and Inorganic Chemicals, 1958 and 1959

Commodity		1958		1959	
		Quantity	Value	Quantity	Value
			$		$
Acid, sulphuric	cwt.	465,041	422,381	557,264	481,654
Acids, n.o.p.	"	391,304	3,186,475	392,827	3,495,675
Total acids		...	**3,608,856**	...	**3,977,329**
Ammonium sulphate		..	8,223,655	..	8,506,770
Ammonium compounds, n.o.p.	cwt.	11,319	36,287	476,588	1,543,562
Arsenic	"	17,032	67,731	11,304	46,460
Calcium compounds	"	1,120,519	4,893,866	1,014,374	4,283,214
Lye		..	1,975	..	4,157
Baking powder	cwt.	8	115	9	129
Soda and sodium compounds, n.o.p.	"	21,479	254,577	73,123	571,755
Cobalt oxide and cobalt salts	lb.	522,144	869,326	1,100,734	1,577,503
Chlorine, liquid, or chlorine gas	cwt.	289,815	610,909	336,889	570,939
Caustic soda	"	34,196	20,189	55,985	32,857
Sodium sulphate	ton	39,763	645,670	47,922	752,116
Total other chemicals		...	**15,624,300**	...	**25,844,120**

.. Figures not available.
... Figures not appropriate or not applicable.

TABLE 16. Fuel and Electricity Used in the Acids, Alkalies and Salts Industry, 1959

Kind		Quantity	Cost at plant
			$
Bituminous coal:			
(a) From Canadian mines	ton	7,819	94,405
(b) Imported	"	259,830	2,386,611
Anthracite coal	"	5	70
Coke	"	446	9,718
Gasoline (including gasoline used in cars and trucks)	Imp. gal.	377,927	127,430
Fuel oil including kerosene or coal oil	"	18,826,450	1,587,884
Gas:			
(a) Liquefied petroleum gases	Imp. gal.	77,006	17,687
(b) Other manufactured gas	M cu. ft.	2,175,640	1,045,128
(c) Natural gas	"	10,302,782	1,973,251
Other fuel			255,667
Electricity purchased	kwh.	3,864,862,702	17,095,709
Steam purchased		..	3,392,398
Total cost of fuel and electricity		...	**27,985,958**

... Figures not appropriate or not applicable.

List of Firms in the Acids, Alkalies and Salts Industry, 1959

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 fluorspar; liquid chlorine; recovered cryolite; sodium hydroxide (caustic soda).
B.A. – Shawinigan Limited ..... Montreal East	Acetone; phenol, isopropyl alcohol
Canadian Industries Limited ..... Shawinigan Falls	Perchlorethylene; trichlorethylene; chlorine (liquid); anhydrous hydrogen chloride; sodium hydroxide (caustic soda); hydrogen peroxide (liquid); chloroform, hydrogen gas.
Canadian Titanium Pigments Ltd ..... Varennes	Sulphuric acid, titanium oxide pigment
Carbide Chemicals Company, Div. of Union Carbide Canada Ltd. Montreal East	Ethylene glycol; diethylene glycol; anti-freeze; polyethylene resin; ethanolamines; 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); potassium chlorate; sodium acid phyrophosphate; sodium chlorate; phosphates of sodium (mono-di-tri-tetra); weed-killing mixtures; phosphorus sesquisulphide; rock wool; sodium tripolyphosphate; sodium metaphosphate.
Electric Reduction Co. Limited of Canada Varennes	Yellow phosphorus, ferrophosphorus
Laurentide Chemicals & Sulphur Ltd. ..... Montreal	Sulphur
National Silicates Ltd. ..... Valleyfield	Sodium silicate
The Nichols Chemicals 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; paraldehyde; butyraldehyde; sulphuric acid; isopropyl methyl acetone; sodium hydroxide (caustic soda).
Shawinigan Chemicals Limited ..... Varennes	Formaldehyde; pentaerythritol
Shell Oil Company of Canada, Limited ..... Montreal East	Acetone; isopropyl alcohol; detergent alkylate
Standard Chemical Limited ..... Beauharnois	Chlorine (liquid); sodium hydroxide (caustic soda); javelle concentrate; sodium chlorate.
Sturge (Canada) Limited ..... Valleyfield	Citric acid
Ontario:	
Brunner Mond Canada, Ltd. ..... Amherstburg	Calcium chloride; sodium carbonate (soda ash)

List of Firms in the Acids, Alkalies and Salts Industry, 1959 – Continued

Name and location of plant	Principal chemicals made for sale
Ontario – Continued:	
Cabot Carbon of Canada, Limited ..... Sarnia	Carbon black
Canada Packers Ltd. ..... Toronto	Fatty acids
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; hydrogen peroxide.
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; methyl chloride.
Dupont Co. of Canada Ltd. ..... Maitland	Adipic acid; hexamethylenediamine; nitric acid; hydrochloric acid; hydrogen peroxide Chlorofluoromethanes (Freons).
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
Kembali, Bishop, & Co. (Canada) Ltd. .... Cornwall	Citric acid; sodium citrate; potassium citrate
Mid-Canada Chemical Industries Ltd. ..... Port Arthur	Phenyl mercuric acetate
Naugatuck 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); weedkiller; 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, 1959 – 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 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;
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 alcohol; solvents; normal butyl alcohol; dipropylene glycol; methyl isobutyl carbinol; methyl isobutyl ketone; solvents.
Northwest Nitro-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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