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Annual Industry Report — Chemicals and Allied Products Group

THE ACIDS, ALKALIES AND SALTS INDUSTRY, 1947

Thirty-one plants in Canada, classified under the Acids, Alkalies and Salts Industry, were engaged chiefly in the production of heavy chemicals in 1947. Production reported by this group was valued at $59,318,463, an increase of 25.4 per cent over the total for the previous year. Nineteen 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 5,441 people who were paid $12,728,796 in salaries and wages. Materials used in manufacturing processes cost $19,059,360 and expenditures for fuel and electricity amounted to $7,053,019.

The following chemicals were made by the factories in this group: acetaldehyde, acetic anhydride, acetone, acetylene black, acetylene gas, glacial acetic acid, crotonic acid, hydrochloric acid, hydrofluosilicic acid, monochloro acetic acid, sulphuric acid, phosphoric acid, nitric acid, stearic acid, fatty acids, acid calcium phosphate, aluminum sulphate, synthetic ammonia, ammonium chloride, aniline oil, butyl acetate, butyl alcohol, calcium carbide, calcium chloride, calcium cyanamide, calcium cyanide, carbon bisulphide, chloral, chlorine(liquid and gas), chloride of lime, chloroform, dibutyl phthalate, dicyandiamide, croton aldehyde, ethyl acetate, ferric chloride, ferrophosphorus, guanidine nitrate, anhydrous hydrogen chloride, liquid hydrogen peroxide, hydrated lime, monochlorobenzene, paraldehyde, pentasol acetate, perchlorethylene, yellow phosphorus, amorphous phosphorus, phosphorus sesquisulphide, potassium chlorate, sodium acid pyrophosphate, sodium carboxymethyl cellulose, soda ash, sal soda, caustic soda, sodium chlorate, sodium hypochlorite, sodium silicate, salt cake, anhydrous sodium sulphite, sodium metabisulphite, sodium thiosulphite, phosphate of sodium (mono-di-tri-tetra) sulphur monochloride, trichlorethylene, vinyl acetate, vinyl acetate resins, zinc oxide, zinc chloride, zinc dust, plating and galvanizing salts, rubber plasticizers and accelerators, satin white, 2,4-D, D.D.T., aluminum fluoride, rock wool, metallic naphthenates, cerium, weed killer, etc. Separate production figures are published for sulphuric acid only, as most of the other items were made by less than three firms.

The output of sulphuric acid increased to 674,887 tons (100%) in 1947 over the 593,500 tons (100%) in 1946. 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.

This report was prepared by J. J. Parchelo, Statistician, Metal & Chemical Products.

Table 1 - PRINCIPAL STATISTICS OF THE ACIDS, ALKALIES AND SALTS INDUSTRY, 1938-1947

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
			$	$	$	$
1938	24	2,991	4,571,579	2,349,819	5,223,443	20,476,578
1939	25	3,128	5,032,898	2,548,217	6,021,716	23,056,606
1940	27	4,002	6,627,695	3,794,629	8,818,251	31,000,928
1941	32	6,482	11,169,284	5,701,507	17,108,347	50,109,348
1942	35	7,842	14,128,610	7,615,359	23,927,969	65,123,577
1943	38	8,045	15,057,723	8,502,717	27,714,019	78,359,453
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	5,441	12,728,796	7,053,019	19,059,360	59,318,463
Per cent change - 1947 from 1946	...	+1.9	+14.1	+9.7	+30.1	+25.4

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.

Table 2 - PRINCIPAL STATISTICS, BY PROVINCES, 1946 and 1947

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
			$	$	$	$
1 9 4 6						
Nova Scotia	1)	2,250	4,629,979	1,917,152	6,436,552	19,436,100
Quebec	8)					
Ontario	18)	3,088	6,529,020	4,514,351	8,214,331	27,865,300
British Columbia	2)					
CANADA	29	5,338	11,158,999	6,431,503	14,650,883	47,301,400
1 9 4 7						
Nova Scotia	1)	2,444	5,779,178	2,453,478	9,619,772	24,656,651
Quebec	9)					
Ontario	19)	2,997	6,949,618	4,599,541	9,439,588	34,661,812
British Columbia	2)					
CANADA	31	5,441	12,728,796	7,053,019	19,059,360	59,318,463

Table 3 - EMPLOYEES, SALARIES AND WAGES, BY PROVINCES, 1946 and 1947

Province	Average Number of Employees: On Salaries Male	On Salaries Female	On Wages Male	On Wages Female	Total	Salaries	Wages	TOTAL SALARIES and WAGES
						$	$	$
1946								
Quebec ...	287	71	1,855	27	2,240	1,135,460	3,460,782	4,596,242
Ontario ..	358	91	2,296	37	2,782	1,167,754	4,582,143	5,749,897
Other provinces	35	5	276	...	316	132,411	680,449	812,860
CANADA.	680	167	4,427	64	5,338	2,435,625	8,723,374	11,158,999
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	...	27	...	31	8,535	66,751	75,286
CANADA.	719	186	4,481	55	5,441	2,736,374	9,992,422	12,728,796

Table 4 - WAGE-EARNERS, BY MONTHS, 1946 and 1947(On the last work-day of each month)

Month	1946 Male	1946 Female	1946 Total	1947 Male	1947 Female	1947 Total
January	4,414	77	4,491	4,317	56	4,373
February	4,441	66	4,507	4,433	57	4,490
March	4,377	66	4,443	4,442	53	4,495
April	4,444	63	4,507	4,458	54	4,512
May	4,620	60	4,680	4,482	53	4,535
June	4,677	65	4,742	4,520	55	4,575
July	4,310	65	4,375	4,585	58	4,643
August	4,205	62	4,267	4,597	55	4,652
September	4,172	62	4,234	4,523	53	4,576
October	4,474	63	4,537	4,485	51	4,536
November	4,493	62	4,555	4,506	51	4,557
December	4,497	62	4,559	4,447	49	4,496
AVERAGE	4,427	64	4,491	4,481	55	4,536

Table 5 - FUEL AND ELECTRICITY USED, 1946 and 1947

Kind	Unit of measure	1946 Quantity	1946 Cost at works	1947 Quantity	1947 Cost at works
			$		$
Bituminous coal -					
Canadian	ton	8,504	73,666	3,474	32,497
Foreign	ton	193,734	1,392,269	266,562	2,047,073
Anthracite coal	ton	841	10,142	1,291	15,719
Coke	ton	2,825	33,121	767	10,276
Gasoline	Imp.gal.	103,950	25,179	114,679	29,206
Fuel oil	Imp.gal.	3,329,502	220,851	2,245,634	202,222
Gas - Manufactured ..	M cu.ft.	324	287	111	118
Natural	M cu.ft.	1,341	1,010	1,856	1,401
Other fuel	...	...	194,510	...	499,488
Electricity purchased	K.W.H.	1,553,324,332	4,480,468	1,357,576,364	4,215,019
TOTAL	...	...	6,431,503	...	7,053,019
Electricity generated for own use	K.W.H.	92,374,573	...	109,007,005	...

Table 6 - POWER EQUIPMENT, 1946 and 1947

Kind	Ordinarily in Use: Number of units	Ordinarily in Use: Total rated horse power	In Reserve or Idle: Number of units	In Reserve or Idle: Total rated horse power
1946				
Steam engines and steam turbines	29	14,586	8	1,128
Diesel engines	1	38	...	....
Gasoline, gas and oil engines	13	347	2	165
Hydraulic turbines or water wheels	5	10,520	...	...
Total Primary Equipment	48	25,491	10	1,293
Electric motors operated by purchased power	4,886	74,219	834	9,377
TOTAL	4,934	99,710	844	10,670
Electric motors operated by above primary units	1,106	11,232	276	1,353
Stationary power boilers	32	12,296	7	1,647
Motor-generator sets	47	31,549k.v.a.	2	309k.v.a.
1947				
Steam engines and steam turbines	30	14,426	8	1,128
Diesel engines	1	38	...	...
Gasoline, gas and oil engines	16	462	1	150
Hydraulic turbines or water wheels	5	10,520	...	...
Total Primary Equipment	52	25,446	9	1,278
Electric motors operated by purchased power	4,829	64,062	906	9,460
TOTAL	4,881	89,508	915	10,738
Electric motors operated by above primary units	1,125	11,309	337	2,023
Stationary power boilers	33	11,248	4	1,047
Motor-generator sets	47	31,601k.v.a.	3	316k.v.a.

Table 7 - MATERIALS USED, 1946 and 1947

Material	Unit of measure	1946: Quantity	1946: Cost at works $	1947: Quantity	1947: Cost at works $
Acetone	lb.	26,595	2,859	567,913	55,282
Acetylene	lb.	1,772,070	89,731	1,817,585	128,280
Acid -					
Acetic, 99½%	lb.	20,292	2,309	5,341	785
Hydrochloric (muriatic)	lb.	899,262	11,661	1,075,404	13,941
Nitric, 42° Be	lb.	157,252	8,840	95,440	5,399
Sulphuric, 66° Be	lb.	9,887,498	101,827	11,116,850	112,809
Aluminum	lb.	182,836	2,420	46,074	663
Ammonia liquor	lb.NH_3	451,464	31,426	753,336	39,565
Ammonia, anhydrous	lb.	2,389,114	107,578	2,868,502	145,834
Benzol	lb.	2,481,981	65,827	3,305,892	89,571
Calcium chloride	lb.	937,380	13,169	1,236,650	16,769
Chlorine, liquid	lb.	7,117,816	142,524	11,758,136	209,653

Table 7 - MATERIALS USED, 1946 and 1947 (Concluded)

Material	Unit of measure	1946 Quantity	1946 Cost at works	1947 Quantity	1947 Cost at works
			$		$
Coal (except for fuel) -					
Anthracite	ton	3,866	34,094	5,977	55,970
Bituminous	ton	1,150	12,149	1,600	18,993
Coke (except for fuel) -					
Petroleum	ton	34,361	394,281	25,503	302,653
Other	ton	123,098	1,449,616	122,181	1,658,058
Electrodes (purchased)	...	...	450,121	...	562,629
Fluorspar	ton	14,360	472,812	21,571	577,201
Graphite	lb.	248,674	36,675	205,780	30,896
Limestone	ton	667,950	933,061	797,960	1,204,752
Lime, hydrated	ton	33,832	79,905	32,061	69,849
Lime, quick	ton	1,193	15,219	1,440	19,913
Mercury	lb.	45,005	59,335	71,292	76,421
Potassium hydroxide (caustic potash)	lb.	248,940	8,191	22,539	750
Pyrites	ton	59,874	318,961	68,078	384,404
Quartz, quartzite and silica sand	ton	19,305	87,879	30,152	148,564
Sodium carbonate (soda ash)	lb.	28,405,028	361,207	41,687,658	531,527
Sodium chloride, dry, and brine (salt content)	ton	246,012	775,517	354,705	916,524
Sodium bichromate	lb.	65,565	6,360	75,422	6,717
Sodium hydroxide (caustic soda)	lb.	3,992,839	121,690	5,718,205	172,203
Sodium nitrate	lb.	1,036,269	27,688	1,312,619	37,282
Sodium silicate (water glass)	lb.	12,275,725	167,351	11,316,835	171,411
Sodium sulphate (salt cake)	lb.	133,970	1,671	4,560	127
Sodium sulphide	lb.	247,891	14,377	116,518	7,074
Sulphur (brimstone)	ton	45,346	1,133,896	63,265	1,491,624
Containers of all kinds and packing materials	...	...	1,232,592	...	1,701,914
Steel sheets for making containers	ton	4,632	609,651	5,238	580,832
Lumber	M bd.ft.	233	11,563	419	23,761
All other materials and supplies	...	...	5,254,850	...	7,488,760
TOTAL	...	...	14,650,883	...	19,059,360

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 which gives a fairly good summary of the total output as gathered up from all industries, this being shown below. 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 1947 was around $124,813,000 compared with $104,023,000 in 1946.

Table 8 - TOTAL PRODUCTION OF CHEMICALS IN CANADA, 1946 and 1947

Commodity	Selling Value at Works	
	1946	1947
	$	$
Acids, including acetic, muriatic, nitric, sulphuric, phosphoric, and stearic	6,901,000	9,993,000
Calcium compounds, including carbide, chloride, phosphide, cyanamide, cyanide, acid phosphate, grey acetate, arsenate, chloride of lime, etc..	16,049,000	16,808,000
Sodium compounds, including hydroxide, phosphate, silicate, hypochlorite, bisulphite, salt cake, Glauber's salt, chlorate, acid pyrophosphate, soda ash, sal soda, bisulphate, etc. (pharmaceutical salts included elsewhere)	6,459,000	10,081,000
Organic chemicals, including acetic anhydride, butyl acetate, ethyl acetate, paraldehyde, pentasol acetate, vinyl acetate, ethyl alcohol, methyl hydrate, glycerine, phenol, cresol, benzol, etc. (acetic acid and acetylene included elsewhere)	19,260,000	21,341,000
Compressed and liquefied gases, etc., including acetylene, carbon dioxide, oxygen, nitrous oxide, liquid sulphur dioxide, liquid chlorine, anhydrous and aqua ammonia, etc.	11,967,000	14,298,000
Fertilizer chemicals, including ammonium sulphate, ammonium nitrate (fertilizer grade), ammonium phosphate, and superphosphate	30,846,000	35,751,000
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.	12,541,000	16,541,000
TOTAL	104,023,000	124,813,000

Table 9 - IMPORTS INTO CANADA OF ACIDS AND CERTAIN INORGANIC CHEMICALS, 1946 and 1947

Commodity		1946 Quantity	1946 Value	1947 Quantity	1947 Value
			$		$
Acids					
Inorganic acids -					
Acid, boracic, in packages of not less than 25 pounds	lb.	2,447,450	128,698	3,122,577	157,691
Acid, hydrofluosilicic	lb.	70,661	12,502	80,132	12,053
Acid, muriatic	lb.	726,127	19,719	1,981,488	32,396
Acid, nitric	lb.	1,267,706	53,877	171,593	10,010
Acid, phosphoric	lb.	354,219	26,473	268,728	17,606
Acid, sulphuric	lb.	331,516	18,670	232,119	11,466
Acid, arsenic	lb.	3,775,639	146,092	3,589,018	175,305
Acid, chromic	lb.	502,611	89,379	330,292	63,572
Organic acids -					
Acid, salicylic and acetysalicylic	lb.	322,874	129,095	501,079	204,541
Acid, lactic	lb.	752,227	72,307	652,488	68,020
Acid, nicotinic	lb.	3,562	8,626	2,211	6,877
Acid, oleic, or red oil	lb.	460,213	69,008	547,565	124,231
Acid, acetic and pyroligneous	gal.	367	668	1,155	1,239
Acid, citric	lb.	1,422,806	350,552	1,690,998	393,035
Acid, cresylic	lb.	280,213	31,963	361,475	44,166
Xanthates and sulpho-thiophosphoric (dithio-phosphoric compounds, for concentrating ores, metals or minerals	lb.	3,767,457	735,367	4,065,275	865,285
Acid, oxalic	lb.	649,172	75,880	742,560	96,408
Acid, stearic	lb.	744,214	138,271	1,201,708	357,829
Acid, tannic	lb.	780,696	117,221	334,036	78,436
Tartaric acid crystals or powder	lb.	846,478	515,938	735,320	335,318
Acid, ascorbic	lb.	7,513	64,267	6,373	54,438
Acid, formic	lb.	455,959	46,143	448,076	44,382
Acid, carbolic, or phenol	lb.	3,862,299	361,085	3,878,960	367,408
Acids, other, n.o.p.	lb.	2,566,688	220,464	7,424,072	470,469
TOTAL ACIDS	...	...	3,432,265	...	3,992,181
Inorganic Chemicals, n.o.p.					
Alum, in bulk, ground or unground, but not calcined	cwt.	15,794	47,327	14,627	48,446
Chloralum or chloride of aluminum	cwt.	4,068	31,500	4,830	32,387
Sulphate of iron (copperas)	cwt.	23,908	25,937	13,754	13,575
Sulphate of alumina or alum cake	cwt.	538,646	664,095	89,838	110,043
Ammonia, nitrate of	lb.	164,614	7,802	167,575	9,009
Sal ammoniac	lb.	1,468,608	50,380	447,314	20,798
Sal ammoniac skimmings	lb.	168,912	11,524	143,321	11,233
Ammonia, anhydrous	lb.	4,113,103	120,460	4,933,590	145,892
Ammonia compounds, n.o.p.	lb.	3,287,303	136,711	4,254,901	93,228

Table 9 - IMPORTS INTO CANADA OF ACIDS AND CERTAIN INORGANIC CHEMICALS, 1946 and 1947 (Continued)

Commodity		1946 Quantity	1946 Value	1947 Quantity	1947 Value
			$		$
Antimony, arsenic, copper, tin and zinc compounds -					
Antimony salts, viz., tartar emetic, chloride and lactate (antimonine)	lb.	81,521	24,089	35,185	13,613
Arsenous oxide and arsenic sulphide	lb.	500	140	246,379	24,150
Copper, sub-acetate of, or verdigris, dry, and precipitate of	lb.	1,142	336	1,825	596
Copper, sulphate of	lb.	1,352,750	108,965	1,279,110	132,991
Tin, bichloride of, and tin crystals	lb.	14,910	7,101	7,847	4,653
Zinc, chloride of	lb.	543,183	29,761	350,383	23,969
Zinc, sulphate of	lb.	685,810	26,713	832,244	41,262
Bismuth and lead compounds -					
Bismuth salts	...	...	12,724	...	6,970
Lead, arsenate of	lb.	...	...	4,512	964
Lead, acetate of, not ground	lb.	120,280	15,200	207,635	39,463
Lead, nitrate of, not ground	lb.	277,907	34,818	35,892	6,289
Compounds of tetraethyl lead	lb.	12,671,641	4,075,721	14,053,747	4,302,110
Bromine, chlorine and iodine compounds -					
Bromine	lb.	16,786	4,454	8,742	2,349
Chlorine, liquid, or chlorine gas	lb.	9,246,636	205,681	11,020,827	223,321
Iodine, crude	lb.	103,931	140,558	129,978	205,654
Iodized mineral salts, for use in the feeding of animals	...	...	5,269	...	7,145
Calcium compounds -					
Calcium arsenate or arsenate of lime	lb.	60,056	4,292	...	...
Calcium chloride	cwt.	63,481	69,737	54,825	41,298
Chloride of lime	cwt.	12,611	105,630	3,760	45,222
Calcium molybdate, vanadium oxide and tungsten oxide for the manufacture of steel	lb.	20,950	15,142	42,772	23,306
Calcium compounds, n.o.p.	lb.	1,976,250	201,183	2,917,890	189,032
Potash and potassium compounds n.o.p. -					
Argols	lb.	250	135	100	50
Cream of tartar in crystals	lb.	243,948	104,908	198,181	63,827
Potash and pearl ash	lb.	350,935	20,209	148,425	11,211
Potash, bicarbonate of	lb.	14,645	2,483	43,415	8,495
Potash, bichromate of, crude	lb.	261,010	27,283	317,995	35,167
Potash, caustic	lb.	4,370,143	209,983	5,231,239	256,402
Potash, chlorate of, not further prepared than ground.	lb.	329,630	35,866	89,318	8,741

Table 9 - IMPORTS INTO CANADA OF ACIDS AND CERTAIN INORGANIC CHEMICALS, 1946 and 1947 (Continued)

Commodity		1946 Quantity	1946 Value	1947 Quantity	1947 Value
			$		$
Potash and potassium compounds n.o.p. (Concluded)					
Potash, red and yellow, prussiate of	lb.	27,530	6,748	34,286	8,167
Potash, nitrate of, or saltpetre	lb.	820,839	53,155	585,691	41,019
Potash compounds, n.o.p.	lb.	815,804	174,012	969,524	190,203
Soda and sodium compounds, n.o.p. -					
Borax, in packages of not less than 25 pounds, and fused borax known as borax-glass	lb.	14,512,114	395,431	18,911,004	504,734
Glauber salts	lb.	2,516,125	33,136	2,765,636	41,125
Soda, arseniate, binarseniate and stannate of	lb.	82,668	15,920	68,954	20,004
Soda ash or barilla	lb.	10,691,957	182,614	8,780,170	184,398
Soda, bicarbonate of	lb.	15,814,381	244,934	18,596,540	345,740
Soda, bichromate of	lb.	4,807,285	373,500	4,558,248	369,826
Soda, bisulphate of, or nitre cake	lb.	2,092,780	32,994	1,372,240	31,019
Soda, bisulphite of	lb.	32,552	1,405	54,800	3,648
Soda, caustic, in packages	lb.	2,961,226	148,613	2,872,443	148,167
Soda, caustic, in solution	lb.	40,819,127	393,131	54,925,906	591,907
Soda, chlorate of	lb.	211,848	13,099	15,800	1,521
Sodium cyanide	lb.	3,902,864	435,390	5,111,618	588,928
Soda, hyposulphite of	lb.	574,310	24,566	303,095	17,159
Soda, nitrite of	lb.	767,164	37,477	642,994	35,142
Soda, peroxide of	lb.	28,104	4,316	27,134	4,456
Soda phosphate, di-sodium	lb.	350,721	22,853	475,351	24,500
Soda phosphate, tri-sodium	lb.	5,883,378	189,124	7,305,588	247,218
Soda phosphate, n.o.p.	lb.	5,166,317	349,790	4,367,351	335,185
Soda, prussiate of	lb.	753,497	83,160	465,100	50,763
Soda, sal	lb.	818,376	12,066	2,770,480	30,029
Soda, silicate of, in crystals or in water solution	lb.	16,338,578	230,906	5,515,798	104,525
Soda, sulphate of, crude, or salt cake	lb.	41,762,452	244,617	19,658,243	172,531
Soda, sulphide of	lb.	6,122,663	189,455	5,731,495	240,440
Soda, sulphite of	lb.	580,965	24,083	790,499	34,844
Soda, benzoate of	lb.	91,435	38,251	197,469	79,360
Soda, bromide of	lb.	57,100	12,573	54,250	11,460
Soda, citrate of	lb.	40,226	8,489	153,556	31,108
Soda, fluoride of	lb.	538,673	50,819	841,108	86,200
Soda, antimonate of	lb.	228,000	36,668	407,360	94,043
Sodium compounds, n.o.p.	lb.	17,411,374	1,430,586	41,935,432	2,177,583
Other Inorganic Chemicals -					
Acid phosphate, not medicinal	lb.	1,778,495	120,647	1,992,524	135,196

Table 9 - IMPORTS INTO CANADA OF ACIDS AND CERTAIN INORGANIC CHEMICALS, 1946 and 1947 (Concluded)

Commodity		1946 Quantity	1946 Value	1947 Quantity	1947 Value
			$		$
Other Inorganic Chemicals -(Concluded)					
Hydrogen peroxides, solutions of	lb.	17,244	2,978	136,171	19,995
Magnesium carbonate, basic or otherwise, excepting crude rock; and magnesium carbonate, for use in the compounding or manufacture of rubber products	lb.	742,483	40,994	1,092,993	71,801
Magnesium salts or compounds, n.o.p.	lb.	1,380,435	80,893	847,206	75,823
Magnesium sulphate, or Epsom salts	lb.	6,925,714	132,342	5,815,304	108,840
Mercury salts	...	...	2,950	...	8,707
Phosphorus and compounds thereof, n.o.p.	lb.	149,976	64,860	47,478	20,711
Radium	...	...	17,222	...	221,611
Molybdenum oxide	lb.	30,200	23,082	96,500	74,552
TOTAL INORGANIC CHEMICALS, n.o.p.	...	...	12,563,967	...	13,787,049

Table 10 - EXPORTS FROM CANADA OF ACIDS AND INORGANIC CHEMICALS, 1946 and 1947

Commodity		1946 Quantity	1946 Value	1947 Quantity	1947 Value
			$		$
Acid, sulphuric	cwt.	65,925	56,123	598,174	464,567
Acids, n.o.p.	cwt.	273,019	2,004,058	412,904	3,248,044
TOTAL ACIDS	...	...	2,060,181	...	3,712,611
Ammonium sulphate	cwt.	3,108,934	5,218,549	3,179,502	5,356,757
Ammonium compounds, n.o.p.	cwt.	2,922	21,495	4,107	24,431
Arsenic	cwt.	17,183	74,252	43,694	176,697
Acetate of lime	cwt.	36,750	99,805	47,552	132,345
Calcium compounds	cwt.	833,631	2,813,471	701,599	2,201,628
Lye	...	...	13,719	...	38,436
Baking powder	cwt.	11,444	168,173	15,779	231,721
Soda and sodium compounds	cwt.	1,589,111	4,413,623	2,052,000	5,231,511
Cobalt oxide and cobalt salts	lb.	456,088	608,767	837,405	835,141
Radium and salts	...	...	356,679	...	1,535,841
TOTAL OTHER CHEMICALS	...	...	13,788,533	...	15,764,508

LIST OF FIRMS IN THE ACIDS, ALKALIES AND SALTS INDUSTRY, 1947

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.; wettable sulphur; dried hydrate.
Canadian Industries Limited, Shawinigan Falls, Quebec	Perchlorethylene; trichlorethylene; chlorine (liquid and gas); anhydrous hydrogen chloride; sodium hydroxide (caustic soda); hydrogen peroxide (liquid); monochlorbenzene; 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; ferrophosphorus; phosphorus sesquisulphide; rock wool.
The Nichols Chemical Co. Ltd., Valleyfield, Quebec	Sulphuric acid; aluminum sulphate; D.D.T. products.
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)

LIST OF FIRMS IN THE ACIDS, ALKALIES AND SALTS INDUSTRY, 1947
(Continued)

Name and Location of Plant	Principal Chemicals Made
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; sulphurdioxide (liquid).
Canadian Industries Limited, Windsor, Ontario.	Chlorine (liquid); chloride of lime; sodium hydroxide (caustic soda); ferric chloride; sulphur monochloride; sodium hypochlorite; ammonia anhydrous, 100%; ammonia, aqua, 26° Be.
Church & Dwight Ltd., Amherstburg, Ontario.	Sodium carbonate (sal soda).
Cornwall Chemicals Limited, Cornwall, Ontario.	Carbon bisulphide.
Electro Metallurgical Company of Canada, Ltd., Welland, Ontario.	Calcium carbide.
W. C. Hardesty Co. of Canada Ltd., New Toronto, Ontario.	Hydrogenated stearic acid; hydrogenated tallow fatty acids; tallow fatty acids; cocoanut fatty acids; mixed fatty acids; glycerine; hydrogenated fish oils; oleicacid.
H. S. & T. Crystal Co. Ltd., New Toronto, Ontario.	Satin white.

LIST OF FIRMS IN THE ACIDS, ALKALIES AND SALTS INDUSTRY, 1947
(Concluded)

Name and Location of Plant	Principal Chemicals Made
Naugatuck Chemicals, Division of Dominion Rubber Co. Ltd., Elmira, Ontario.	Aniline; rubber accelerators and specialties; nitrobenzene; D.D.T.; 2,4-D;
Standard Chemical Company Limited, Langford, Ontario.	Sodium carboxymethyl cellulose
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).
North American Cyanamid Ltd., Niagara Falls, Ontario.	Calcium cyanamide; calcium cyanide; sodium silicate.
Nuodex Products of Canada, Ltd., Leaside, Ontario.	Lead naphthenate; cobalt naphthenate; manganese naphthenate; zinc naphthenate; copper naphthenate; calcium naphthenate; iron naphthenate.
Watts Chemical Company, Toronto, Ontario.	Zinc oxide; zinc dust.
North American Cyanamid Limited, (Welland Works) Niagara Falls, Ontario.	Ammonia (anhydrous); dicyandiamide; guanidine nitrate; sulphuric 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.