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CANADA
DEPARTMENT OF TRADE AND COMMERCE
DOMINION BUREAU OF STATISTICS
CENSUS OF INDUSTRY
MINING, METALLURGICAL & CHEMICAL BRANCH

THE ACIDS, ALKALIES AND SALTS
INDUSTRY
IN
CANADA
1936



OTTAWA
1937

Price 10 cents

202-24

DEPARTMENT OF TRADE AND COMMERCE
DOMINION BUREAU OF STATISTICS
CENSUS OF INDUSTRY
MINING, METALLURGICAL AND CHEMICAL BRANCH
OTTAWA - CANADA

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ANNUAL INDUSTRY BULLETIN

CHEMICALS AND ALLIED PRODUCTS GROUP

THE ACIDS, ALKALIES AND SALTS INDUSTRY, 1936.

Production from the heavy chemicals industry during 1936 amounted to \$18,959,512 compared with \$19,012,615 in 1935. Substantial increases in output were reported for most of the individual products but these advances were more than offset by rather severe declines for two or three of the important items, however, the over-all loss was small, amounting to only 0.5 per cent.

Fourteen firms in this group in 1936 operated 20 factories of which 12 were in Ontario, 4 in Quebec, 3 in British Columbia, and 1 in Nova Scotia. These works represented a capital investment of \$32,596,308 of which \$24,971,587 was given as the present value of land, buildings and equipment, \$4,174,038 as the value of inventories and \$3,450,683 as the total of operating capital.

The average number of employees was 2,966 in 1936 compared with 2,627 in 1935 and payments for salaries and wages amounted to \$3,988,310 as against \$3,490,897 in the preceding year.

The directory appended to this report lists the names of the companies which have been included in this industry and also indicates the products made in each of the establishments. The products include sulphuric acid, hydrochloric acid, nitric acid, glacial acetic acid, phosphoric acid, calcium carbide, calcium cyanamide, calcium chloride, caustic soda, soda ash, nitre cake, salt cake, Glauber's salt, cyanide, di-sodium and tri-sodium phosphate, sodium silicate, sodium chlorate, sodium hypochlorite, liquid chlorine, phosphorus, acid calcium phosphate, synthetic ammonia, sulphur dichloride, sulphur monochloride, ferric chloride, hydrogen peroxide, butyl acetate, ethyl acetate, paraldehyde, croton aldehyde, vinyl acetate, pentasol acetate, lead acetate, iso-butyl acetate, acetone, acetic anhydride, synthetic resins, acetylene carbon black, zinc oxide, and liquid sulphur dioxide. Production statistics are not published for these items as, except for sulphuric acid, each was made by only one or two concerns and the Statistics Act does not permit publication of data which reveal in any way the operations of individual establishments.

Production of sulphuric acid during 1936 totalled 235,338 short tons, which was the highest reported for any year and exceeded the 224,410 tons of 1935 by 5 per cent and the 205,325 tons of 1934 by 15 per cent.

Sales of sulphuric acid by the producers during 1936 totalled 94,998 tons worth \$1,271,279 and stock on hand on December 31, 1936, amounted to 8,644 tons. The remainder of the output was used in the producers' own works, chiefly at Trail, British Columbia, for the manufacture of fertilizers and at Copper Cliff, Ontario, for making nitre cake for use in the nickel smelter at that point.

An estimate of the Canadian consumption of sulphuric acid may be made by adding the production of 235,358 tons to the imports of 107 tons and deducting the exports of 1,128 tons. This calculation shows that the apparent consumption in 1936 totalled 234,317 tons.

Imports of acids of all kinds were valued at \$1,396,631 in 1936. Stearic acid, citric acid, tartaric acid and boracic acid were the more important items. Exports of acids were appraised at \$2,684,667.

Imports of inorganic chemicals totalled \$8,557,161 in 1936 including, among the more important items, sodium cyanide, sodium nitrate, zinc oxide, sulphate of alumina, liquid chlorine, calcium chloride, sodium bicarbonate, copper sulphate, tin bichloride, borax, caustic soda, sodium bichromate, sodium phosphate, litharge and sodium silicate. Exports of inorganic chemicals amounted to \$9,656,113, mostly calcium cyanide, ammonium sulphate, sodium compounds and cobalt oxides and salts.

Table 1 - PRINCIPAL STATISTICS OF THE ACIDS, ALKALIES AND SALTS INDUSTRY, 1920 - 1936.

Years	No. of plants	Capital employed	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
		\$		\$	\$	\$	\$
1920	25	28,439,339	3,033	4,774,855	1,018,354	4,448,870	16,736,068
1921	24	29,945,120	1,546	2,496,016	495,200	2,852,696	11,867,268
1922	21	30,811,922	1,880	2,437,844	516,516	2,671,177	11,756,372
1923	24	31,963,419	2,488	3,318,679	1,957,997	4,505,307	15,105,724
1924	20	30,182,113	2,121	3,025,998	1,747,137	3,788,776	16,753,201
1925	20	32,236,424	2,084	2,992,695	1,819,602	3,955,988	16,874,490
1926	19	34,589,930	2,040	3,075,649	2,140,193	3,643,357	18,526,247
1927	17	31,134,457	1,881	2,858,644	1,798,799	4,090,509	17,086,788
1928	16	40,024,624	2,517	3,490,409	2,225,883	4,998,088	21,256,286
1929	15	49,417,431	2,897	4,338,686	2,921,129	6,301,121	28,021,972
1930	17	52,314,567	2,409	3,502,834	2,490,790	4,712,471	20,111,602
1931	14	44,994,828	1,694	2,426,880	2,167,585	2,407,682	10,952,497
1932	14	44,067,194	1,679	2,211,467	2,103,675	2,283,076	11,357,649
1933	15	44,239,418	1,891	2,315,425	1,407,378	2,463,958	12,713,045
1934	16	45,033,355	2,289	2,841,853	1,872,137	3,674,265	16,494,139
1935	18	33,381,688	2,627	3,490,897	2,158,692	4,606,713	19,012,615
1936 -							
Quebec	4	11,948,736	1,049	1,266,551	687,977	1,488,738	4,168,726
Ontario	12	19,537,744	1,715	2,396,157	1,601,933	3,107,967	13,437,273
Other provinces	4	1,109,828	202	325,602	26,479	83,594	1,353,513
CANADA	20	32,596,308	2,966	3,988,310	2,316,389	4,680,299	18,959,512

Table 2 - CAPITAL EMPLOYED, 1930 - 1936.

Years	Present value of	Inventory value of	Operating	TOTAL CAPITAL EMPLOYED
	lands, buildings, machinery, tools and other equip- ment	materials on hand, stocks in process, finished products, fuel and other supplies	capital (cash, bills and accounts receivable, etc.)	
	\$	\$	\$	\$
1930	38,064,081	5,054,885	9,195,601	52,314,567
1931	31,608,809	3,385,719	10,000,300	44,994,828
1932	30,746,174	3,803,349	9,517,671	44,067,194
1933	29,840,246	3,470,243	10,928,929	44,239,418
1934	29,775,661	4,206,998	11,050,696	45,033,355
1935	25,907,178	4,172,459	3,302,051	33,381,688
1936 -				
Quebec	9,563,387	1,199,035	1,186,314	11,948,736
Ontario	14,360,737	2,921,138	2,255,869	19,537,744
Other provinces	1,047,463	53,865	8,500	1,109,828
CANADA ...	24,971,587	4,174,038	3,450,683	32,596,308

Table 3 - EMPLOYEES, SALARIES AND WAGES, 1930-1936.

Years	Average number of employees					Salaries	Wages	TOTAL SALARIES and WAGES
	On salaries		On wages		TOTAL			
	Male	Female	Male	Female				
						\$	\$	\$
1930	351	37	2,017	4	2,409	888,220	2,614,614	3,502,834
1931	341	26	1,324	3	1,694	771,271	1,655,609	2,426,880
1932	312	33	1,329	5	1,679	746,726	1,464,741	2,211,467
1933	327	39	1,521	4	1,891	780,267	1,535,158	2,315,425
1934	403	49	1,832	5	2,289	845,253	1,996,600	2,841,853
1935	584	110	1,925	8	2,627	1,227,893	2,263,004	3,490,897
1936 -								
Quebec	153	18	875	3	1,049	429,410	837,141	1,266,551
Ontario	427	91	1,191	6	1,715	804,773	1,591,384	2,396,157
Other provinces	23	3	176	...	202	62,855	262,747	325,602
CANADA ...	603	112	2,242	9	2,966	1,297,038	2,691,272	3,988,310

Table 4 - WAGE-EARNERS, BY MONTHS, 1935 and 1936.

Months	1935			1936		
	Male	Female	TOTAL	Male	Female	TOTAL
January	1,730	7	1,737	2,174	10	2,184
February	1,745	7	1,752	2,143	9	2,152
March	1,787	8	1,795	2,189	9	2,198
April	1,837	8	1,845	2,177	9	2,186
May	1,887	8	1,895	2,179	9	2,188
June	1,932	8	1,940	2,289	9	2,298
July	2,004	9	2,013	2,295	11	2,306
August	2,045	9	2,054	2,341	12	2,353
September	2,077	9	2,086	2,347	9	2,356
October	2,079	9	2,088	2,234	9	2,243
November	2,007	9	2,016	2,274	9	2,283
December	1,954	9	1,963	2,274	9	2,283
AVERAGE	1,925	8	1,933	2,242	9	2,251

Table 5 - NUMBER OF WAGE-EARNERS IN MONTH OF HIGHEST EMPLOYMENT ACCORDING TO REGULAR HOURS WORKED PER WEEK, 1936. (Overtime not included)

Regular hours worked per week	Number of wage-earners	Regular hours worked per week	Number of wage-earners
40 hours or less	734	48 hours	796
41 - 43 hours	420	51 - 53 hours	8
44 hours	384	54 hours	4
45 - 47 hours	29	56 - 59 hours	150
		Total	2,525

Table 6 - FUEL AND ELECTRICITY USED, 1935 and 1936.

Kinds	Unit of measure	1 9 3 5		1 9 3 6	
		Quantity	Cost at works	Quantity	Cost at works
		\$		\$	
Bituminous coal - Canadian short ton		1,986	11,617	2,550	14,971
Foreign short ton		140,027	636,783	148,593	660,067
Anthracite coal	short ton	200	1,599	308	2,549
Coke	short ton	1,468	14,563	684	5,808
Gasoline	Imp. gal.	1,027	213	2,266	385
Fuel oil	Imp. gal.	669,817	44,375	636,583	37,978
Gas - Natural	M cu.ft.	910	486	...	...
Other fuel	xxx	...	26,991	...	35,712
Electricity purchased	K. W. H.	774,594,093	1,422,065	812,959,908	1,558,919
TOTAL .....	\$	...	2,158,692	...	2,316,389
Electricity generated for own use	K. W. H.	77,671,797	...	85,834,385	...

Table 7 - POWER EQUIPMENT, 1935 and 1936.

Kinds	1 9 3 5		1 9 3 6	
	Number of units	Total rated horse power	Number of units	Total rated horse power
Steam engines and steam turbines ..	36	9,920	35	9,885
Gasoline, gas and oil engines .....	...	...	...	...
Hydraulic turbines and water wheels	5	8,250	5	8,250
Total Primary Equipment	41	18,170	40	18,135
Electric motors operated by purchased power	1,982	52,486	2,162	55,153
TOTAL	2,023	70,656	2,202	73,288
Electric motors operated by above primary units	554	6,704	562	6,751
Total Electric Motors	2,536	59,190	2,724	61,904
Boilers	38	11,148	35	11,117

Table 8 - POWER EQUIPMENT SUBDIVIDED BETWEEN "ORDINARILY IN USE" and "IN RESERVE OR IDLE" 1936.

Kinds	Ordinarily in use		In reserve or idle	
	Number of units	Total rated horse power	Number of units	Total rated horse power
Steam engines and steam turbines	23	7,599	12	2,286
Hydraulic turbines or water wheels ..	5	8,250	...	...
Total Primary Equipment	28	15,849	12	2,286
Electric motors operated by purchased power	2,090	48,830	72	6,323
TOTAL	2,118	64,679	84	8,609
Electric motors operated by above primary units	537	6,217	25	534
Total Electric Motors	2,627	55,047	97	6,857
Boilers	22	7,720	13	3,397

Table 9 - MATERIALS USED IN MANUFACTURING, 1935 and 1936.

Materials	Unit of measure	1935		1936	
		Quantity	Cost at works \$	Quantity	Cost at works \$
Aluminium sulphate	lb.	202,996	4,499	233,710	5,388
Ammonia liquor	lb. NH ₃	326,816	15,781	190,526	9,964
Ammonia, anhydrous	lb.	9,773	1,922	24,006	3,898
Coke (not for fuel)	ton	87,815	629,691	111,475	820,348
Coal (not for fuel)	ton	18,940	112,682	18,984	113,581
Electrodes	xx	...	214,528	...	255,296
Fluorspar	ton	2,695	34,347	3,502	46,402
Iron sulphide (pyrites)	ton	12,327	72,584	23,426	129,889
Limestone	ton	349,443	485,114	381,165	524,117
Lime, hydrated	ton	21,455	32,182	20,387	36,930
Lime, quick	ton	55,975	319,435	51,246	288,211
Silica sand and quartz	ton	13,590	63,195	13,898	66,675
Sodium carbonate (soda ash)	ton	6,158	169,651	7,308	200,068
Sodium chloride (common salt) including brine (salt content)	ton	171,391	286,358	193,114	318,824
Sodium hydroxide (caustic soda)	ton	806	52,440	1,072	65,003
Sodium nitrate	ton	743	28,769	671	25,621
Sodium silicate (water glass)	ton	3,026	84,663	3,890	109,463
Sodium sulphate (salt cake)	ton	22,485	316,734	7,219	102,176
Sulphur (brimstone)	ton	14,301	295,336	11,738	222,053
Sulphuric acid, 66° Be	ton	3,303	74,240	3,533	59,682
Containers and steel for containers. xx	xx	...	606,053	...	602,404
All other materials	xx	...	706,509	...	674,306
TOTAL .....	\$	...	4,606,713	...	4,680,299

Table 10 - IMPORTS INTO CANADA OF ACIDS AND CERTAIN INORGANIC CHEMICALS, 1936.

Commodities	Quantity	Value \$
<u>ACIDS</u>		
Inorganic acids -		
Acid, boracic, in packages not less than 25 pounds	lb. 890,110	40,402
Acid, hydrofluosilicic	lb. 20,331	2,792
Acid, muriatic	lb. 433,525	16,626
Acid, nitric	lb. 254,221	24,992
Acid, phosphoric	lb. 140,295	6,815
Acid, sulphuric	lb. 215,164	11,366
Acid, salicylic and acetyl salicylic	lb. 127,400	62,299
Organic acids -		
Acid, acetic and pyroligneous, crude, of any strength not exceeding 20%	gal. 76	111
Acid, acetic and pyroligneous, n.o.p.	gal. 1,762	2,194
Acid, citric	lb. 705,444	157,337
Acid, cresylic, for use only in the manufacture of preparations for disinfecting, dipping and spraying	lb. 86,682	5,912
Cresylic acid and compounds of cresylic acid used in concentrating ores, n.o.p.	lb. 132,585	5,510
Xanthates and sulpho-thio-phosphoric (dithio-phosphoric) compounds for use in concentrating ores, etc.	lb. 2,533,906	390,884
Acid, oxalic	lb. 261,943	26,797
Acid, stearic, n.o.p.	lb. 2,097,630	151,066
Acid, stearic, when imported by manufacturers of candles or crayons for use only in their own factories in the manufacture of candles or crayons..	lb. 218,610	16,692
Acid, tannic	lb. 44,054	24,547
Tartaric acid, crystals	lb. 818,637	164,775
Acids, others, n.o.p.	lb. 2,933,518	285,514
Total Acids	\$	1,396,631
<u>INORGANIC CHEMICALS, N.O.P.</u>		
Alum in bulk, ground or unground, but not calcined.	cwt. 18,173	26,504
Chloralum and chloride of aluminium	cwt. 429	2,001
Sulphate of iron (copperas)	cwt. 16,975	15,316
Sulphate of alumina or alum cake	cwt. 690,997	666,198
Ammonia and its compounds -		
Ammonia, nitrate of	lb. 4,082,266	131,798
Sal ammoniac	lb. 2,492,671	78,754
Sal ammoniac skimmings	lb. 502,741	15,885
Ammonia, sulphate of	cwt. 114,571	148,956
Ammonia compounds, n.o.p.	lb. 4,174,778	66,306
Antimony, arsenic, copper, tin and zinc compounds -		
Antimony salts, viz. tartar emetic, chloride and lactate (antimonine)	lb. 45,356	7,149
Arsenic, sulphide of	lb. 17,949	2,307
Arsenious oxide	lb. 529	90
Copper, sub-acetate of, or verdigris, dry	lb. 7,015	1,212
Copper sulphate (blue vitriol)	lb. 4,542,122	149,889
Copper sulphate, dehydrated for agricultural or spraying purposes	lb. 7,000	583

Table 10 - IMPORTS INTO CANADA OF ACIDS AND CERTAIN INORGANIC CHEMICALS, 1936.
(continued)

Commodities	Quantity	Value \$
<u>INORGANIC CHEMICALS, N.O.P. (continued)</u>		
Antimony, arsenic, copper, tin and zinc compounds - (concluded) -		
Tin, bichloride of, or tin crystals	lb. 185,579	46,644
Zinc, sulphate of	lb. 832,886	12,830
Zinc, chloride of	lb. 1,933,034	60,724
Zinc oxide	lb. 13,240,889	519,425
Bismuth and lead compounds -		
Bismuth salts	xx	17,068
Lead, acetate of, not ground	lb. 128,569	8,637
Lead, arsenate of	lb. 223,300	20,096
Compounds of tetraethyl lead	lb. 3,019,356	1,414,720
Lead, nitrate of, not ground	lb. 163,283	9,292
Lead, red, and orange mineral	lb. 847,859	55,353
Bromine, chlorine and iodine compounds -		
Bromine	lb. 845	623
Chlorine, liquid or chlorine gas	lb. 6,296,562	133,570
Iodine, crude	lb. 65,318	61,357
Calcium compounds -		
Arsenate of lime	lb. 276,552	16,372
Calcium chloride, in packages of not less than 25 pounds	cwt. 6,384	5,778
Calcium chloride, in packages of less than 25 pounds	lb. 197	57
Calcium chloride, not in solution, for road treating purposes	cwt. 240,538	227,429
Chloride of lime and hypochlorite of lime, in packages of less than 25 pounds	cwt. 10,101	30,527
Chloride of lime and hypochlorite of lime, in packages of less than 25 pounds	lb. 46,654	5,463
Calcium molybdate, when imported by manufacturers of steel for use exclusively in the manufacture of steel in their own works	lb. 158,621	60,363
Potash and potassium compounds, n.o.p. -		
Cream of tartar in crystals	lb. 617,258	85,660
Potash and pearl ash, in packages of not less than 25 pounds	lb. 138,722	7,625
Potash and pearl ash, in packages of less than 25 pounds	lb. 52	26
Potash, bicarbonate of	lb. 15,834	1,456
Potash, bichromate of, crude	lb. 139,735	11,556
Potash, sulphate of, crude	cwt. 72,717	104,238
Potash, muriate of, crude	cwt. 594,252	583,155
Potash, caustic, in packages of not less than 25 pounds	lb. 709,207	54,094
Potash, caustic, in packages of less than 25 pounds	lb. 1,260	450
Potash, chlorate of, not further prepared than ground	lb. 1,057,569	62,370
Potash, red and yellow prussiate of	lb. 35,199	5,919

Table 10 - IMPORTS INTO CANADA OF ACIDS AND CERTAIN INORGANIC CHEMICALS, 1936.
(concluded)

Commodities	Quantity	Value \$
<u>INORGANIC CHEMICALS, N.O.P. (concluded)</u>		
Potash and potassium compounds, n.o.p. - (concluded) -		
Saltpetre or nitrate of potash	lb. 1,471,213	60,814
Potash compounds, n.o.p.	lb. 382,870	62,665
Soda and sodium compounds, n.o.p. -		
Borax, in packages of not less than 25 pounds	lb. 6,840,585	169,170
Glauber's salt	lb. 2,510,103	27,521
Soda, arseniate, biarseniate and stannate of	lb. 6,520	1,863
Soda ash or barilla	lb. 3,184,692	43,503
Soda, bicarbonate of	lb. 11,927,818	197,904
Soda, bichromate of	lb. 2,959,488	178,167
Soda, bisulphate of, or nitre cake	lb. 1,192,806	15,727
Soda, bisulphite of	lb. 769,163	27,218
Soda, caustic, when in packages of not less than 25 pounds	lb. 4,631,192	122,182
Soda, caustic, when in packages of less than 25 pounds	lb. 53,382	6,137
Soda, caustic, in solution	lb. 97,905	2,061
Soda, chlorate of	lb. 2,581	259
Soda, hyposulphite, when imported by tanners for use in their own factories in the tanning of leather ..	lb. 1,195,227	23,916
Soda, hyposulphite of, n.o.p.	lb. 1,286,968	34,317
Soda, nitrate of, n.o.p.	cwt. 612,074	749,714
Soda, nitrite of	lb. 151,722	4,834
Soda, peroxide of	lb. 75,243	17,505
Soda, phosphate of	lb. 2,164,520	77,961
Soda, prussiate of	lb. 538,688	50,796
Soda, sulphite of	lb. 849,075	22,558
Soda, sal	lb. 258,748	6,770
Soda, cyanide of	lb. 4,409,281	633,844
Soda, silicate of, in crystals or in solution	lb. 7,607,032	107,728
Soda, sulphate of, crude, known as salt cake	lb. 23,494,805	110,676
Soda, sulphide of	lb. 4,450,605	90,037
Sodium compounds, n.o.p.	lb. 7,182,904	354,614
Other inorganic chemicals -		
Acid, phosphate, not medicinal	lb. 438,466	28,462
Hydrogen peroxide, solutions of	lb. 59,276	5,268
Magnesia (magnesium oxide)	lb. 372,692	40,182
Magnesium carbonate, when imported for use in the manufacture of rubber products	lb. 1,013,939	48,521
Magnesium sulphate or Epsom salts	lb. 3,579,069	37,928
Mercury salts	xx	4,719
Phosphorus and compounds thereof, n.o.p.	lb. 69,371	22,762
Litharge	cwt. 19,686	124,001
Radium	xx	109,032
Total Inorganic Chemicals	\$	8,557,161

Table 11 - EXPORTS FROM CANADA OF ACIDS AND INORGANIC CHEMICALS, 1936.

Commodities		Quantity	Value \$
Acid, sulphuric	cwt.	22,561	15,457
Acids, other, n.o.p.	cwt.	439,226	2,669,210
Total Acids .....	\$	...	2,684,667
Ammonium sulphate	cwt.	1,716,699	1,805,818
Calcium cyanamide	cwt.	2,556,171	2,697,897
Soda and sodium compounds	cwt.	777,947	3,964,696
Cobalt oxides and cobalt salts	lb.	484,541	556,791
Other inorganic chemicals, n.o.p.	xx	...	547,291
Acetate of lime	cwt.	63,550	83,620
Total Inorganic Chemicals .....	\$	...	9,656,113

LIST OF FIRMS INCLUDED IN THE ACIDS, ALKALIES AND SALTS INDUSTRY, 1936.

<u>Names of Companies and Location of Plants</u>	<u>Products reported in 1936.</u>
Dominion Steel & Coal Corporation Limited, Sydney, N.S.	Sulphuric acid.
Canadian Industries Limited, Shawinigan Falls, P.Q.	Hydrogen peroxide, liquid.
Electric Reduction Company of Canada, Limited, Buckingham, P.Q.	Phosphorus, phosphoric acid, ferro- phosphorus, sodium chlorate, acid calcium phosphate, di-sodium phosphate (2 hydrate and 12 hydrate), tri-sodium phosphate, sodium acid pyrophosphate, and chlorate weed killing mixture.
Shawinigan Chemicals Limited, Shawinigan Falls, P.Q.	Calcium carbide, acetylene carbon black, glacial acetic acid, acetic anhydride, butyl acetate, iso-butyl acetate, ethyl acetate, paraldehyde, croton aldehyde, vinyl acetate, pentasol acetate, hydrated lime, gelva and alvar (synthetic resins), acetone, frothing agent.
Zinc Oxide Co. of Canada, Ltd., Montreal, P.Q.	Zinc oxide.
Brunner, Mond Canada, Limited, Amherstburg, Ont.	Sodium carbonate (soda ash), tanners alkali (sodium carbonate and sodium hydroxide), super-alkali (sodium car- bonate and sodium hydroxide), and calcium chloride.
Canadian Hanson & Van Winkle Co. Ltd., 15 Morrow Avenue, Toronto, Ont.	Plating and galvanizing salts (copper cyanide, copper carbonate, zinc cyanide, nickel salts, tin salts, etc.)
Canadian Industries Limited, Copper Cliff, Ont.	Sulphuric acid, sodium bi-sulphate (nitre cake).
Canadian Industries Limited, Cornwall, Ont.	Hydrochloric acid, liquid chlorine, liquid sodium hydroxide (caustic soda).

LIST OF FIRMS INCLUDED IN THE ACIDS, ALKALIES AND SALTS INDUSTRY, 1936
(concluded)

<u>Names of Companies and Location of Plants</u>	<u>Products reported in 1936</u>
Canadian Industries Limited, Burlington St., Hamilton, Ont.	Hydrochloric acid, sulphuric acid, sodium sulphate (Glauber's salt), sodium sulphate (salt cake), soldering flux and liquid sulphur dioxide.
Canadian Industries Limited, Sandwich, Ont.	Hydrochloric acid, liquid chlorine, sodium hydroxide (caustic soda), sodium hypochlorite, synthetic anhydrous ammonia, aqua ammonia, 26°, sulphur dichloride, sulphur monochloride, ferric chloride, lye-vat alkali, bleaching powder.
Electro Metallurgical Co. of Canada, Ltd., Welland, Ont.	Calcium carbide.
H. S. & T. Crystal Co. Ltd., 169 Yonge St., Toronto, Ont.	Satin white, solvents.
National Silicates Limited, New Toronto, Ont.	Sodium silicate.
The Nichols Chemical Company Limited Sulphide, Ont.	Nitric acid, sulphuric acid, sodium bisulphate (nitre cake).
North American Cyanamid Limited, Niagara Falls, Ont.	Calcium cyanamide, cyanide, and sodium silicate.
Watts Chemical Co., 355 Weston Rd., Toronto, Ont.	Zinc oxide and zinc dust.
Canadian Industries Limited, New Westminster, B.C.	Sulphuric acid and hydrochloric acid.
Consolidated Mining & Smelting Company of Canada, Limited, Trail, B.C.	Hydrofluosilicic acid and sulphuric acid.
The Nichols Chemical Company Limited, Barnet, B.C.	Sulphuric acid.

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