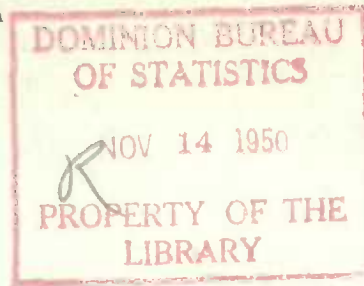


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CANADA



THE ACIDS, ALKALIES AND SALTS INDUSTRY
1949

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NOTICE

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

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

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

The present report belongs in Group XVIII. It is punched to permit of filing in a ring binder along with others of the group. The reports in this group are:

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

THE ACIDS, ALKALIES AND SALTS INDUSTRY

1949

Twenty-eight plants in Canada, classified under the Acids, Alkalies and Salts Industry, were engaged chiefly in the production of heavy chemicals in 1949. Production reported by this group was valued at \$74,411,796, an increase of 5.4 per cent over the total for the previous year. Sixteen of these plants were located in Ontario, 9 in Quebec, 2 in British Columbia and 1 in Nova Scotia. These concerns gave employment to an average of 5,861 people who were paid \$16,504,908 in salaries and wages. Materials used in manufacturing processes cost \$27,392,521 and expenditures for fuel and electricity amounted to \$7,355,353.

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 increased to 707,717 tons (100%) in 1949 over the 679,448 tons in 1948. Nine plants were operated by six companies, as follows: The Consolidated Mining and

Smelting Company of Canada, Limited, at Trail, British Columbia; Canadian Industries Limited, at Copper Cliff, and Hamilton in 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; and the North American Cyanamid, Limited (Welland Works) at Welland, Ontario. The first two of these works, at Trail and Copper Cliff, operated entirely on sulphur-bearing smelter gases.

Production of chlorine, either as a gas or liquid totalled about 96,000 tons in 1949 while the output of caustic soda amounted to about 61,000 tons. In 1949 there were nine caustic soda-chlorine plants in Canada. The Canadian Industries Limited had works at Windsor and Cornwall in Ontario and at Shawinigan Falls, Quebec. Other producers included the Dow Chemical of Canada Limited, Sarnia, Ontario; the Dominion Alkali & Chemical Company Limited, Beauharnois, Quebec; the Aluminum Company of Canada Limited, Arvida, Quebec; the Canadian International Paper Company, Temiskaming, Ontario; the Howard Smith Paper Mills Limited, Cornwall, Ontario; and the KVP Company Limited, Espanola, Ontario. The last three concerns are paper mills which make these chemicals for their own use.

TABLE I. Principal Statistics of the Acids, Alkalies and Salts Industry, 1945-1949

Year	Number of plants	Average number of employees	Salaries and wages	Cost of fuel and electricity at works	Cost of materials at works	Gross selling value of products at works
			\$	\$	\$	\$
1945.....	35	7,022	14,527,508	8,598,563	22,351,361	67,467,062
1946.....	29	5,338	11,158,999	6,431,503	14,650,883	47,301,400
1947.....	31	5,541	12,928,796	7,053,019	19,059,360	59,318,463
1948.....	29	5,889	15,348,441	7,752,690	22,551,999	70,600,246
1949.....	28	5,861	16,504,908	7,355,353	27,392,521	74,411,796
Per cent change: 1949 from 1948.....		- 0.5	+ 7.5	- 5.1	+ 21.5	+ 5.4

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.

CHEMICALS AND ALLIED PRODUCTS

TABLE 2. Principal Statistics, by Provinces, 1948 and 1949

Province	Number of plants	Average number of employees	Salaries and wages	Cost of fuel and electricity at works	Cost of materials at works	Gross selling value of products at works
			\$	\$	\$	\$
1948						
Nova Scotia.....	1	2,747	7,019,055	2,960,985	9,977,625	30,019,023
Quebec.....	9					
Ontario.....	17	3,142	8,329,386	4,791,705	12,574,374	40,561,223
British Columbia.....	2					
Canada.....	29	5,889	15,348,441	7,752,690	22,551,999	70,600,246
1949						
Nova Scotia.....	1	2,663	7,511,666	2,359,111	9,794,045	28,939,281
Quebec.....	9					
Ontario.....	16	3,198	8,993,242	4,996,242	17,598,476	45,472,515
British Columbia.....	2					
Canada.....	28	5,861	16,504,908	7,355,353	27,392,521	74,411,796

TABLE 3. Materials Used in the Acids, Alkalies and Salts Industry, 1948 and 1949

Material	Unit of measure	1948		1949	
		Quantity	Cost at works	Quantity	Cost at works
			\$		\$
Acetone.....	lb.	577,657	60,133	519,280	54,045
Acetylene.....	M cu. ft.	26,400	169,660	30,975	201,857
Acid:					
Acetic, 99½%.....	lb.	5,889	703	3,501	551
Hydrochloric (muriatic).....	lb.	819,772	13,891	5,217,613	79,965
Nitric, 42° Be.....	lb.	102,360	5,770	77,140	3,896
Sulphuric, 66° Be.....	lb.	11,001,698	124,028	10,702,780	110,277
Aluminum sulphate.....	lb.	7,374	164	6,487	194
Ammonia liquor.....	lb. NH ₃	845,308	45,775	972,914	61,470
Ammonia, anhydrous.....	lb.	2,711,417	124,558	2,349,876	94,086
Benzol.....	lb.	1,728,022	53,155	1,459,792	50,671
Calcium chloride.....	lb.	1,573,745	23,542	306,455	5,826
Chlorine, liquid.....	lb.	36,804,072	851,270	38,068,103	1,047,544
Coal (except for fuel):					
Anthracite.....	ton	6,267	63,212	6,306	68,117
Bituminous.....	ton	1,800	25,540	825	11,562
Coke (except for fuel):					
Petroleum.....	ton	20,595	325,646	19,109	339,327
Other.....	ton	86,890	1,275,056	161,510	2,742,578
Electrodes (purchased).....	—	—	686,087	—	790,833
Fluorspar.....	ton	32,596	834,981	32,947	828,241
Graphite.....	lb.	300,652	48,803	371,799	75,795
Limestone.....	ton	934,220	1,442,729	809,419	1,270,195
Lime, hydrated.....	ton	51,383	100,799	48,379	95,742
Lime, quick.....	ton	14,468	179,544	20,003	240,801
Mercury.....	lb.	74,414	77,697	373,131	274,224
Potassium hydroxide (caustic potash).....	lb.	—	—	3,683	414
Pyrites.....	ton	69,713	401,596	67,100	431,433
Quartz, quartzite and silica sand.....	ton	10,225	30,607	27,539	157,193
Sodium carbonate (soda ash).....	lb.	46,997,255	661,624	45,163,477	720,066
Sodium chloride, dry, and brine (salt content).....	ton	393,518	1,183,844	431,131	1,461,948
Sodium bichromate.....	lb.	72,268	6,127	54,825	5,917
Sodium hydroxide (caustic soda).....	lb.	6,647,264	208,629	6,733,284	278,679
Sodium nitrate.....	lb.	990,258	34,531	1,048,114	40,411
Sodium silicate (water glass).....	lb.	15,413,174	241,672	12,200,945	210,566
Sodium sulphate (salt cake).....	lb.	148,510	8,807	—	—
Sodium sulphide.....	lb.	87,919	4,452	203,988	10,745
Sulphur (brimstone).....	ton	60,882	1,461,463	68,508	1,704,567
Containers of all kinds and packing materials.....	—	—	2,192,790	—	2,000,111
Steel sheets for making containers.....	—	4,502	597,292	3,806	518,742
Lumber.....	M bd. ft.	391	24,038	245	14,653
All other materials and supplies.....	—	—	8,961,784	—	11,389,271
Total.....	—	—	22,551,999	—	27,392,521

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; methyl alcohol comes under wood distillation; some fine chemicals are made in the pharmaceutical in-

dustry; 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 1949 was around \$171,764,000 compared with \$154,966,000 in 1948.

TABLE 4. Total Production of Chemicals, 1948 and 1949

	Selling value at works	
	1948	1949
	\$	\$
<i>Acids</i> , including acetic, muriatic, nitric, sulphuric, phosphoric, stearic, etc.....	12,178,000	8,983,000
<i>Calcium compounds</i> , including carbide, chloride, phosphide, cyanamide, cyanide, acid phosphate, grey acetate, arsenate, chloride of lime, etc.	13,056,000	17,051,000
<i>Sodium compounds</i> , including hydroxide, phosphate, cyanide, silicate, hypochlorite, bisulphite, salt cake, Glauber's salt, chlorate, acid pyrophosphate, soda ash, sal soda, bisulphate, etc., (pharmaceutical salts included elsewhere).....	11,994,000	14,393,000
<i>Organic chemicals</i> , 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).....	29,309,000	33,376,000
<i>Compressed and liquefied gases, etc.</i> , including acetylene, carbon dioxide, oxygen, nitrous oxide, liquid sulphur dioxide, liquid chlorine, anhydrous and aqua ammonia, liquefied petroleum gases, etc.	16,629,000	17,688,000
<i>Fertilizer chemicals</i> , including ammonium sulphate, ammonium nitrate (fertilizer grade), ammonium phosphate, and superphosphate.....	40,868,000	42,363,000
<i>Synthetic resins</i> , including casein type, vinyls, polystyrene, phenol-formaldehyde, urea-formaldehyde, alkyls, sodium carboxymethylcellulose, etc.	11,998,000	14,371,000
<i>Other chemicals</i> , 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.	18,934,000	23,539,000
Total	154,966,000¹	171,764,000

1. Revised to include liquefied petroleum gases and synthetic resins.

TABLE 5. Production, Imports, Exports and Apparent Consumption of Sulphuric Acid, 1925-1949

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
1946.....	593,577	166	3,296	590,447
1947.....	668,802	116	29,909	639,009
1948.....	679,446	59	29,478	650,029
1949.....	707,717	24	17,336	690,405

1. No allowance made for changes in inventories.

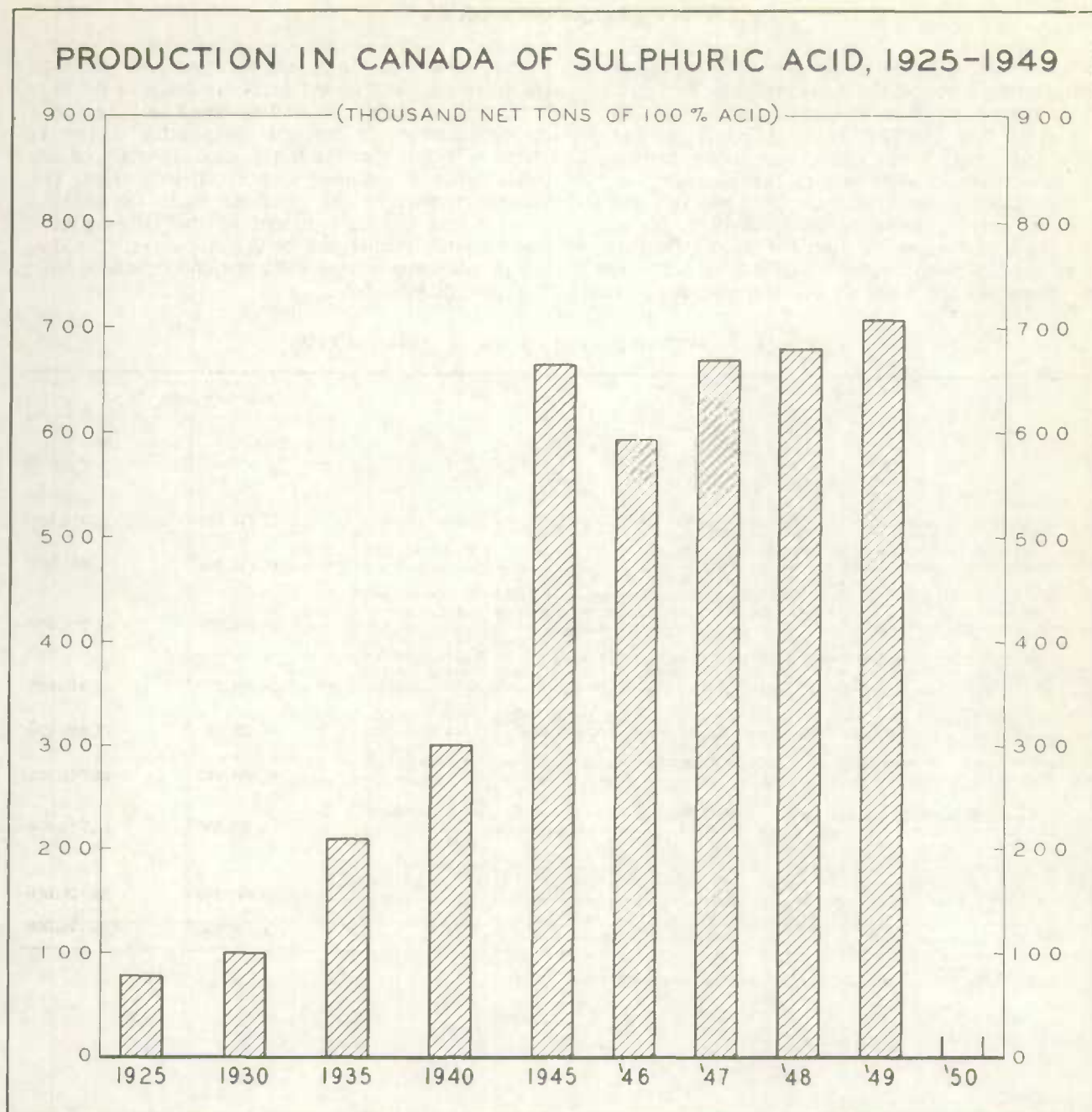


TABLE 6. Consumption of Sulphuric Acid, by Industries, 1947 and 1948

	1947	1948
	(Short tons of 100% acid)	
Fertilizers.....	472,473	467,189
Heavy chemicals.....	45,083	59,006
Explosives.....	14,821	19,746
Non-ferrous metal smelting and refining.....	8,149	8,149
Textiles.....	10,925	12,490
Coke and gas.....	27,381	35,211
Petroleum refining.....	18,127	19,605
Leather tanning.....	2,298	2,119
Iron and steel.....	21,016	20,836
Electrical apparatus.....	4,479	4,300
Plastics.....	3,286	4,244
Soaps.....	4,962	4,325
Adhesives.....	652	845
Miscellaneous chemicals.....	2,623	2,354
Total accounted for.....	636,275	660,418

TABLE 7. Production and Imports of Chlorine and Caustic Soda, 1949

	Chlorine	Caustic Soda
	(tons)	
Production.....	96,000	61,000
Imports.....	10,363	21,724

TABLE 8. Available Data on Consumption of Chlorine, by Industries, 1948

	Tons
Pulp and paper.....	62,860
Heavy chemicals.....	18,400
Soaps.....	2,300
Municipal waterworks.....	1,100
Mining.....	1,100
Starch and glucose.....	120
Dyeing and finishing of textiles.....	70
Miscellaneous chemicals.....	120
Total accounted for.....	86,070

TABLE 9. Available Data on Consumption of Caustic Soda, by Industries, 1948

	Tons
Pulp and paper.....	46,000
Soaps.....	18,500
Petroleum refining.....	4,500
Heavy chemicals.....	3,300
Coke and gas.....	600
Mining.....	1,300
Non-ferrous metal refining.....	260
Starch and glucose.....	240
Dyeing and finishing of textiles.....	240
Medicinals and pharmaceuticals.....	400
Compressed gases.....	150
Sugar refining.....	30
Toilet preparations.....	180
Boiler compounds.....	350
Miscellaneous chemicals.....	2,300
Total accounted for.....	78,350

TABLE 10. Imports of Acids and Certain Inorganic Chemicals, 1948 and 1949

Commodity	1948		1949		
	Quantity	Value	Quantity	Value	
		\$		\$	
ACIDS					
Inorganic acids:					
Acid, boracic, in packages of not less than 25 pounds.....	lb.	3,201,667	165,282	4,104,337	219,418
Acid, hydrofluosilicic	lb.	92,264	12,588	104,436	13,973
Acid, muriatic	lb.	879,412	10,930	6,869,109	74,802
Acid, nitric	lb.	156,541	9,809	406,776	15,800
Acid, phosphoric.....	lb.	352,200	25,252	491,129	26,312
Acid, sulphuric.....	lb.	118,849	5,030	48,326	2,490
Acid, arsenic.....	lb.	1,395,809	68,008	1,701,154	86,602
Acid, chromic.....	lb.	470,197	105,675	555,682	143,716
Organic acids:					
Acid, salicylic and acetylsalicylic.....	lb.	491,099	187,289	494,690	203,318
Acid, lactic.....	lb.	351,914	54,975	307,541	59,476
Acid, nicotinic.....	lb.	484	1,402	1,275	5,645
Acid, oleic, or red oil.....	lb.	446,367	103,290	555,822	94,220
Acid, acetic and pyroligneous.....	gal.	553	1,061	5,406	5,560
Acid, citric.....	lb.	1,939,802	476,668	2,280,358	600,885
Acid, cresylic.....	lb.	614,291	90,961	176,373	18,196
Xanthates and sulpho-thiophosphoric (dithiophosphoric compounds, for concentrating ores, metals or minerals).....	lb.	4,557,215	1,023,244	4,396,771	1,067,147
Acid, oxalic.....	lb.	745,835	101,287	800,960	119,141
Acid, stearic.....	lb.	1,124,555	332,997	886,073	140,746
Acid, tannic.....	lb.	424,106	70,974	150,837	51,751
Tartaric acid crystals or powder.....	lb.	748,446	280,110	680,267	206,435
Acid, ascorbic.....	lb.	9,064	70,922	8,874	62,570
Acid, formic.....	lb.	663,326	66,389	518,935	67,511
Acid, carbonic, or phenol.....	lb.	5,868,594	673,474	5,546,345	710,169
Acids, other, n.o.p.	lb.	6,412,243	424,708	1,802,292	373,310
Total Acids.....	-	-	4,362,325	-	4,369,193
INORGANIC CHEMICALS, n.o.p.					
Alum, in bulk, ground or unground, but not calcined.....	cwt.	16,028	55,296	14,543	51,875
Chloralum or chloride of aluminum.....	cwt.	5,446	46,778	6,478	59,070
Sulphate of iron (copperas).....	cwt.	16,582	17,503	14,635	20,033
Sulphate of alumina or alum cake.....	cwt.	36,540	54,271	69,339	100,362
Ammonia, nitrate of.....	lb.	209,106	10,272	332,077	17,144
Sal ammoniac.....	lb.	1,068,488	52,822	680,099	32,185
Sal ammoniac skimmings.....	lb.	110,408	9,591	187,404	17,367
Ammonia, anhydrous.....	lb.	129,645	5,148	1,176,374	47,605
Ammonia compounds, n.o.p.	lb.	4,241,346	136,373	4,398,224	145,822
Antimony, arsenic, copper, tin and zinc compounds:					
Antimony salts, viz., tartar emetic, chloride and lactate (antimonine)....	lb.	25,004	10,375	20,868	10,175
Arsenous oxide and arsenic sulphide.....	lb.	84,390	13,056	256,957	18,091
Copper, sub-acetate of, or verdigris, dry, and precipitate of.....	lb.	1,700	584	700	235
Copper, sulphate of.....	lb.	454,672	51,230	1,032,346	106,721
Tin, bichloride of and tin crystals.....	lb.	10,973	8,366	11,866	8,910
Zinc, chloride of.....	lb.	474,561	32,140	471,221	39,213
Zinc, sulphate of.....	lb.	799,707	39,130	1,355,936	81,714
Bismuth and lead compounds:					
Bismuth salts.....	-	-	14,094	-	24,105
Lead, arsenate of.....	lb.	430	150	-	-
Lead, acetate of, not ground.....	lb.	79,415	16,547	112,190	21,538
Lead, nitrate of, not ground.....	lb.	81,505	15,402	67,953	12,809
Compounds of tetraethyl lead.....	lb.	14,571,006	5,131,472	17,171,342	6,356,843
Bromine, chlorine and iodine compounds:					
Bromine.....	lb.	20,720	6,209	16,594	4,594
Chlorine, liquid, or chlorine gas.....	lb.	28,621,333	580,085	20,725,190	499,839
Iodine, crude.....	lb.	112,693	196,366	60,206	102,080
Iodized mineral salts, for use in the feeding of animals.....	-	-	2,320	-	7,650
Calcium compounds:					
Calcium chloride.....	cwt.	67,445	49,993	284,430	235,998
Chloride of lime.....	cwt.	2,407	32,739	4,252	45,511
Calcium molybdate, vanadium oxide and tungsten oxide for the manufacture of steel.....	lb.	54,497	40,175	78,532	62,452
Calcium compounds, n.o.p.	lb.	7,362,153	393,635	3,903,555	312,631
Potash and potassium compounds, n.o.p.:					
Argols.....	lb.	444	198	5,707	1,398
Cream of tartar in crystals.....	lb.	302,499	90,891	383,017	82,150
Potash and pearl ash.....	lb.	141,546	9,854	287,001	17,655
Potash, bicarbonate of.....	lb.	21,115	3,821	15,680	2,340
Potash, bichromate of, crude.....	lb.	171,794	20,492	319,409	41,609
Potash, caustic.....	lb.	7,069,364	323,775	3,533,734	180,716
Potash, chlorate of, not further prepared than ground.....	lb.	53,589	6,169	57,387	7,101
Potash, red and yellow, prussiate of.....	lb.	23,037	6,827	17,042	6,326
Potash, nitrate of, or saltpetre.....	lb.	794,674	57,823	982,282	76,731
Potash, compounds, n.o.p.	lb.	846,833	225,815	1,284,538	277,376

TABLE 10. Imports of Acids and Certain Inorganic Chemicals, 1948 and 1949 - Concluded

Commodity	1948		1949		
	Quantity	Value	Quantity	Value	
		\$		\$	
Soda and sodium compounds, n.o.p.:					
Borax, in packages of not less than 25 pounds, and fused borax known as borax-glass.....	lb.	13,800,342	457,548	14,932,270	486,305
Glauber salts.....	lb.	2,944,325	52,212	3,991,071	59,959
Soda, arseniate, binarsenate and stannate of.....	lb.	68,510	18,910	55,142	21,203
Soda ash or barilla.....	lb.	62,652,403	947,889	10,873,747	206,206
Soda, bicarbonate of.....	lb.	13,806,674	238,555	13,701,372	255,658
Soda, bichromate of.....	lb.	4,585,652	402,333	3,136,154	314,493
Soda, bisulphate of, or nitre cake.....	lb.	1,662,565	38,234	1,655,935	39,968
Soda, bisulphite of.....	lb.	41,687	2,166	340,600	13,932
Soda, caustic, in packages.....	lb.	3,051,193	147,907	3,304,954	131,479
Soda, caustic, in solution.....	lb.	63,165,261	785,530	40,142,211	531,435
Soda, chlorate of.....	lb.	751,295	60,526	677,500	54,857
Sodium cyanide.....	lb.	5,230,129	645,728	5,781,488	769,720
Sodium glutamate.....	lb.	443,016	683,786	482,641	721,384
Soda, hyposulphite of.....	lb.	343,458	18,404	131,535	8,432
Soda, nitrite of.....	lb.	1,088,779	61,113	989,948	53,361
Soda, peroxide of.....	lb.	83,305	12,448	241,947	45,983
Soda phosphate, di-sodium.....	lb.	207,967	12,976	189,200	12,475
Soda phosphate, tri-sodium.....	lb.	2,647,128	93,338	1,131,243	46,330
Soda phosphate, n.o.p.....	lb.	15,155,236	1,697,840	4,487,435	365,753
Soda, prussiate of.....	lb.	520,033	62,904	488,160	64,543
Soda, sal.....	lb.	372,405	8,298	195,400	5,883
Soda, silicate of, in crystals or in water solution.....	lb.	5,023,554	111,373	6,681,161	149,551
Soda, sulphate of, crude, or salt cake.....	lb.	24,788,238	240,228	8,588,764	65,722
Soda, sulphide of.....	lb.	4,258,018	195,896	2,793,542	122,826
Soda, sulphite of.....	lb.	4,803,391	114,580	2,112,386	65,068
Soda, benzoate of.....	lb.	144,744	61,925	215,277	69,362
Soda, bromide of.....	lb.	41,884	11,751	58,055	17,633
Soda, citrate of.....	lb.	150,462	31,337	147,162	30,975
Soda, fluoride of.....	lb.	678,885	70,702	223,050	25,250
Soda, antimonate of.....	lb.	324,000	91,060	308,000	95,458
Sodium compounds, n.o.p.....	lb.	7,855,603	901,249	8,185,476	945,246
Other Inorganic Chemicals:					
Acid phosphate, not medicinal.....	lb.	2,314,323	177,716	2,447,396	188,278
Hydrogen peroxides, solutions of.....	lb.	489,005	75,573	994,342	165,499
Magnesium carbonate, basic or otherwise, excepting crude rock; and magnesium carbonate, for use in the compounding or manufacture of rubber products.....	lb.	1,389,539	91,289	1,975,657	127,208
Magnesium salts or compounds, n.o.p.....	lb.	986,334	122,062	857,429	100,131
Magnesium sulphate, or Epsom salts.....	lb.	5,593,132	118,792	5,565,716	120,881
Mercury salts.....	—	—	4,321	—	834
Phosphorus and compounds thereof, n.o.p.....	lb.	22,323	18,634	32,391	45,195
Radium.....	—	—	365,496	—	68,809
Molybdenum oxide.....	lb.	330,727	206,143	319,029	185,041
Total Inorganic Chemicals, n.o.p.....	—	—	17,226,559	—	15,933,787

TABLE 11. Exports of Acids and Inorganic Chemicals, 1948 and 1949

Commodity	1948		1949		
	Quantity	Value	Quantity	Value	
		\$		\$	
Acid, sulphuric.....	cwt.	589,567	432,852	346,719	263,385
Acids, n.o.p.....	cwt.	643,509	5,294,942	304,359	2,475,224
Total Acids.....	—	—	5,727,794	—	2,738,609
Ammonium sulphate.....	cwt.	2,927,587	5,923,549	3,342,937	7,851,153
Ammonium compounds, n.o.p.....	cwt.	6,312	22,785	97	1,576
Arsenic.....	cwt.	40,513	162,103	38,807	157,947
Acetate of lime.....	cwt.	29,393	91,063	10,674	32,004
Calcium compounds.....	cwt.	860,149	2,786,828	489,478	1,875,097
Lime.....	—	—	68,753	—	3,140
Baking powder.....	cwt.	11,084	172,515	1,324	20,637
Soda and sodium compounds.....	cwt.	1,589,839	4,839,900	1,382,855	4,173,693
Cobalt oxide and cobalt salts.....	lb.	876,895	1,032,710	590,538	742,088
Radium and salts.....	—	—	872,249	—	165,139
Total Other Chemicals.....	—	—	15,972,455	—	15,022,474

TABLE 12. Employees and Earnings, by Provinces, 1948 and 1949

Province	Average Number of Employees					Earnings		Total earnings
	Administrative		Workmen		Total	Administrative	Workmen	
	Male	Female	Male	Female				
						\$	\$	\$
1948								
Quebec	362	92	2,263	25	2,742	1,739,094	5,265,543	7,004,637
Ontario	494	133	2,358	23	3,008	1,944,952	6,142,778	8,087,730
Other provinces	5	1	133	—	139	15,360	240,714	256,074
Canada	861	226	4,754	48	5,889	3,699,406	11,649,035	15,348,441
1949								
Quebec	483	164	1,981	24	2,652	2,505,765	4,970,632	7,476,397
Ontario	608	161	2,295	22	3,086	2,302,578	6,386,576	8,689,154
Other provinces	5	—	118	—	123	14,385	325,972	339,357
Canada	1,096	325	4,394	46	5,861	4,822,728	11,682,180	16,504,908

List of Firms in the Acids, Alkalies and Salts Industry, 1949

Name and Location of Plant	Principal Chemicals Made
Dominion Steel & Coal Corp. Ltd. Sydney, Nova Scotia	Sulphuric acid
Aluminum Company of Canada, Ltd. Arvida, Quebec	Sulphuric acid; aluminum sulphate (alum); aluminum fluoride; flotation fluorspar; liquid chlorine; recovered cryolite; sodium hydroxide (caustic soda); sodium fluoride; recovered sodium carbonate (soda ash).
Canadian Industries Limited..... Shawinigan Falls, Quebec	Perchloroethylene; trichloroethylene; chlorine (liquid and gas); anhydrous hydrogen chloride; sodium hydroxide (caustic soda); hydrogen peroxide (liquid); chloroform.
Dominion Alkali and Chemical Co. of Canada	Chlorine (liquid); sodium hydroxide (caustic soda).
Electric Reduction Co. of Canada	Phosphoric acid; acid calcium phosphate; phosphorus (amorphous and yellow); potassium chlorate; sodium acid pyrophosphate; sodium chlorate; phosphates of sodium (mono-di-tri-tetra); weed killing mixtures; ferrophosphorus; phosphorus sesquisulphide; rock wool; sodium tripolyphosphate.
Monsanto (Canada) Limited..... Ville La Salle, Quebec	Anhydrous caffeine; sodium benzoate.
The Nichols Chemical Co. Ltd. Valleyfield, Quebec	Sulphuric acid; aluminum sulphate; pyrites cinder.
Shawinigan Chemicals Ltd. Shawinigan Falls, Quebec	Monochloroacetic acid; acetaldehyde; acetic anhydride; acetone; acetylene black; acetylene gas; acetic acid; butyl acetate; butyl alcohol; calcium carbide; dibutyl phthalate; ethyl acetate; pentasol acetate; vinyl acetate; vinyl acetate resins; cerium; chloral; croton aldehyde; paraldehyde; crotonic acid; polyvinyl alcohol; butyraldehyde.
Durham Chemicals (Canada) Limited..... Cap de la Madeleine, Quebec	Zinc oxide.
Zinc Oxide Co. of Canada, Ltd. Montreal, Quebec	Zinc oxide.
Brunner, Mond Canada, Ltd. Amherstburg, Ontario	Calcium chloride; sodium carbonate (soda ash).
Canadian Hanson & Van Winkle Co. Ltd. Toronto, Ontario	Electroplaters' chemicals.
Canadian Industries Limited..... Hamilton, Ontario	Hydrochloric (muriatic) acid; sulphuric acid; ammonium chloride; sodium silicate; sodium sulphate (salt cake); sodium sulphite (anhydrous); sodium metabisulphite; sodium thiosulphite; zinc chloride (50% solution); soldering and galvanizing fluxes.
Canadian Industries Limited..... Cornwall, Ontario	Hydrochloric (muriatic) acid; chlorine (liquid); sodium hydroxide (caustic soda); sodium hypochlorite.
Canadian Industries Limited..... Copper Cliff, Ontario	Sulphuric acid.
Canadian Industries Limited..... Windsor, Ontario	Chlorine (liquid); chloride of lime; sodium hydroxide (caustic soda); ferric chloride; sodium hypochlorite; ammonia anhydrous, 100% ammonia, aqua, 26° Bé.
Church & Dwight Ltd. Amherstburg, Ontario	Sodium carbonate (sal soda).

List of Firms in the Acids, Alkalies and Salts Industry, 1949 - Concluded

Name and Location of Plant	Principal Chemicals Made
Cornwall Chemicals Limited, Cornwall, Ontario	Carbon bisulphide; sodium hydrosulphide.
Dow Chemical of Canada Ltd. Sarnia, Ontario	Ethylene glycol; diethylene glycol; triethylene glycol; ethylene dichloride; chlorine (liquid); sodium hydroxide (caustic soda).
W. C. Hardesty Co. of Canada Ltd., New Toronto, Ontario	Hydrogenated stearic acid; tallow fatty acids; coconut fatty acids; mixed fatty acids; glycerine; oleic acid.
Naugatuck Chemicals, Division of Dominion Rubber Co. Ltd., Elmira, Ontario	Aniline; rubber accelerators and specialties; D.D.T.; 2,4-D; parathion, 100% sodium sulphamethazine.
National Silicates Ltd., New Toronto, Ontario	Sodium silicate; sodium metasilicate.
The Nichols Chemical Co. Ltd., Sulphide, Ontario	Hydrochloric (muriatic) acid; nitric acid; sulphuric acid; ammonia (aqua); pyrites cinder; aluminum chloride.
North American Cyanamid Ltd., Niagara Falls, Ontario	Calcium cyanamide; calcium cyanide; sodium cyanide; sodium silicate; lime unhydrated.
Nuodex Products of Canada, Ltd., Leaside, Ontario	Lead naphthenate; cobalt naphthenate; manganese naphthenate; zinc naphthenate; copper naphthenate; calcium naphthenate; iron naphthenate.
North American Cyanamid Ltd., Welland, Ontario	Ammonia (anhydrous); dicyandiamide; guanidine nitrate; sulphuric acid; nitric acid.
Consolidated Mining and Smelting Co. of Canada, Ltd., Tadanac, British Columbia	Hydrofluosilicic acid; sulphuric acid.
The Nichols Chemical Co. Ltd., Barnet, British Columbia	Sulphuric acid; pyrites cinder.

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