Government of Canada

THE ACIDS, ALKALIES AND SALTS INDUSTRY IN CANADA 1948

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THE ACIDS, ALKALIES AND SALTS INDUSTRY

IN CANADA

1948

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THE ACIDS, ALKALIES AND SALTS INDUSTRY - 1948

Twenty-nine plants in Canada, classified under the Acids, Alkalies and Salts Industry, were engaged chiefly in the production of heavy chemicals in 1948. Production reported by this group was valued at $70,600,246, an increase of 19 per cent over the total for the previous year. Seventeen 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 5,889 people who were paid $15,348,441 in salaries and wages. Materials used in manufacturing processes cost $22,551,999 and expenditures for fuel and electricity amounted to $7,752,690.

Except for sulphuric acid, 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 679,448 tons (100%) in 1948 over the 668,802 tons (100%) in 1947. 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, Ontario, 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; 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.

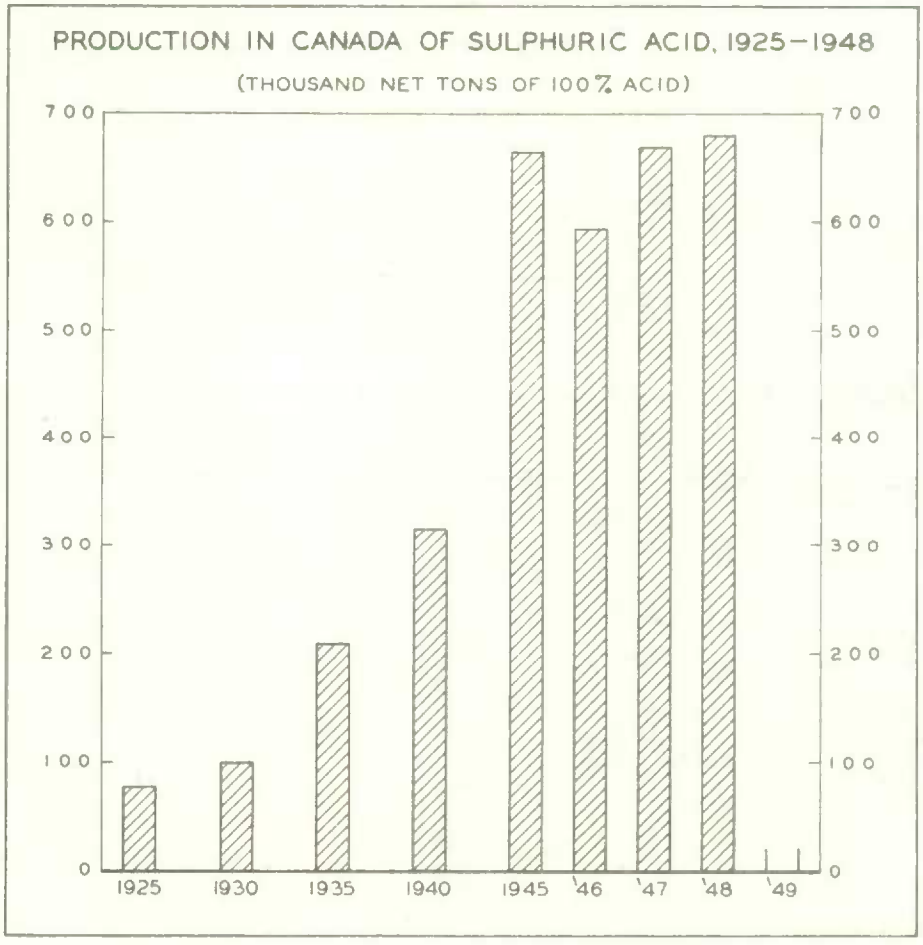

Table 1 - PRINCIPAL STATISTICS OF THE ACIDS, ALKALIES AND SALTS INDUSTRY, 1944-1948

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
			$	$	$	$
1944	37	7,964	15,752,782	8,980,955	29,540,390	81,323,151
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
Per cent change - 1948 from 1947..	...	+6.3	+18.6	+9.9	+18.3	+19.0

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, 1947 and 1948

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
			$	$	$	$
1947						
Nova Scotia	1)	2,444	5,779,178	2,453,478	9,619,772	24,656,651
Quebec	9)					
Ontario	19)	3,097	7,149,618	4,599,541	9,439,588	34,661,812
British Columbia.	2)					
CANADA	31	5,541	12,928,796	7,053,019	19,059,360	59,318,463
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	40,581,223
British Columbia.	2)					
CANADA	29	5,889	15,348,441	7,752,690	22,551,999	70,600,246

Table 3 - MATERIALS USED, 1947 and 1948

Material	Unit of measure	1947 Quantity	1947 Cost at works	1948 Quantity	1948 Cost at works
			$		$
Acetone	lb.	567,913	55,282	577,657	60,133
Acetylene	lb.	1,817,585	128,280	1,925,759	169,660
Acid -					
Acetic, 99½%	lb.	5,341	785	5,889	703
Hydrochloric (muriatic)..	lb.	1,075,404	13,941	819,772	13,891
Nitric, 42° Be	lb.	95,440	5,399	102,360	5,770
Sulphuric, 66° Be	lb.	11,116,850	112,809	11,001,698	124,028
Aluminum sulphate	lb.	46,074	663	7,374	164
Ammonia liquor	lb. NH_3	753,336	39,565	845,308	45,775
Ammonia, anhydrous	lb.	2,868,502	145,834	2,711,417	124,558
Benzol	lb.	3,305,892	89,571	1,728,022	53,155
Calcium chloride	lb.	1,236,650	16,769	1,573,745	23,542
Chlorine, liquid	lb.	11,758,136	209,653	36,804,072	851,270
Coal (except for fuel) -					
Anthracite	ton	5,977	55,970	6,267	63,212
Bituminous	ton	1,600	18,993	1,800	25,540

Table 3 - MATERIALS USED, 1947 and 1948 (Concluded)

Material	Unit of measure	1947 Quantity	1947 Cost at works	1948 Quantity	1948 Cost at works
			$		$
Coke (except for fuel) -					
Petroleum	ton	25,503	302,653	20,595	325,646
Other	ton	122,181	1,658,058	86,890	1,275,056
Electrodes (purchased)	...	...	562,629	...	686,087
Fluorspar	ton	21,571	577,201	32,596	834,981
Graphite	lb.	205,780	30,896	300,652	48,803
Limestone	ton	797,960	1,204,752	934,220	1,442,729
Lime, hydrated	ton	32,061	69,849	51,383	100,799
Lime, quick	ton	1,440	19,913	14,468	179,544
Mercury	lb.	71,292	76,421	74,414	77,697
Potassium hydroxide (caustic potash)	lb.	22,539	750	...	...
Pyrites	ton	68,078	384,404	69,713	401,596
Quartz, quartzite and silica sand	ton	30,152	148,564	10,225	30,607
Sodium carbonate (soda ash)	lb.	41,687,658	531,527	46,997,255	661,624
Sodium chloride, dry, and brine (salt content)	ton	354,705	916,524	303,518	1,183,844
Sodium bichromate	lb.	75,422	6,717	72,268	6,127
Sodium hydroxide (caustic soda)	lb.	5,718,205	172,203	6,647,264	208,629
Sodium nitrate	lb.	1,312,619	37,282	990,258	34,531
Sodium silicate (water glass)	lb.	11,316,835	171,411	15,413,174	241,672
Sodium sulphate (salt cake)	lb.	4,560	127	148,510	8,807
Sodium sulphide	lb.	116,518	7,074	87,919	4,452
Sulphur (brimstone)	ton	63,265	1,491,624	60,882	1,461,463
Containers of all kinds and packing materials	...	...	1,701,914	...	2,192,790
Steel sheets for making containers	ton	5,238	580,832	4,502	597,292
Lumber	M bd.ft.	419	23,761	391	24,038
All other materials and supplies	...	...	7,488,760	...	8,961,784
TOTAL	...	...	19,059,360	...	22,551,999

TOTAL PRODUCTION OF CHEMICALS IN CANADA

It is very difficult, if not impossible, 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 1948 was around $142,255,000 compared with $124,813,000 in 1947.

Table 4 - TOTAL PRODUCTION OF CHEMICALS IN CANADA, 1947 and 1948

Commodity	Selling Value at Works 1947	1948
	$	$
Acids, including acetic, muriatic, nitric, sulphuric, phosphoric, stearic, etc.	9,993,000	12,178,000
Calcium compounds, including carbide, chloride, phosphide, cyanamide, cyanide, acid phosphate, grey acetate, arsenate, chloride of lime, etc.	16,808,000	13,056,000
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)	10,081,000	11,994,000
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)	21,341,000	29,309,000
Compressed and liquefied gases, etc., including acetylene, carbon dioxide, oxygen, nitrous oxide, liquid sulphur dioxide, liquid chlorine, anhydrous and aqua ammonia, etc.	14,298,000	15,916,000
Fertilizer chemicals, including ammonium sulphate, ammonium nitrate (fertilizer grade), ammonium phosphate, and superphosphate	35,751,000	40,868,000
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.	16,541,000	18,934,000
TOTAL	124,813,000	142,255,000

Table 5 - PRODUCTION IN CANADA, IMPORTS, EXPORTS AND APPARENT CONSUMPTION OF SULPHURIC ACID, 1925-1948

Year	Production	Imports	Exports	Apparent Consumption (*)
	(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

(*) No allowance made for changes in inventories.

Table 6 - CONSUMPTION OF SULPHURIC ACID IN CANADA, BY INDUSTRIES, 1946 and 1947

	1946	1947
	(Short tons of 100% acid)	
Fertilizers	448,246	472,473
Heavy chemicals	29,884	45,083
Explosives	11,565	14,821
Non-ferrous metal smelting and refining	9,609	8,149
Textiles	13,049	10,925
Coke and gas	25,646	27,381
Petroleum refining	17,926	18,127
Leather tanning	2,391	2,298
Iron and steel	23,658	21,016
Electrical apparatus	4,365	4,479
Plastics	2,917	3,286
Soaps	588	4,962
Adhesives	465	652
Miscellaneous chemicals	2,400	2,623
TOTAL ACCOUNTED FOR	592,709	636,275

Table 7 - IMPORTS INTO CANADA OF ACIDS AND CERTAIN INORGANIC CHEMICALS, 1947 and 1948

Commodity		1947 Quantity	1947 Value	1948 Quantity	1948 Value
			$		$
Acids					
Inorganic acids -					
Acid, boracic, in packages of not less than 25 pounds	lb.	3,122,577	157,691	3,201,667	165,282
Acid, hydrofluosilicic	lb.	80,132	12,053	92,264	12,588
Acid, muriatic	lb.	1,981,488	32,396	879,412	10,930
Acid, nitric	lb.	171,593	10,010	156,541	9,809
Acid, phosphoric	lb.	268,728	17,606	352,200	25,252
Acid, sulphuric	lb.	232,119	11,466	118,849	5,030
Acid, arsenic	lb.	3,589,018	175,305	1,395,809	68,008
Acid, chromic	lb.	330,292	63,572	470,197	105,675
Organic acids -					
Acid, salicylic and acetysalicylic	lb.	501,079	204,541	491,099	187,289
Acid, lactic	lb.	652,488	68,020	351,914	54,975
Acid, nicotinic	lb.	2,211	6,877	484	1,402
Acid, oleic, or red oil	lb.	547,565	124,231	446,367	103,290
Acid, acetic and pyroligneous	gal.	1,155	1,239	553	1,061
Acid, citric	lb.	1,690,998	393,035	1,939,802	476,668
Acid, cresylic	lb.	361,475	44,166	614,291	90,961
Xanthates and sulpho-thiophosphoric (dithio-phosphoric compounds, for concentrating ores, metals or minerals)	lb.	4,065,275	865,285	4,557,215	1,023,244
Acid, oxalic	lb.	742,560	96,408	745,835	101,287
Acid, stearic	lb.	1,201,708	357,829	1,124,555	332,997
Acid, tannic	lb.	334,036	78,436	424,106	70,974
Tartaric acid crystals or powder	lb.	735,320	335,318	748,446	280,110
Acid, ascorbic	lb.	6,373	54,438	9,064	70,922
Acid, formic	lb.	448,076	44,382	663,326	66,389
Acid, carbolic, or phenol	lb.	3,878,960	367,408	5,868,594	673,474
Acids, other, n.o.p.	lb.	7,424,072	470,469	6,412,243	424,708
TOTAL ACIDS	...	...	3,992,181	...	4,362,325
Inorganic Chemicals, n.o.p.					
Alum, in bulk, ground or unground, but not calcined	cwt.	14,627	48,446	16,028	55,296
Chloralum or chloride of aluminum	cwt.	4,830	32,387	5,446	46,778
Sulphate of iron (copperas)	cwt.	13,754	13,575	16,582	17,503
Sulphate of alumina or alum cake	cwt.	89,838	110,043	36,540	54,271
Ammonia, nitrate of	lb.	167,575	9,009	209,106	10,272
Sal ammoniac	lb.	447,314	20,798	1,068,488	52,822
Sal ammoniac skimmings	lb.	143,321	11,233	110,408	9,591
Ammonia, anhydrous	lb.	4,933,590	145,892	129,645	5,148
Ammonia compounds, n.o.p.	lb.	4,254,901	93,228	4,241,346	136,373
Antimony, arsenic, copper, tin and zinc compounds -					
Antimony salts, viz., tartar emetic, chloride and lactate (antimonine)	lb.	35,185	13,613	25,004	10,375
Arsenous oxide and arsenic sulphide	lb.	246,379	24,150	84,390	13,056
Copper, sub-acetate of, or verdigris, dry, and precipitate of	lb.	1,825	596	1,700	584
Copper, sulphate of	lb.	1,279,110	132,991	454,672	51,230
Tin, bichloride of, and tin crystals	lb.	7,847	4,653	10,973	8,366
Zinc, chloride of	lb.	350,383	23,969	474,561	32,140
Zinc, sulphate of	lb.	832,244	41,262	799,707	39,130
Bismuth and lead compounds -					
Bismuth salts	...	...	6,970	...	14,094
Lead, arsenate of	lb.	4,512	964	430	150
Lead, acetate of, not ground	lb.	207,635	39,463	79,415	16,547

Table 7 - IMPORTS INTO CANADA OF ACIDS AND CERTAIN INORGANIC CHEMICALS, 1947 and 1948 (Continued)

Commodity		1947 Quantity	1947 Value	1948 Quantity	1948 Value
			$		$
Bismuth and lead compounds - (concluded)					
Lead, nitrate of, not ground	lb.	35,892	6,289	81,505	15,402
Compounds of tetraethyl lead	lb.	14,053,747	4,302,110	14,571,006	5,131,472
Bromine, chlorine and iodine compounds -					
Bromine	lb.	8,742	2,349	20,720	6,209
Chlorine, liquid, or chlorine gas	lb.	11,020,827	223,321	28,621,333	580,085
Iodine, crude	lb.	129,978	205,654	112,693	196,366
Iodized mineral salts, for use in the feeding of animals	...	...	7,145	...	2,320
Calcium compounds -					
Calcium chloride	cwt.	54,825	41,298	67,445	49,993
Chloride of lime	cwt.	3,760	45,222	2,407	32,739
Calcium molybdate, vanadium oxide and tungsten oxide for the manufacture of steel	lb.	42,772	23,306	54,497	40,175
Calcium compounds, n.o.p.	lb.	2,917,890	189,032	7,362,153	393,635
Potash and potassium compounds n.o.p. -					
Argols	lb.	100	50	444	198
Cream of tartar in crystals	lb.	198,181	63,827	302,499	90,891
Potash and pearl ash	lb.	148,425	11,211	141,546	9,854
Potash, bicarbonate of	lb.	43,415	8,495	21,115	3,821
Potash, bichromate of, crude	lb.	317,995	35,167	171,794	20,492
Potash, caustic	lb.	5,231,239	256,402	7,069,364	323,775
Potash, chlorate of, not further prepared than ground	lb.	89,318	8,741	53,589	6,169
Potash, red and yellow, prussiate of	lb.	34,286	8,167	23,037	6,827
Potash, nitrate of, or saltpetre	lb.	585,691	41,019	794,674	57,823
Potash compounds, n.o.p.	lb.	969,524	190,203	846,833	225,815
Soda and sodium compounds, n.o.p. -					
Borax, in packages of not less than 25 pounds, and fused borax known as borax-glass	lb.	18,911,004	504,734	13,800,342	457,548
Glauber salts	lb.	2,765,636	41,125	2,944,225	52,212
Soda, arseniate, binarseniate and stannate of	lb.	68,954	20,004	68,510	18,910
Soda ash or barilla	lb.	8,780,170	184,398	62,652,403	947,889
Soda, bicarbonate of	lb.	18,596,540	345,740	13,806,674	238,555
Soda, bichromate of	lb.	4,558,248	369,826	4,585,652	402,333
Soda, bisulphate of, or nitre cake	lb.	1,372,240	31,019	1,662,565	38,234
Soda, bisulphite of	lb.	54,800	3,648	41,687	2,166
Soda, caustic, in packages	lb.	2,872,443	148,167	3,051,193	147,907
Soda, caustic, in solution	lb.	54,925,906	591,907	63,165,261	785,530
Soda, chlorate of	lb.	15,800	1,521	751,295	60,526
Sodium cyanide	lb.	5,111,618	588,928	5,230,129	645,728
Sodium glutamate	lb.	Not listed separately		443,016	683,786
Soda, hyposulphite of	lb.	303,095	17,159	343,458	18,404
Soda, nitrite of	lb.	642,994	35,142	1,088,779	61,113
Soda, peroxide of	lb.	27,134	4,456	83,305	12,448
Soda phosphate, di-sodium	lb.	475,351	24,500	207,967	12,976
Soda phosphate, tri-sodium	lb.	7,305,588	247,218	2,647,128	93,338
Soda phosphate, n.o.p.	lb.	4,367,351	335,185	15,155,236	1,697,840
Soda, prussiate of	lb.	465,100	50,763	520,033	62,904
Soda, sal	lb.	2,770,480	30,029	372,405	8,298
Soda, silicate of, in crystals or in water solution	lb.	5,515,798	104,525	5,023,554	111,373
Soda, sulphate of, crude, or salt cake	lb.	19,658,243	172,531	24,788,238	240,228
Soda, sulphide of	lb.	5,731,495	240,440	4,258,018	195,896
Soda, sulphite of	lb.	790,499	34,844	4,803,391	114,580

Table 7 - IMPORTS INTO CANADA OF ACIDS AND CERTAIN INORGANIC CHEMICALS, 1947 and 1948 (Concluded)

Commodity		1947 Quantity	1947 Value	1948 Quantity	1948 Value
			$		$
Soda and sodium compounds, n.o.p. - (concluded)					
Soda, benzoate of	lb.	197,469	79,360	144,744	61,925
Soda, bromide of	lb.	54,250	11,460	41,884	11,751
Soda, citrate of	lb.	153,556	31,108	150,462	31,337
Soda, fluoride of	lb.	841,108	86,200	678,885	70,702
Soda, antimonate of	lb.	407,360	94,043	324,000	91,060
Sodium compounds, n.o.p.	lb.	41,935,432	2,177,583	7,855,603	901,249
Other Inorganic Chemicals -					
Acid phosphate, not medicinal	lb.	1,992,524	135,196	2,314,323	177,716
Hydrogen peroxides, solutions of	lb.	136,171	19,995	489,005	75,573
Magnesium carbonate, basic or otherwise, excepting crude rock; and magnesium carbonate, for use in the compounding or manufacture of rubber products	lb.	1,092,993	71,801	1,389,539	91,289
Magnesium salts or compounds, n.o.p.	lb.	847,206	75,823	986,334	122,062
Magnesium sulphate, or Epsom salts	lb.	5,815,304	108,840	5,593,132	118,792
Mercury salts	...	...	8,707	...	4,321
Phosphorus and compounds thereof, n.o.p.	lb.	47,478	20,711	22,323	18,634
Radium	...	...	221,611	...	365,496
Molybdenum oxide	lb.	96,500	74,552	330,727	206,143
TOTAL INORGANIC CHEMICALS, n.o.p.	...	...	13,787,049	...	17,226,559

Table 8 - EXPORTS FROM CANADA OF ACIDS AND INORGANIC CHEMICALS, 1947 and 1948

Commodity		1947 Quantity	1947 Value	1948 Quantity	1948 Value
			$		$
Acid, sulphuric	cwt.	598,174	464,567	589,567	432,852
Acids, n.o.p.	cwt.	412,904	3,248,044	643,509	5,294,942
TOTAL ACIDS	...	...	3,712,611	...	5,727,794
Ammonium sulphate	cwt.	3,179,502	5,356,757	2,927,587	5,923,549
Ammonium compounds, n.o.p.	cwt.	4,107	24,431	6,312	22,785
Arsenic	cwt.	43,694	176,697	40,513	162,103
Acetate of lime	cwt.	47,552	132,345	29,393	91,063
Calcium compounds	cwt.	701,599	2,201,628	860,149	2,786,828
Lye	...	...	38,436	...	68,753
Baking powder	cwt.	15,779	231,721	11,084	172,515
Soda and sodium compounds	cwt.	2,052,000	5,231,511	1,589,839	4,839,900
Cobalt oxide and cobalt salts	lb.	837,405	835,141	876,895	1,032,710
Radium and salts	...	...	1,535,841	...	872,249
TOTAL OTHER CHEMICALS	...	...	15,764,508	...	15,972,455

Table 9 - EMPLOYEES, SALARIES AND WAGES, BY PROVINCES, 1947 and 1948

Province	Average Number of Employees: On Salaries Male	On Salaries Female	On Wages Male	On Wages Female	Total	Salaries	Wages	TOTAL SALARIES and WAGES
						$	$	$
1947								
Quebec	306	75	2,030	26	2,437	1,360,143	4,388,520	5,748,663
Ontario	409	111	2,424	29	2,973	1,367,696	5,537,151	6,904,847
Other provinces	4	...	127	...	131	8,535	266,751	275,286
CANADA	719	186	4,581	55	5,541	2,736,374	10,192,422	12,928,796
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

LIST OF FIRMS IN THE ACIDS, ALKALIES AND SALTS INDUSTRY - 1948

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; 50% D.D.T.; liquid chlorine; recovered cryolite; sodium carbonate (soda ash); sodium hydroxide (caustic soda); calcined magnesia.
Canadian Industries Limited, Shawinigan Falls, Quebec.	Perchlorethylene; trichlorethylene; chlorine (liquid and gas); anhydrous hydrogen chloride; sodium hydroxide (caustic soda); hydrogen peroxide (liquid); chloroform.
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; ferro-phosphorus; phosphorus sesquisulphide; rock wool.
The Nichols Chemical Co. Ltd., Valleyfield, Quebec.	Sulphuric acid; aluminum sulphate; D.D.T. products; 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.
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.

List of Firms in the Acids, Alkalies and Salts Industry - 1948 (Concluded)

Name and Location of Plant	Principal Chemicals Made
Canadian Industries Limited, Copper Cliff, Ontario.	Sulphuric acid; sulphurdioxide (liquid).
Canadian Industries Limited, Windsor, Ontario.	Chlorine (liquid); chloride of lime; sodium hydroxide (caustic soda); ferric chloride; sodium hypochlorite; ammonia anhydrous, 100%; ammonia, aqua, 26° Be.
Church & Dwight Ltd., Amherstburg, Ontario.	Sodium carbonate (sal soda); sodium hydrosulphite.
Cornwall Chemicals Limited, Cornwall, Ontario.	Carbon bisulphide.
Dow Chemical of Canada Ltd., Sarnia, Ontario.	Ethylene glycol; propylene glycol; diethylene glycol; triethylene glycol; ethylene dichloride.
W. C. Hardesty Co. of Canada Ltd., New Toronto, Ontario.	Hydrogenated stearic acid; tallow fatty acids; cocoanut fatty acids; mixed fatty acids; glycerine; oleicacid.
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.
Standard Chemical Company Limited, Langford, Ontario.	Sodium carboxymethyl cellulose (carboxel).
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.
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 Limited, (Welland Works) Niagara Falls, 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.