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## ANNUAL INDUSTRY REPORT

## CHEMICALS AND ALLIED PRODUCTS GROUP

## THE COMPRESSED GASES INDUSTRY, 1941

Manufacturing plants in Canada engaged chiefly in making industrial gases reported production in 1941 at \$6,345,140 compared with \$4,934,313 in 1940, an increase of 28.6 per cent.

There were 35 factories in operation during 1941, of which 16 were located in Ontario, 3 in Quebec, 3 in Manitoba, 3 in Nova Scotia, 2 in Alberta, 2 in British Columbia and 1 in Saskatchewan. Capital employed by these establishments amounted to \$7,628,433, and of this \$3,720,000 was the value of land, buildings and equipment, \$622,941 the value placed on inventories and \$3,268,463 was the amount of working capital at the end of the year.

The average number of employees in the industry in 1941 was 360, including 447 salaried workers and 417 wage-earners. Salaries for the year amounted to \$827,593 and wages totalled \$649,335.

The chief products were oxygen, acetylene and carbon dioxide. The output of oxygen increased 33.4 per cent to 356,633,955 cubic feet, acetylene increased 15 per cent to 71,731,386 cubic feet and carbon dioxide gained 18 per cent to 16,805,030 pounds. Output of hydrogen increased 25 per cent to 57,568,031 cubic feet. Aqua ammonia, anhydrous ammonia, nitrogen and nitrous oxide were other products of this industry and were produced in about the same quantities as in 1940.

Table 1 - PRINCIPAL STATISTICS FOR THE COMPRESSED GASES INDUSTRY, 1935 - 1941

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
1935 ....	28	4,316,244	510	741,631	137,134	433,045
1936 ....	28	4,565,540	538	823,714	141,305	400,041
1937 ....	27	4,805,170	606	919,773	140,321	527,410
1938 ....	30	4,938,766	654	1,018,694	147,922	506,005
1939 ....	31	5,501,030	672	1,037,713	158,372	501,108
1940 ....	31	5,308,557	736	1,103,462	178,083	648,250
1941 ....	35	7,628,433	360	1,446,884	210,549	945,836
% change, 1941 from 1940 ....		+41.5	+10.8	+31.1	+21.2	+45.9
See NOTE on Page 2.						+28.6

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NOTE to Table 1 - Profits or losses cannot be calculated from figures given in Table 1 as data are not available for general expense items, such as, interest, rent, depreciation, taxes, insurance, advertising, etc.

Table 2 - PRINCIPAL STATISTICS, BY PROVINCES, 1940 and 1941

Province	Number 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
			\$	\$	\$	\$	\$
<b>1940</b>							
Quebec .....	6	1,316,000	147	226,517	40,033	161,787	1,327,765
Ontario .....	14	2,573,042	370	570,832	84,404	238,729	2,095,083
Manitoba .....	3	300,112	57	83,825	10,626	46,367	403,012
Nova Scotia ....	3	434,254	59	85,455	21,547	49,044	532,680
Saskatchewan ...	1)						
Alberta .....	2)	680,050	103	137,873	21,023	101,432	727,763
British Columbia	2)						
CANADA ....	31	5,393,557	736	1,103,462	178,633	543,259	4,954,313
<b>1941</b>							
Quebec .....	8	1,973,303	129	336,278	51,785	260,785	1,748,779
Ontario .....	16	3,530,555	425	732,697	107,567	415,176	2,743,975
Manitoba .....	3	524,008	50	93,602	11,330	62,303	466,770
Nova Scotia ....	5	575,061	66	110,312	20,935	69,024	478,118
Saskatchewan ...	1)						
Alberta .....	2)	969,511	111	168,305	24,213	138,695	907,498
British Columbia	2)						
CANADA ....	35	7,623,433	860	1,446,384	216,549	945,836	6,345,140

Table 3 - SIZE OF ESTABLISHMENTS, 1941

	Number of plants	Capital employed	Average number of employees	Gross selling value of products at works
		\$		\$
<b>(a) PRODUCTION</b>				
Under \$50,000 .....	3	791,000	89	317,213
\$50,000 to \$100,000 .....	7	920,543	62	491,105
Over \$100,000 .....	19	5,846,926	799	5,536,322
TOTAL .....	55	7,623,433	860	6,345,140
<b>(b) EMPLOYEES</b>				
1 to 10 .....	13	934,467	30	984,300
11 to 20 .....	10	1,762,445	141	1,240,210
Over 20 .....	12	4,271,526	629	4,119,834
TOTAL .....	35	7,623,433	860	6,345,140
<b>(c) CAPITAL EMPLOYED</b>				
Under \$50,000 .....	4	85,422	37	770,307
\$50,000 to \$100,000 .....	9	600,690	37	973,206
\$100,000 to \$200,000 .....	13	1,261,825	102	1,423,408
Over \$200,000 .....	12	5,671,501	544	3,107,530
TOTAL .....	35	7,623,433	860	6,345,140

Table 4 - CAPITAL EMPLOYED, 1940 and 1941

Province	Inventory value			TOTAL CAPITAL EMPLOYED
	Present value of land, buildings, machinery, tools and other equipment	of materials on hand, stocks in process, fuel, finished products and miscellaneous supplies on hand	Operating capital (cash, bills and accounts receivable, prepaid expenses, etc.)	
<u>1940</u>				
Quebec .....	893,135	82,541	333,425	1,316,099
Ontario .....	1,307,384	275,594	334,564	2,578,042
Manitoba .....	258,228	43,241	83,643	300,112
Other provinces	707,625	67,532	242,147	1,114,304
CANADA ...	3,262,870	469,908	1,605,779	5,508,557
<u>1941</u>				
Quebec .....	1,110,290	160,579	702,434	1,973,303
Ontario .....	1,512,023	344,653	1,720,279	5,536,555
Manitoba .....	257,023	48,338	217,747	524,008
Other provinces	830,793	86,371	613,408	1,544,572
CANADA ...	3,720,023	639,941	3,268,468	7,622,433

Table 5 - EMPLOYEES, SALARIES AND WAGES, 1940 and 1941

Province	Average Number of Employees						TOTAL SALARIES and WAGES	
	On Salaries		On Wages		TOTAL	Salaries		
	Male	Female	Male	Female		Wages		
<u>1940</u>								
Quebec .....	52	13	77	...	147	124,135	102,582	226,517
Ontario .....	134	58	177	1	370	348,003	221,929	570,932
Manitoba .....	19	9	20	...	57	45,073	38,512	83,585
Other provinces	46	31	85	...	162	127,784	95,044	222,828
CANADA ...	251	116	363	1	736	645,895	457,567	1,103,462
<u>1941</u>								
Quebec .....	62	36	101	...	199	134,568	141,710	336,278
Ontario .....	160	74	189	2	425	438,032	293,765	731,697
Manitoba .....	17	11	31	...	59	53,651	44,951	98,602
Other provinces	46	37	94	...	177	140,443	138,350	279,307
CANADA ...	285	153	415	2	860	827,500	619,265	1,446,884

Table 6 - WAGE-EARNERS, BY MONTHS, 1940 and 1941

Month	1940 : 1941				Month	1940 : 1941			
	Male	Female	Male	Female		Male	Female	Male	Female
January ...	313	1	330	1	July .....	394	1	443	2
February ..	312	1	336	1	August ....	393	1	450	2
March .....	315	1	392	1	September ..	374	1	431	2
April .....	322	1	403	1	October ...	363	1	405	2
May .....	341	1	414	1	November ..	360	1	403	2
June .....	370	1	441	1	December ..	360	1	485	2
					Average ..	362	1	415	2

Table 7 - HOURS WORKED PER WEEK BY WAGE-EARNERS, 1941 (In one week of month of highest employment; including overtime)

Hours worked per week	Number of wage-earners	Per cent of total	Hours worked per week	Number of wage-earners	Per cent of total
50 hours or less ..	13	2.7	55 hours .....	2	0.4
51 - 45 hours ..	20	4.2	56 - 64 hours .....	70	14.7
44 hours .....	13	4.0	65 hours and over ..	26	5.4
45 - 47 hours ..	10	2.1	TOTAL .....	477	100.0
48 hours .....	275	57.7	Total wages paid in selected week ....	118,405	
49 - 50 hours ..	17	3.5			
51 - 54 hours ..	15	5.2			

Table 8 - FUEL AND ELECTRICITY USED, 1940 and 1941

Kind	Unit of measure	1940		1941	
		Quantity	Cost at works	Quantity	Cost at works
Bituminous coal - Canadian	ton	634	\$,042	1,002	7,770
Imported	ton	415	8,775	568	8,647
Anthracite coal .....	ton	135	1,760	314	2,341
Coke (for fuel only) .....	ton	797	3,174	1,001	4,428
Gasoline .....	Imp.gal.	2,299	502	2,180	638
Fuel oil .....	Imp.gal.	72,204	4,386	11,520	503
Gas - Manufactured .....	10 cu.ft.	572	336	704	272
Natural .....	10 cu.ft.	2,105	614	2,085	1,711
Other fuel .....	...	...	4,967	...	5,924
Electricity purchased ....	K.W.H.	16,477,810	153,542	25,141,638	150,047
TOTAL .....	...	...	178,683	...	216,549

Table 9 - POWER EQUIPMENT, 1940 and 1941

Kind	Ordinarily in Use		In Reserve or Idle	
	Number of units	Total rated horse power	Number of units	Total rated horse power

1940				
Steam engines and steam turbines	6	361	...	...
Electric motors run by purchased power .....	638	6,460	10	140
TOTAL .....	846	8,801	10	140
Stationary boilers .....	5	517	...	...

1941				
Steam engines and steam turbines	4	361	...	...
Electric motors run by purchased power .....	531	7,570	14	222
TOTAL .....	665	7,731	14	222
Stationary boilers .....	2	500	...	...

Table 10 - MATERIALS USED, 1940 and 1941

Material	Unit of measure	1940		1941	
		Quantity	Cost at works	Quantity	Cost at works
Acetone .....	pound	231,890	\$7,092	303,031	43,510
Calcium carbide .....	ton	6,641	477,806	9,084	604,386
Coke .....	ton	4,944	58,115	5,113	70,825
Other materials (x) .....	...	...	122,756	...	100,636
Cylinders purchased during the year	number	...	2,400	...	36,179
TOTAL .....			643,259		345,836

(x) Includes ammonia liquor, ammonium nitrate, potassium carbonate, unpurified brewery gas, lime, soda ash, condensing water, etc.

Table 11 - PRODUCTS MANUFACTURED, 1940 and 1941

Product	Unit of measure	1940		1941	
		Quantity	Selling value at works	Quantity	Selling value at works
Acetylene (in cylinders) .. cu.ft.		62,075,617	1,462,201	71,791,386	1,898,679
Carbon dioxide (in cylinders and solid) .....	pound	14,156,284	737,722	16,805,050	954,535
Hydrogen .....	cu.ft.	45,784,089	154,063	57,566,031	175,096
Oxygen (in cylinders) .... cu.ft.		257,510,584	2,312,387	356,653,855	2,945,542
Other products .....	...	...	317,990	...	370,380
TOTAL .....		...	4,934,513	...	6,345,140

Table 12 - PRODUCTION OF ACETYLENE, CARBON DIOXIDE, AND OXYGEN, 1918-1941

Year	Acetylene in cylinders	Carbon dioxide, solid and in cylinders	Oxygen
	Cubic feet	Pounds	Cubic feet
1918 .....	5,484,755	2,742,632	33,330,000
1919 .....	11,604,646	3,571,681	34,768,587
1920 .....	10,121,701	3,522,149	54,618,400
1921 .....	15,663,702	3,567,431	53,612,271
1922 .....	17,651,500	3,263,908	52,448,007
1923 .....	21,729,103	5,355,623	72,637,043
1924 .....	19,220,042	5,428,053	63,331,575
1925 .....	24,384,431	3,650,547	63,635,153
1926 .....	27,314,736	3,800,584	36,330,015
1927 .....	31,105,053	4,700,510	112,757,727
1928 .....	37,342,101	5,532,875	132,628,610
1929 .....	46,000,766	6,818,800	160,066,394
1930 .....	44,181,316	7,460,845	152,410,201
1931 .....	57,048,521	6,437,150	120,328,727
1932 .....	38,744,051	7,161,477	92,628,715
1933 .....	52,387,312	6,287,017	93,511,573
1934 .....	37,500,546	5,630,801	112,040,515
1935 .....	30,322,683	8,307,160	126,259,700
1936 .....	41,315,830	10,124,202	151,500,600
1937 .....	48,310,646	9,183,645	124,446,735
1938 .....	45,394,062	11,530,034	173,292,206
1939 .....	48,310,265	12,645,575	189,050,337
1940 .....	62,075,617	14,153,234	257,510,584
1941 .....	71,791,386	16,205,030	356,653,855



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## Compressed Gases

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Table 13 - CONSUMPTION OF CARBON DIOXIDE IN THE MANUFACTURE OF CARBONATED BEVERAGES  
(SOFT DRINKS), 1935 - 1940

Year	Quantity	Cost at works
		Pounds \$
1935	2,426,063	203,672
1936	3,401,510	261,282
1937	4,265,643	328,570
1938	5,250,320	383,524
1939	4,357,744	403,068
	Solid .....	763,733
		44,813
1940	5,769,075	632,961
	Solid .....	1,361,055
		95,787