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

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CHEMICALS AND ALLIED PRODUCTS

THE ACIDS, ALKALIES AND SALTS INDUSTRY, 1933.

Production from the acids, alkalies and salts industry (the heavy chemical industry) in 1933 was valued at \$12,713,045, an increase of 12 per cent over the 1932 value of \$11,357,649. Eleven firms in this group in 1933 operated 15 factories of which 9 were in Ontario, 2 in Quebec, 3 in British Columbia and 1 in Nova Scotia. These works employed capital amounting to \$44,239,418 of which \$29,840,246 represented the value of lands, buildings and equipment.

The average number of employees in 1933 was 1,891 compared with 1,679 in 1932 and payments in salaries and wages totalled \$2,315,425 as against \$2,211,467 for last year.

Production of sulphuric acid during 1933 amounted to 148,142 tons valued at \$1,702,629 at factory prices. Of this total, 65,927 tons at \$897,372 were for sale and 82,215 tons at \$805,257 were for the further use of the makers in their own acid works or in associated plants.

The directory appended to this report lists the names of the producers which have been included in this industry and indicates the chemicals manufactured in each of the plants. Owing to the fact that each of these chemicals, excepting sulphuric acid, was made in only one or two plants, it is necessary to omit detailed figures of production.

The main materials used in manufacturing are listed in Table 8. The total cost at the works of these materials was \$2,463,958 in 1933.

Table 1 - PRINCIPAL STATISTICS OF THE ACIDS, ALKALIES AND SALTS INDUSTRY, 1929 - 1933.

Years	No. of plants	Capital employed	Average number of employees	Salaries and wages	Cost of materials at works	Selling value of products at works	Value added by manufacturing
		\$		\$	\$	\$	\$
1929	15	49,417,431	2,897	4,338,686	6,301,121	28,021,972	21,720,851
1930	17	52,314,567	2,409	3,502,834	4,712,471	20,111,602	15,399,131
1931	14	44,994,828	1,694	2,426,880	2,407,682	10,952,497	8,544,315
1932	14	44,067,194	1,679	2,211,467	2,283,076	11,357,649	9,074,573
1933 -							
Ontario	9	25,621,564	1,067	1,360,986	1,539,101	8,036,397	6,497,296
Other provinces	6	18,617,854	824	954,439	924,857	4,676,648	3,751,791
CANADA	15	44,239,418	1,891	2,315,425	2,463,958	12,713,045	10,249,087

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Table 2 - CAPITAL EMPLOYED, 1929-1933.

Years	Present value	Inventory	Inventory	Operating	TOTAL CAPITAL EMPLOYED
	of lands, buildings, machinery, tools and other equip- ment	value of materials on hand, stocks in process, fuel and other supplies	value of finished products	capital (cash, bills and accounts receiv- able, etc.	
	\$	\$	\$	\$	\$
1929	35,461,088		5,294,456	8,661,887	49,417,431
1930	38,064,031		5,054,885	9,195,601	52,314,567
1931	31,608,809	2,483,133	902,586	10,000,300	44,994,828
1932	30,746,174	2,396,759	1,406,590	9,517,671	44,067,194
1933 -					
Ontario	14,082,490	1,454,067	736,809	9,348,198	25,621,564
Other provinces.	15,757,756	769,773	509,594	1,580,731	18,617,854
CANADA	29,840,246	2,223,840	1,246,403	10,928,929	44,239,418

Table 3 - EMPLOYEES, SALARIES AND WAGES, 1929-1933.

Years	AVERAGE NUMBER OF EMPLOYEES					Salaries	Wages	TOTAL SALARIES AND WAGES
	On salaries		On wages		TOTAL			
	Male	Female	Male	Female				
						\$	\$	\$
1929	354	26	2,509	8	2,897	820,290	3,518,396	4,338,686
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 -								
Ontario	186	22	855	4	1,067	409,301	951,685	1,360,986
Other provinces.	141	17	666	..	824	370,966	583,473	954,439
CANADA	327	39	1,521	4	1,891	780,267	1,535,158	2,315,425

Table 4 - WAGE-EARNERS, BY MONTHS, 1932 and 1933.

Months	1932			1933		
	1	9	3	1	9	3
	Male	Female	TOTAL	Male	Female	TOTAL
January	1,197	3	1,200	1,497	3	1,500
February	1,201	3	1,204	1,487	3	1,490
March	1,242	3	1,245	1,432	3	1,435
April	1,256	3	1,259	1,446	3	1,449
May	1,342	3	1,345	1,448	3	1,451
June	1,348	3	1,351	1,461	3	1,464
July	1,380	3	1,383	1,510	3	1,513
August	1,364	3	1,367	1,544	3	1,547
September	1,372	3	1,375	1,570	3	1,573
October	1,434	6	1,440	1,590	5	1,595
November	1,438	11	1,449	1,622	4	1,626
December	1,358	14	1,372	1,671	4	1,675
AVERAGE.....	1,329	5	1,334	1,521	4	1,525

Table 5 - NUMBER OF WAGE-EARNERS IN MONTH OF HIGHEST EMPLOYMENT, CLASSIFIED ACCORDING TO REGULAR HOURS PER WEEK, 1932 and 1933. (Overtime not included)

Regular hours worked per week	Number of wage-earners		Regular hours worked per week	Number of wage-earners	
	1932	1933		1932	1933
40 hours or less	485	519	51 - 53 hours	12	40
41 - 43 hours	310	366	54 hours	176	102
44 hours	105	99	55 hours	27	9
45 - 47 hours	82	80	56 - 59 hours	157	199
48 hours	139	163	60 hours	32	20
49 - 50 hours	60	48	Over 60 hours	35	79

Table 6 - FUEL AND ELECTRICITY USED, 1932 and 1933.

Kinds	Unit of measure	1932		1933	
		Quantity	Cost at works	Quantity	Cost at works
		\$		\$	
Bituminous coal - Canadian ..	short ton	184	1,114
Foreign ...	short ton	88,092	337,216	90,333	317,881
Anthracite coal	short ton	222	1,633	282	2,078
Coke	short ton	373	3,121	439	3,931
Gasoline	Imp. gal.	598	109	1,950	393
Fuel oil	Imp. gal.	51,833	3,718	161,073	12,044
Other fuel	xx	...	12,225	...	19,497
Electricity purchased	K.W.H.	727,131,543	1,745,653	481,068,617	1,050,440
TOTAL	xxx	...	2,103,675	...	1,407,378
Electricity generated for own use	K.W.H.	71,578,732	...	52,647,877	...

Table 7 - POWER EQUIPMENT, 1932 and 1933.

Kinds	1932		1933	
	Number of units	Total rated horse power	Number of units	Total rated horse power
Steam engines and steam turbines	41	11,568	37	10,042
Gasoline, gas and oil engines	1	135	1	135
Hydraulic turbines and water wheels ...	5	8,250	5	8,250
Total Primary Equipment	47	19,953	43	18,427
Electric motors operated by purchased power	1,041	32,970	1,116	35,063
TOTAL	1,088	52,923	1,159	53,490
Electric motors operated by above primary units	398	5,977	397	5,972
Total Electric Motors	1,439	38,947	1,513	41,035
Boilers	32	10,333	33	9,788

Table 8 - MATERIALS USED IN MANUFACTURING, 1932 and 1933.

Materials	Unit of measure	1932		1933	
		Quantity	Cost at works	Quantity	Cost at works
		\$		\$	
Ammonium sulphate	lb.	219,690	3,736	176,370	2,791
Ammonia liquor	lb.NH ₃	214,397	8,683	212,930	9,149
Ammonia, anhydrous	lb.	10,350	1,847	16,447	3,241
Calcium carbonate (limestone)	ton	296,965	340,004	215,111	312,832
Calcium fluoride (fluorspar)	ton	1,853	25,137	1,520	13,815
Coke (not for fuel)	ton	66,425	442,434	61,046	397,164
Coal (not for fuel)	ton	18,228	112,117	18,290	112,659
Electrodes	ton	2,277	185,339	1,972	134,551
Iron sulphide (pyrites)	ton	12,465	85,823	13,140	89,009
Silica sand and quartz	ton	6,342	20,921	5,800	21,714
Sodium carbonate (soda ash)	ton	199	6,343	1,660	45,263
Sodium chloride (common salt) including brine (salt content)	ton	106,003	89,059	115,703	159,326
Sodium hydroxide (caustic soda)	ton	515	33,650	422	28,167
Sodium nitrate (Chilean saltpetre)	ton	464	21,300	390	15,355
Sodium silicate (waterglass)	ton	15	1,643	459	14,886
Sodium sulphate (salt cake)	ton	94	1,811	9,929	141,322
Sulphur (brimstone)	ton	9,101	180,269	11,476	236,455
Sulphuric acid (66° Be)	ton	1,753	35,151	2,743	54,306
Containers and steel for containers ..	xx	...	172,296	...	309,580
All other materials	xx	...	515,513	...	361,873
TOTAL	xx	...	2,283,076	...	2,463,959

LIST OF FIRMS INCLUDED IN THE ACIDS, ALKALIES AND SALTS INDUSTRY, 1933.

<u>Names of Companies</u>	<u>Location of Plants</u>	<u>Products reported in 1933.</u>
Dominion Steel & Coal Corporation Limited	Sydney, N.S.	Sulphuric acid.
Electric Reduction Co. Limited	Buckingham, P.Q.	Phosphorus, phosphoric acid and ferro-phosphorus, sodium chlorate and acid calcium phosphate.
Shawinigan Chemicals Limited	Shawinigan Falls, P.Q.	Calcium carbide, acetylene, acetylene carbon black, glacial acetic acid, butyl acetate, ethyl acetate, paraldehyde, croton aldehyde, vinyl acetate, pentasol acetate, hydrated lime, vinyl acetate resins.
American Cyanamid Company	Niagara Falls, Ont.	Calcium cyanamide, sodium cyanide, and sodium silicate.
Brunner, Mond Canada, Limited	Amherstburg,	Sodium carbonate (soda ash), tanners' alkali (sodium carbonate and sodium hydroxide), and super-alkali (sodium carbonate and sodium hydroxide).
Canadian Hanson & Van Winkle Co. Ltd.	15 Morrow Ave., Toronto, Ont.	Plating and galvanizing salts (copper cyanide, copper carbonate, zinc cyanide, nickel salts, etc.)
Canadian Industries Limited	Copper Cliff, Ont.	Sulphuric acid, sodium bisulphate (nitre cake).
Canadian Industries Limited	Burlington St. Hamilton, Ont.	Acetic acid, hydrochloric acid, sulphuric acid, sodium sulphate (Glauber's salt), sodium sulphate (salt cake), soldering flux, sulphur dioxide (liquid), and sodium silicate.
Canadian Industries Limited	Sandwich, Ont.	Hydrochloric acid, liquid chlorine, sodium hydroxide (caustic soda), sodium hypochlorite, synthetic anhydrous ammonia, and sulphur dichloride.
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).
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.

