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DOMINION BUREAU OF STATISTICS - DEPARTMENT OF TRADE AND COMMERCE
CANADA



THE ACIDS, ALKALIES AND SALTS INDUSTRY
1950

Published by Authority of the RT. HON. C. D. HOWE
Minister of Trade and Commerce

Prepared in the Mining, Metallurgical and Chemical Section
Industry and Merchandising Division
Dominion Bureau of Statistics, Ottawa

505-27

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, Chemicals and Allied Products. 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, 25¢.
- B The Acids, Alkalies and Salts Industry, 25¢.
- C The Fertilizer Manufacturing Industry, 25¢.
- D The Fertilizer Trade in Canada, 30¢.
- E The Medicinal and Pharmaceutical Preparations Industry, 25¢.
- F The Paints, Varnishes and Lacquers Industry, 25¢.
- G The Primary Plastics Industry, 25¢.
- H The Soaps, Washing Compounds and Cleaning Preparations Industry, 25¢.
- I The Toilet Preparations Industry, 25¢.
- J The Vegetable Oils Industry, 25¢.
- K The Inks Industry, 25¢.
- L The Adhesives Industry, 25¢.
- M The Polishes and Dressings Industry, 25¢.
- N The Compressed Gases Industry, 25¢.
- O The Coal Tar Distillation Industry, 25¢.
- P The Miscellaneous Chemical Products Industry, 25¢.

THE ACIDS, ALKALIES AND SALTS INDUSTRY

1950

Twenty-eight plants in Canada, classified under the Acids, Alkalies and Salts Industry, were engaged chiefly in the production of chemicals in 1950. Production reported by this group was valued at \$87,494,365, an increase of 17.6 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 6,020 people who were paid \$18,039,492 in salaries and wages. Materials used in manufacturing processes cost \$30,327,614 and expenditures for fuel and electricity amounted to \$8,639,420.

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 756,110 tons (100% acid) in 1950 over the 707,717 tons in 1949. 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 Niagara Falls, 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 131,000 tons in 1950, while the output of caustic soda amounted to 148,000 tons. In 1950 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 1. Principal Statistics of the Acids, Alkalies and Salts Industry, 1946-1950

Year	Number of plants	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	Net value of production
			\$	\$	\$	\$	\$
1946	29	5,338	11,158,999	6,431,503	14,650,883	47,301,400	26,219,014
1947	31	5,541	12,928,796	7,053,019	19,059,360	59,318,463	33,206,084
1948	29	5,889	15,348,441	7,752,690	22,551,999	70,600,246	40,295,557
1949	28	5,861	16,504,908	7,355,353	27,392,521	74,411,796	39,663,922
1950	28	6,020	18,039,492	8,639,420	30,327,614	87,494,365	48,527,331
Per cent change: 1950 from 1949	—	+ 2.7	+ 9.3	+ 17.5	+ 10.7	+ 17.6	+ 22.3

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. Principal Statistics, by Provinces, 1949 and 1950

Province	Number of plants	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
			\$	\$	\$	\$
1949						
Nova Scotia.....	1	2,663	7,511,666	2,359,111	9,794,045	28,939,281
Quebec.....	9					
Ontario.....	16					
British Columbia.....	2	3,198	8,993,242	4,996,242	17,598,476	45,472,515
Canada.....	28	5,861	16,504,908	7,355,353	27,392,521	74,411,796
1950						
Nova Scotia.....	1	2,662	8,204,402	3,103,408	12,927,005	36,886,608
Quebec.....	9					
Ontario.....	16					
British Columbia.....	2	3,358	9,835,090	5,536,012	17,400,609	50,607,757
Canada.....	28	6,020	18,039,492	8,639,420	30,327,614	87,494,365

TABLE 3. Materials Used in the Acids, Alkalies and Salts Industry, 1949 and 1950

Material	1949		1950		
	Quantity	Cost at works	Quantity	Cost at works	
		\$		\$	
Acetone.....	lb.	519,280	54,045	619,314	65,332
Acetylene.....	M cu. ft.	30,975	201,857	33,416	244,702
Acid:					
Acetic, 99½%.....	lb.	3,501	551	4,329	642
Hydrochloric (muriatic).....	lb.	5,217,613	79,965	6,058,154	101,193
Nitric, 42° Be.....	lb.	77,140	3,896	2,228,490	104,078
Sulphuric, 100%.....	lb.	10,702,780	110,277	15,829,627	203,173
Aluminum sulphate.....	lb.	8,487	194	13,402	336
Ammonia liquor.....	lb. NH ₃	972,914	61,470	1,333,920	86,985
Ammonia, anhydrous.....	lb.	2,349,876	94,086	13,117,991	605,877
Benzol.....	lb.	1,459,792	50,671	2,133,304	94,079
Calcium chloride.....	lb.	306,455	5,826	418,745	6,057
Chlorine, liquid.....	lb.	38,068,103	1,047,544	12,670,565	254,838
Coal (except for fuel):					
Anthracite.....	ton	6,306	68,117	12,033	160,328
Bituminous.....	ton	825	11,562	150	2,095
Coke (except for fuel):					
Petroleum.....	ton	19,109	339,327	37,706	645,079
Other.....	ton	161,510	2,742,578	156,335	2,748,054
Electrodes (purchased).....	—	—	790,833	—	901,706
Fluorspar.....	ton	32,947	828,241	29,620	743,077
Graphite.....	lb.	371,799	75,795	535,276	105,778
Limestone.....	ton	809,419	1,270,195	884,180	1,603,166
Lime, hydrated.....	ton	48,379	95,742	49,697	85,682
Lime, quick.....	ton	20,003	240,801	27,188	348,465
Mercury.....	lb.	373,131	274,224	88,094	79,027
Potassium hydroxide (caustic potash).....	lb.	3,683	414	10,903	1,303
Pyrites.....	ton	67,100	431,435	71,713	514,558
Quartz, quartzite and silica sand.....	ton	27,539	157,193	33,112	187,977
Sodium carbonate (soda ash).....	lb.	45,163,477	720,066	54,725,430	934,193
Sodium chloride, dry, and brine (salt content).....	ton	501,501	1,751,455	581,023	2,724,240
Sodium bichromate.....	lb.	54,825	5,917	87,379	9,748
Sodium hydroxide (caustic soda).....	lb.	6,733,284	278,679	6,302,479	225,341
Sodium nitrate.....	lb.	1,048,114	40,411	885,713	29,855
Sodium silicate (water glass).....	lb.	12,200,945	210,566	12,401,808	226,390
Sodium sulphide.....	lb.	203,988	10,745	310,761	11,154
Sulphur (brimstone).....	ton	68,508	1,704,567	80,008	2,131,079
Containers of all kinds and packing materials.....	—	—	2,000,111	—	2,144,850
Steel sheets for making containers.....	ton	3,806	518,742	3,703	479,119
Lumber.....	M bd. ft.	245	14,659	308	18,761
All other materials and supplies.....	—	—	11,099,764	—	11,497,297
Total.....	—	—	27,392,521	—	30,327,614

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

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 1950 was around \$195,787,000 compared with \$171,764,000 in 1949.

TABLE 4. Total Production of Chemicals, 1949 and 1950

	Selling value at works	
	1949	1950
	\$	\$
Acids, including acetic, muriatic, nitric, sulphuric, phosphoric, stearic, etc.	8,983,000	11,584,000
Calcium compounds, including carbide, chloride, phosphide, cyanamide, cyanide, acid phosphate, grey acetate, arsenate, chloride of lime, etc.	17,051,000	12,409,000
Sodium compounds, 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).....	14,393,000	22,503,000
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).....	33,376,000	38,723,000
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.	17,688,000	19,148,000
Fertilizer chemicals, including ammonium sulphate, ammonium nitrate (fertilizer grade), ammonium phosphate, and superphosphate	42,363,000	42,202,000
Synthetic resins, including casein type, vinyls, polystyrene, phenol-formaldehyde, urea-formaldehyde alkyds, sodium carboxymethylcellulose, etc.	14,371,000	19,068,000
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.	23,539,000	30,150,000
Total	171,764,000	195,787,000

TABLE 5. Production, Imports, Exports and Apparent Consumption of Sulphuric Acid, 1925-1950

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	679,448	59	29,478	650,029
1949	707,717	24	17,336	690,405
1950	756,110	332	44,417	712,025

1. No allowance made for changes in inventories.

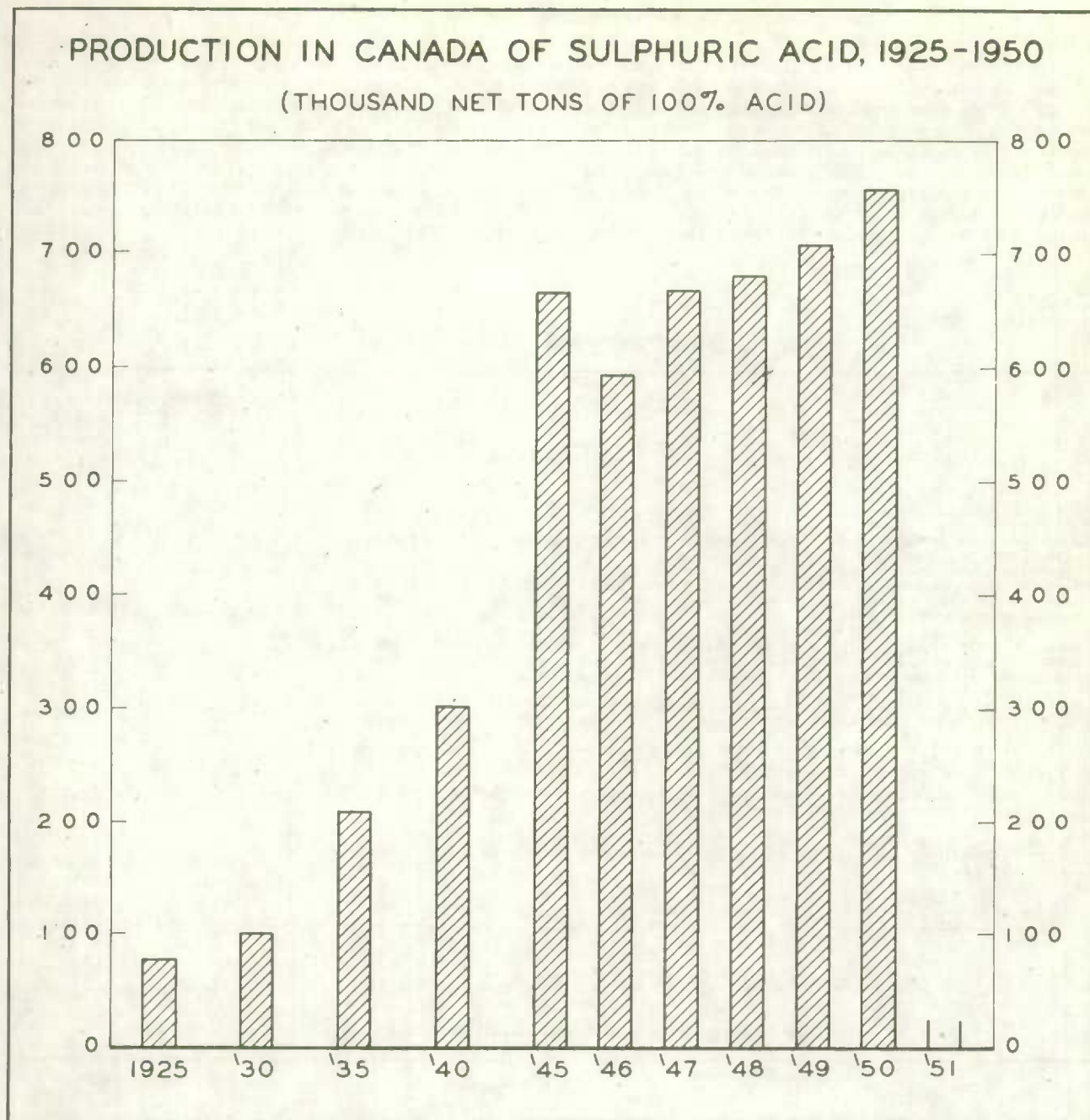


TABLE 6. Production and Imports of Chlorine and Caustic Soda, 1949 and 1950

Year	Chlorine	Caustic soda
	(tons)	
(a) Production:		
1949.....	96,000	111,000
1950.....	131,000	148,000
(b) Imports:		
1949.....	10,363	21,724
1950.....	5,498	27,464

TABLE 7. Consumption of Sulphuric Acid, by Industries, 1948-1950

Industry	1948	1949	1950
	(Short tons of 100% acid)		
Fertilizers.....	467,189	488,400	503,900
Heavy chemicals	59,006	57,600	60,000
Explosives	19,746	19,400	25,300
Non-ferrous metal smelting and refining	12,900 ¹	12,900 ¹	12,900 ¹
Textiles	12,490	15,000	22,100
Coke and gas	35,211	34,500	34,900
Petroleum refining	19,605	15,400	15,700
Leather tanning	2,119	2,000	2,000
Iron and steel	20,836	25,800	26,100
Electrical apparatus	4,300	4,600	5,700
Plastics	4,243	6,000	7,800
Soaps	4,325	4,800	6,400
Adhesives	845	600	700
Miscellaneous chemicals	2,354	2,300	2,200
Sugar refining	300	300	300
Pulp and paper	2,400	2,300	2,400
Vegetable oils	80	100	100
Total accounted for.....	667,949	692,000	728,500

1. Estimated.

TABLE 8. Available Data on Consumption of Chlorine, by Industries, 1948-1950

Industry	1948	1949	1950
	Tons		
Pulp and paper.....	62,860	64,210	73,900
Heavy chemicals	23,100	36,800	42,600
Soaps	2,300	3,100	3,300
Municipal waterworks	1,100	1,300	1,500 ¹
Mining	1,100 ¹	1,100 ¹	1,100 ¹
Starch and glucose	120	120	120
Dyeing and finishing of textiles	70	50	30
Miscellaneous chemicals	120	40	40
Fertilizers	80	100	80
Synthetic textiles	50	50	50
Total accounted for	90,900	106,870	122,730

1. Estimated.

TABLE 9. Available Data on Consumption of Caustic Soda, by Industries, 1948-1950

Industry	1948	1949	1950
	Tons		
Pulp and paper	40,700	46,700	60,800
Soaps, washing compounds and cleaning preparations	18,500	19,200	21,000
Heavy chemicals	14,200	20,000	37,800
Synthetic textiles and silk industry	7,800	9,700	14,350
Petroleum refining	4,500	4,200	5,000
Primary plastics	3,600	4,100	5,500
Miscellaneous chemicals	2,400	2,200	2,190
Miscellaneous foods	1,360	1,240	1,270
Mining	1,300 ¹	1,300 ¹	1,300 ¹
Coke and gas	600	500	650
Medicinals and pharmaceuticals	400	180	740
Non-ferrous metal refining	260 ¹	260 ¹	260 ¹
Starch and glucose	240	260	280
Dyeing and finishing of textiles	240	60	40
Toilet preparations	180	210	240
Compressed gases	150	180	190
Fertilizers	130	190	100
Vegetable oils	40	90	100
Sugar refining	30	50	70
Miscellaneous non-metallics	20	50	40
Adhesives	450	310	550
Total accounted for.....	97,110	110,980	152,470

1. Estimated.

TABLE 10. Imports of Acids and Certain Inorganic Chemicals, 1949 and 1950

Commodity	1949		1950		
	Quantity	Value	Quantity	Value	
		\$		\$	
ACIDS					
Inorganic acids:					
Acid, boracic, in packages of not less than 25 pounds	lb.	4, 104, 337	219, 418	3, 620, 055	190, 239
Acid, hydrofluosilicic	"	104, 436	13, 973	103, 173	9, 247
Acid, muriatic	"	6, 869, 109	74, 802	6, 451, 565	73, 305
Acid, nitric	"	406, 776	15, 800	339, 788	17, 484
Acid, phosphoric	"	491, 129	26, 312	599, 669	35, 175
Acid, sulphuric	"	48, 326	2, 490	663, 017	8, 288
Acid, arsenic	"	1, 701, 154	86, 602	2, 114, 532	100, 960
Acid, chromic	"	555, 682	143, 716	780, 247	201, 251
Organic acids:					
Acid, salicylic and acetylsalicylic	"	494, 690	203, 318	564, 148	294, 274
Acid, lactic	"	307, 541	59, 476	339, 719	76, 919
Acid, nicotinic	"	1, 275	5, 645	8, 249	29, 912
Acid, oleic, or red oil	"	555, 822	94, 220	519, 245	100, 549
Acid, acetic and pyroligneous	gal.	5, 406	5, 560	4, 655	5, 085
Acid, citric	lb.	2, 280, 358	600, 885	3, 024, 315	784, 006
Acid, cresylic	"	176, 373	18, 196	461, 585	40, 380
Xanthates and sulpho-thiophosphoric (dithiophosphoric compounds, for concentrating ores, metals or minerals)	"	4, 396, 771	1, 067, 147	5, 937, 349	1, 475, 962
Acid, oxalic	"	800, 960	119, 141	860, 919	118, 922
Acid, stearic	"	886, 073	140, 746	1, 555, 268	285, 770
Acid, tannic	"	150, 837	51, 751	403, 471	87, 184
Tartaric acid crystals or powder	"	680, 267	206, 435	762, 565	187, 828
Acid, ascorbic	"	8, 874	62, 570	11, 883	101, 389
Acid, formic	"	518, 935	67, 511	724, 470	94, 987
Acid, carbolic, or phenol	"	5, 546, 345	710, 169	7, 579, 294	1, 105, 879
Acids, other, n.o.p.	"	1, 802, 292	373, 310	2, 660, 904	574, 883
Total acids	-	-	4, 369, 193	-	5, 999, 878
INORGANIC CHEMICALS, n.o.p.					
Alum, in bulk, ground or unground, but not calcined	cwt.	14, 542	51, 372	14, 661	55, 233
Chloralum or chloride of aluminum	"	8, 478	59, 070	9, 698	103, 934
Sulphate of iron (copperas)	"	14, 635	20, 023	19, 163	27, 313
Sulphate of alumina or alum cake	"	69, 339	100, 362	64, 131	104, 669
Ammonia, nitrate of	lb.	332, 077	17, 144	1, 460, 487	75, 043
Sal ammoniac	"	680, 099	32, 185	633, 501	38, 223
Sal ammoniac skimmings	"	187, 404	17, 367	151, 499	16, 459
Ammonia, anhydrous	"	1, 176, 374	47, 605	12, 799, 937	512, 244
Ammonia compounds, n.o.p.	"	4, 398, 224	145, 822	5, 899, 437	176, 008
Antimony, arsenic, copper, tin and zinc compounds:					
Antimony salts, viz., tartar emetic, chloride and lactate (antimonine)	"	20, 868	10, 175	31, 177	12, 875
Arsenious oxide and arsenic sulphide	"	256, 957	18, 091	16, 290	3, 229
Copper, sub-acetate of, or verdigris, dry, and precipitate of	"	700	235	600	214
Copper, sulphate of	"	1, 032, 346	106, 721	1, 416, 689	115, 902
Tin, bichloride of, and tin crystals	"	11, 866	8, 910	19, 871	13, 886
Zinc, chloride of	"	471, 221	39, 213	448, 619	42, 417
Zinc, sulphate of	"	1, 355, 936	81, 714	1, 934, 611	95, 923
Bismuth and lead compounds:					
Bismuth salts	-	-	24, 105	-	23, 174
Lead, acetate of, not ground	lb.	112, 190	21, 538	200, 349	32, 034
Lead, nitrate of, not ground	"	67, 953	12, 809	143, 241	23, 225
Compounds of tetraethyl lead	"	17, 171, 342	6, 356, 843	23, 208, 600	8, 817, 224
Bromine, chlorine and iodine compounds:					
Bromine	"	16, 594	4, 594	18, 231	7, 081
Chlorine, liquid, or chlorine gas	"	20, 725, 190	499, 839	10, 997, 167	311, 125
Iodine, crude	"	60, 206	102, 080	132, 263	220, 023
Iodized mineral salts, for use in the feeding of animals	-	-	7, 650	-	48, 301
Calcium compounds:					
Calcium chloride	cwt.	284, 430	235, 998	238, 495	269, 609
Chloride of lime	"	4, 252	45, 511	20, 877	104, 044
Calcium molybdate, vanadium oxide and tungsten oxide for the manufacture of steel	lb.	78, 532	62, 452	141, 544	67, 475
Calcium compounds, n.o.p.	"	3, 903, 555	312, 631	3, 938, 489	377, 579
Potash and potassium compounds, n.o.p.:					
Argols	"	5, 707	1, 398	600	131
Cream of tartar in crystals	"	383, 017	82, 150	452, 484	93, 124
Potash and pearl ash	"	287, 001	17, 655	162, 722	14, 067
Potash, bicarbonate of	"	15, 680	2, 340	23, 680	4, 005
Potash, bichromate of, crude	"	319, 409	41, 609	306, 676	39, 320
Potash, caustic	"	3, 533, 734	180, 716	4, 796, 879	261, 631
Potash, chlorate of, not further prepared than ground	"	57, 387	7, 101	70, 609	9, 521
Potash, red and yellow, prussiate of	"	17, 042	6, 326	27, 323	9, 078
Potash, nitrate of, or saltpetre	"	982, 282	76, 731	1, 002, 981	78, 812
Potash, compounds, n.o.p.	"	1, 284, 538	277, 376	1, 467, 387	305, 326

TABLE 10. Imports of Acids and Certain Inorganic Chemicals, 1949 and 1950 - Concluded

Commodity	1949		1950		
	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.	14,932,270	486,305	17,844,550	561,363
Glauber's Salt	"	3,991,071	59,959	4,512,254	62,996
Soda, arseniate, binarsenate and stannate of	"	55,142	21,203	75,020	23,223
Soda ash or barilla	"	10,873,747	206,206	47,194,782	625,557
Soda, bicarbonate of	"	13,701,372	255,658	15,725,610	276,160
Soda, bichromate of	"	3,136,154	314,493	4,488,348	441,140
Soda, bisulphate of, or nitre cake	"	1,655,935	39,968	1,814,793	46,966
Soda, bisulphite of	"	340,600	13,932	165,726	8,574
Soda, caustic, in packages	"	3,304,954	131,479	7,374,607	257,499
Soda, caustic, in solution	"	40,142,211	531,435	47,534,955	629,638
Soda, chlorate of	"	677,500	54,857	200,230	17,973
Sodium cyanide	"	5,781,488	769,720	6,525,204	777,272
Sodium glutamate	"	482,641	721,384	717,337	1,095,093
Soda, hyposulphite of	"	131,535	8,432	426,008	22,503
Soda, nitrite of	"	989,948	53,361	1,174,366	53,749
Soda, peroxide of	"	241,947	45,983	433,932	85,226
Soda phosphate, di-sodium	"	189,200	12,475	38,925	2,936
Soda phosphate, tri-sodium	"	1,131,243	46,330	180,818	15,101
Soda phosphate, n.o.p.	"	4,487,435	365,753	3,654,743	353,872
Soda, prussiate of	"	488,160	64,543	670,377	71,007
Soda, sal	"	195,400	5,883	259,129	7,163
Soda, silicate of, in crystals or in water solution	"	6,681,161	149,551	6,389,021	151,611
Soda, sulphate of, crude, or salt cake	"	8,588,764	65,722	31,409,773	201,260
Soda, sulphide of	"	2,793,542	122,826	3,352,012	109,781
Soda, sulphite of	"	2,112,386	65,068	888,589	36,910
Soda, benzoate of	"	215,277	69,362	69,250	20,728
Soda, bromide of	"	58,055	17,633	72,961	21,531
Soda, citrate of	"	147,162	30,975	113,385	24,482
Soda, fluoride of	"	223,050	25,250	217,955	25,563
Soda, antimonate of	"	308,000	95,458	359,780	99,193
Sodium compounds, n.o.p.	"	8,185,476	945,246	11,710,145	1,213,026
Other inorganic chemicals:					
Acid phosphate, not medicinal	"	2,447,396	188,278	1,888,340	169,600
Hydrogen peroxides, solutions of	"	994,342	165,499	554,964	112,123
Magnesium carbonate, basic or otherwise, excepting crude rock; and magnesium carbonate, for use in the compounding or manufacture of rubber products	"	1,975,657	127,208	3,354,943	188,651
Magnesium salts or compounds, n.o.p.	"	857,429	100,131	1,230,020	151,301
Magnesium sulphate, or Epsom salts	"	5,565,716	120,881	5,585,878	100,644
Mercury salts	"	-	834	-	4,366
Phosphorus and compounds thereof, n.o.p.	lb.	32,391	45,195	20,851	39,963
Radium	"	-	68,809	-	322,510
Molybdenum oxide	lb.	319,029	185,041	444,185	283,159
Total inorganic chemicals, n.o.p.	-	-	15,933,787	-	21,222,894

TABLE 11. Exports of Acids and Inorganic Chemicals, 1949 and 1950

Commodity	1949		1950		
	Quantity	Value	Quantity	Value	
		\$		\$	
Acid, sulphuric	cwt.	346,719	263,365	888,345	618,340
Acids, n.o.p.	cwt.	304,359	2,475,224	458,697	2,905,295
Total acids	-	-	2,738,609	-	3,523,635
Ammonium sulphate	cwt.	3,342,937	7,851,153	4,182,127	8,972,503
Ammonium compounds, n.o.p.	cwt.	97	1,576	13,221	40,079
Arsenic	cwt.	38,807	157,947	35,674	147,074
Acetate of lime	cwt.	10,674	32,004	3,589	7,949
Calcium compounds	cwt.	489,478	1,875,097	427,614	1,445,421
Lye	"	-	3,140	-	577
Baking powder	cwt.	1,324	20,637	324	4,150
Soda and sodium compounds	cwt.	1,382,855	4,173,693	1,764,100	5,496,849
Cobalt oxide and cobalt salts	lb.	590,538	742,088	388,203	583,939
Radium and salts	"	-	165,139	-	-
Total other chemicals	-	-	15,022,474	-	16,698,541



TABLE 12. Employees and Earnings, by Provinces, 1949 and 1950

Province	Number of Employees					Earnings		Total earnings
	Administrative		Workmen		Total	Administrative	Workmen	
	Male	Female	Male	Female				
						\$	\$	\$
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
1950								
Quebec	486	158	1,983	24	2,651	2,606,646	5,531,497	8,138,143
Ontario	646	182	2,386	23	3,237	2,673,900	6,834,793	9,508,693
Other provinces	4	1	127	—	132	15,143	377,513	392,656
Canada	1,136	341	4,496	47	6,020	5,296,689	12,743,803	18,039,492

List of Firms in the Acids, Alkalies and Salts Industry, 1950

Name and Location of Plant	Principal Chemicals Made
Dominion Iron & Steel, 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 Beauharnois, Quebec	Chlorine (liquid); sodium hydroxide (caustic soda).
Electric Reduction Co. of Canada Buckingham, Quebec	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; phenacetin.
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; acetyl acetate; acetylene gas; acetic acid; butyl acetate; butyl alcohol; calcium carbide; dibutyl phthalate; diethyl acetate; pentasol acetate; vinyl acetate; vinyl acetate resins; cerium; chloral; croton aldehyde; paraldehyde; crotonic acid; polyvinyl alcohol; butyraldehyde; methyl acetone.
Durham Chemicals (Canada) Limited Montreal, 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 Copper Cliff, Ontario	Hydrochloric (muriatic) acid; chlorine (liquid); sodium hydroxide (caustic soda); sodium hypochlorite.
Canadian Industries Limited Windsor, Ontario	Sulphuric acid.
Church & Dwight Ltd. Amherstburg, Ontario	Chlorine (liquid); chloride of lime; sodium hydroxide (caustic soda); ferric chloride; ammonia anhydrous, 100% ammonia, aqua, 26° Be.
Cornwall Chemicals Limited Cornwall, Ontario	Sodium carbonate (sal soda).
Dow Chemical of Canada Ltd. Sarnia, Ontario	Carbon bisulphide; sodium hydrosulphide.
W.C. Hardesty Co. of Canada Ltd., New Toronto, Ontario	Ethylene glycol; diethylene glycol; triethylene glycol; ethylene dichloride; chlorine (liquid); sodium hydroxide (caustic soda).
Naugatuck Chemicals, Division of Dominion Rubber Co. Ltd., Elmira, Ontario	Hydrogenated stearic acid; vegetable fatty acids; animal fatty acids; glycerine; oleic acid.
National Silicates Ltd., New Toronto, Ontario	Aniline; rubber accelerators and specialties; D.D.T.; 2,4-D; parathion, 100% sodium sulphamethazine.
The Nichols Chemical Co. Ltd., Sulphide, Ontario	Sodium silicate; sodium metasilicate.
North American Cyanamid Ltd., Niagara Falls, Ontario	Hydrochloric (muriatic) acid; nitric acid; sulphuric acid; ammonia (aqua); pyrites cinder; aluminum chloride.
Nuodex Products of Canada, Ltd., Leaside, Ontario	Calcium cyanamide; sodium cyanide; sodium silicate; lime unhydrated.
North American Cyanamid Ltd., (Welland works) Niagara Falls, Ontario	Lead naphthenate; cobalt naphthenate; manganese naphthenate; zinc naphthenate; copper naphthenate; calcium naphthenate; iron naphthenate; lead octoate; cobalt octoate; calcium octoate.
Consolidated Mining and Smelting Co. of Canada, Ltd., Tadanac, British Columbia	Ammonia (anhydrous); dicyandiamide; guanidine nitrate; sulphuric acid; urea formaldehyde adhesives; nitric acid.
The Nichols Chemical Co. Ltd., Barnet, British Columbia	Hydrofluosilicic acid; sulphuric acid.
	Sulphuric acid; pyrites cinder.