

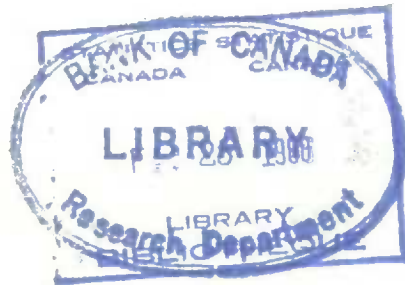
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MANUFACTURERS OF INDUSTRIAL CHEMICALS

1963

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A - Annual

O - Occasional

M - Monthly

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MANUFACTURERS OF INDUSTRIAL CHEMICALS

1963

Data presented in this report under the heading of Manufacturers of Industrial Chemicals reflect implementation of the revised Standard Industrial Classification (S.I.C.) and the New Establishment Concept which are being used by the Dominion Bureau of Statistics in its industry statistics compilations - see items "Standard Industrial Classification" and "Establishment" in the Explanatory Notes section of this report.

For statistical purposes the industry titled Manufacturers of Industrial Chemicals in the revised Standard Industrial Classification covers the operations of establishments primarily engaged in manufacturing basic industrial inorganic chemicals such as acids, alkalis, salts, compressed gases and other inorganic compounds or in manufacturing industrial organic chemicals by chemical processes.

This industry includes establishments primarily engaged in manufacturing dry colours, pigments, white lead, lead oxides, iron oxides and titanium oxide and in manufacturing dyes. Included also are establishments primarily engaged in manufacturing synthetic rubber and those primarily engaged in manufacturing compressed organic gases.

Establishments primarily engaged in manufacturing coke are classified in the Iron and Steel Mills industry or in the Other Petroleum and Coal Products industry; petroleum refineries are classified in the Petroleum Refineries industry; establishments primarily engaged in manufacturing plastics materials are classified in the Manufacturers of Plastics and Synthetic Resins industry; establishments primarily engaged in manufacturing superphosphates and mixed fertilizers are classified in the Manufacturers of Mixed Fertilizers industry.

Separate figures for the production of chemicals in this industry are not published as many of the individual items are made by only one or two firms. However, figures for the several items which are available for publication, such as ammonium sulphate, pigments and colours, synthetic rubber, acetylene and oxygen, sulphuric acid, chlorine and caustic soda, are shown in Tables 9 to 17.

SYMBOLS

The following standard symbols are used in Dominion Bureau of Statistics publications:

- .. figures not available.
- ... figures not appropriate or not applicable.
- nil or zero.
- amount too small to be expressed.
- p preliminary figures.
- r revised figures.
- x confidential to meet secrecy requirements of the Statistics Act.

TABLE 1 A. Principal Statistics classified by Province, 1962 and 1963

Year and province	Estab-lish-ments	Manufacturing activity							Total activity				
		Production and related workers			Cost of fuel and elec-tricity	Cost of materials and supplies	Value of shipments of goods of own manu-facture	Value added	Working owners and partners		Total employees		Total value added
		Number	Man-hours paid	Wages					Number	With-drawals	Number	Salaries and wages	
No.		'000			\$'000				\$'000			\$'000	
1961													
Totals	125	10,791	23,485	55,798	42,001	181,624	478,690	260,137	x	x	16,748	91,686	270,688
1962													
Newfoundland	1												
Prince Edward Island	-												
Nova Scotia	4	57	125	244	104	375	2,295	1,819	x	x	131	570	2,219
New Brunswick	3												
Quebec	31	2,252	4,885	12,478	7,421	35,757	91,442	47,763	-	-	3,254	18,829	50,281
Ontario	56	6,473	14,186	35,529	29,714	121,176	327,052	174,728	-	-	10,342	60,421	182,484
Manitoba	4												
Saskatchewan	2	57	115	235	60	627	2,658	1,970	-	-	140	606	2,614
Alberta	9	736	1,618	3,801	2,647	13,871	44,686	27,085	-	-	1,190	6,384	27,520
British Columbia	16	1,020	2,141	5,096	2,811	19,162	49,066	27,542	-	-	1,451	7,574	28,054
Yukon and Northwest Territories	-	-	-	-	-	-	-	-	-	-	-	-	-
Totals	126	10,595	23,069	57,382	42,756	190,967	517,199	280,908	x	x	16,508	94,384	293,173
1963													
Newfoundland	1	x	x	x	x	x	x	x	-	-	x	x	x
Prince Edward Island	-	-	-	-	-	-	-	-	-	-	-	-	-
Nova Scotia	4	39	80	163	84	244	1,428	1,095	-	-	91	392	1,419
New Brunswick	3	x	x	x	x	x	x	x	-	-	x	x	x
Quebec	33	2,771	6,015	14,949	8,375	43,270	102,082	52,695	-	-	3,955	22,661	56,531
Ontario	56	8,741	14,818	37,853	31,370	140,562	347,688	177,990	-	-	10,684	64,160	189,277
Manitoba	4	40	86	173	49	502	1,969	1,417	-	-	109	469	2,016
Saskatchewan	2	x	x	x	x	x	x	x	-	-	x	x	x
Alberta	11	760	1,673	4,165	3,125	17,373	49,043	28,875	-	-	1,225	7,013	29,724
British Columbia	15	1,004	2,113	5,208	3,018	18,710	49,654	26,707	-	-	1,422	7,743	27,707
Yukon and Northwest Territories	-	-	-	-	-	-	-	-	-	-	-	-	-
Totals	129	11,402	24,885	62,731	46,115	221,067	553,762	290,194	-	-	17,587	102,935	308,831

TABLE 1B. Principal Statistics classified by Size Groups based on Shipments of Goods of Own Manufacture, 1962 and 1963

Size group	Estab- lish- ments	Manufacturing activity						Total activity					
		Production and related workers			Cost of fuel and elec- tricity	Cost of materials and supplies	Value of shipments of goods of own manu- facture	Value added	Working owners and partners		Total employees		Total value added
		Number	Man- hours paid	Wages					Number	With- drawals	Number	Salaries and wages	
No.		'000			\$'000			\$'000		\$'000			
1962													
Under \$10,000													
\$ 10,000 to \$ 24,999	3	6	10	20	2	45	88	41	x	x	8	32	73
25,000 " 49,999													
50,000 " 99,999	3	6	11	21	8	81	255	167	-	-	11	52	188
100,000 " 199,999	11	42	95	176	36	828	1,780	950	-	-	73	306	1,093
200,000 " 499,999	29	228	476	1,052	502	3,353	9,862	6,205	-	-	503	2,403	7,897
500,000 " 999,999	20	318	683	1,398	457	5,016	14,135	8,778	-	-	578	2,719	10,354
1,000,000 " 4,999,999	33	1,416	3,077	7,204	4,264	24,489	66,030	37,818	-	-	2,343	12,351	40,507
5,000,000 and over	27	8,579	18,716	47,511	37,488	157,154	425,048	226,949	-	-	12,586	73,947	230,940
Head offices, sales offices and auxiliary units	...	...	...	...	...	...	...	...	...	...	406	2,574	2,120
Totals	126	10,595	23,069	57,382	42,756	190,967	517,199	280,908	x	x	16,508	94,384	293,173
1963													
Under \$10,000													
\$ 10,000 to \$ 24,999													
25,000 " 49,999													
50,000 " 99,999	4	22	46	108	60	122	213	48	-	-	36	170	135
100,000 " 199,999	13	59	123	239	47	828	2,012	1,144	-	-	151	657	3,130
200,000 " 499,999	27	181	384	792	224	2,989	8,389	4,978	-	-	383	1,811	7,436
500,000 " 999,999	20	308	685	1,422	470	4,695	13,742	8,579	-	-	591	2,918	11,092
1,000,000 " 4,999,999	38	1,745	3,802	9,025	5,974	34,751	85,081	46,226	-	-	2,867	15,533	49,890
5,000,000 and over	27	9,087	19,846	51,146	39,341	177,683	444,326	229,220	-	-	13,212	79,354	235,078
Head offices, sales offices and auxiliary units	...	...	...	...	...	...	...	...	...	...	347	2,492	2,070
Totals	129	11,402	24,885	62,731	46,115	221,067	553,762	290,194	-	-	17,587	102,935	308,831

TABLE 1C. Principal Statistics classified by Size Groups based on Manufacturing Value Added, 1962 and 1963

Size group	Estab- lish- ments	Manufacturing activity						Total activity					
		Production and related workers			Cost of fuel and elec- tricity	Cost of materials and supplies	Value of shipments of goods of own manu- facture	Value added	Working owners and partners		Total employees		Total value added
		Number	Man- hours paid	Wages					Number	With- drawals	Number	Salaries and wages	
No.		'000			\$'000			\$'000		\$'000			
1962													
Under \$10,000													
\$ 10,000 to \$ 24,999	6	15	33	63	13	280	399	109	x	x	22	101	153
25,000 " 49,999													
50,000 " 99,999	8	50	108	217	40	996	1,638	587	-	-	78	359	601
100,000 " 199,999	15	107	235	502	382	4,456	6,883	2,183	-	-	165	847	2,500
200,000 " 499,999	34	449	986	2,016	554	8,384	19,533	10,628	-	-	811	3,860	12,052
500,000 " 999,999	24	620	1,350	3,109	1,860	11,003	28,890	16,394	-	-	1,165	6,104	18,589
1,000,000 " 4,999,999	23	1,981	4,406	10,476	8,324	32,898	100,258	58,646	-	-	2,947	16,246	61,590
5,000,000 and over	16	7,373	15,950	41,000	31,584	132,950	359,598	192,361	-	-	10,914	64,293	195,569
Head offices, sales offices and auxiliary units	...	...	...	...	...	...	...	...	...	...	406	2,574	2,120
Totals	126	10,595	23,069	57,382	42,756	190,967	517,199	280,908	x	x	16,508	94,384	293,173
1963													
Under \$10,000													
\$ 10,000 to \$ 24,999	3	35	65	110	13	419	455	21	-	-	94	451	1,583
25,000 " 49,999	5	26	54	116	66	480	631	106	-	-	42	187	155
50,000 " 99,999	10	48	102	195	23	1,163	1,836	689	-	-	100	449	1,837
100,000 " 199,999	16	98	205	439	149	2,835	5,363	2,144	-	-	145	694	2,484
200,000 " 499,999	30	422	936	1,974	1,349	10,103	21,241	10,220	-	-	766	3,849	12,429
500,000 " 999,999	21	594	1,357	3,175	1,436	15,198	31,768	15,800	-	-	1,087	5,855	18,514
1,000,000 " 4,999,999	29	2,590	5,565	13,644	10,714	48,439	131,792	73,619	-	-	3,850	21,507	76,875
5,000,000 and over	15	7,589	16,600	43,079	32,367	142,431	360,674	187,596	-	-	11,156	67,450	192,883
Head offices, sales offices and auxiliary units	...	...	...	...	...	...	...	...	...	...	347	2,492	2,070
Totals	129	11,402	24,885	62,731	46,115	221,067	553,762	290,194	-	-	17,587	102,935	308,831

TABLE 1 D. Principal Statistics classified by Size Groups based on Total Value Added, 1962 and 1963

Size group	Estab-lish-ments	Manufacturing activity							Total activity				
		Production and related workers			Cost of fuel and elec-tricity	Cost of materials and supplies	Value of shipments of goods of own manu-facture	Value added	Working owners and partners		Total employees		Total value added
		Number	Man-hours paid	Wages					Number	With-drawals	Number	Salaries and wages	
	No.		'000			\$'000			\$'000		\$'000		
1962													
Under \$10,000													
\$ 10,000 to \$ 24,999	5	13	30	55	7	263	335	68	x	x	18	86	100
25,000 "													
50,000 "	10	59	129	261	59	1,553	2,330	731	-	-	91	427	753
100,000 "	12	88	191	415	344	3,601	5,537	1,702	-	-	134	695	1,771
200,000 "	33	417	930	1,896	526	8,422	18,760	9,845	-	-	693	3,360	11,008
500,000 "	24	552	1,206	2,730	1,754	9,396	26,024	15,210	-	-	1,050	5,468	16,878
1,000,000 "	25	1,967	4,362	10,416	7,517	33,594	97,529	56,066	-	-	3,028	16,560	59,895
5,000,000 and over	17	7,499	16,221	41,608	32,548	134,139	366,683	197,286	-	-	11,088	65,215	200,648
Head offices, sales offices and auxiliary units	...	...	...	...	...	...	...	...	...	...	406	2,574	2,120
Totals	126	10,595	23,069	57,382	42,756	190,967	517,199	280,908	x	x	16,508	94,384	293,173
1963													
Under \$10,000													
\$ 10,000 to \$ 24,999													
25,000 "	3	22	45	97	58	445	519	36	-	-	34	150	31
50,000 "	8	27	59	122	21	764	1,194	434	-	-	46	233	528
100,000 "	16	99	207	435	142	2,947	5,367	2,048	-	-	137	656	2,285
200,000 "	28	361	801	1,660	922	8,794	17,620	8,212	-	-	616	3,057	9,917
500,000 "	27	620	1,381	3,187	1,654	15,068	31,966	15,958	-	-	1,207	6,380	20,568
1,000,000 "	32	2,684	5,791	14,151	10,952	50,618	136,422	75,910	-	-	4,044	22,516	80,549
5,000,000 and over	15	7,589	16,600	43,079	32,367	142,431	360,674	187,596	-	-	11,156	67,450	192,883
Head offices, sales offices and auxiliary units	...	...	...	...	...	...	...	...	...	...	347	2,492	2,070
Totals	129	11,402	24,885	62,731	46,115	221,067	553,762	290,194	-	-	17,587	102,935	208,831

TABLE 1 E. Principal Statistics classified by Size Groups based on Total Employed, 1962 and 1963

Size group	Estab-lish-ments	Manufacturing activity							Total activity				
		Production and related workers			Cost of fuel and elec-tricity	Cost of materials and supplies	Value of shipments of goods of own manu-facture	Value added	Working owners and partners		Total employees		Total value added
		Number	Man-hours paid	Wages					Number	With-drawals	Number	Salaries and wages	
	No.		'000			\$'000			\$'000		\$'000		
1962													
Under 5 employed	12	25	52	107	29	766	1,843	1,053	x	x	35	168	1,203
5 - 14 employed	23	124	273	573	137	2,205	7,178	4,898	-	-	211	995	5,642
15 - 49 "	40	673	1,485	3,223	2,421	15,014	34,988	18,042	-	-	1,129	5,750	19,746
50 - 99 "	22	906	2,004	4,951	4,408	23,691	66,505	37,085	-	-	1,498	8,441	38,939
100 - 199 "	12	1,209	2,686	6,737	8,198	22,051	72,217	41,683	-	-	1,679	9,672	43,421
200 - 499 "	9	1,580	3,498	7,828	4,361	30,062	79,317	44,668	-	-	2,511	13,082	46,236
500 employed and over	8	6,078	13,071	33,963	23,203	97,179	255,151	133,479	-	-	9,039	53,704	135,864
Head offices, sales offices and auxiliary units	...	...	...	...	...	...	...	...	...	...	406	2,574	2,120
Totals	126	10,595	23,069	57,382	42,756	190,967	517,199	280,908	x	x	16,508	94,384	293,173
1963													
Under 5 employed	8	16	39	80	19	722	1,491	747	-	-	24	136	846
5 - 14 employed	27	155	331	716	208	2,955	8,077	4,729	-	-	249	1,236	5,821
15 - 49 "	39	613	1,365	3,013	2,991	17,275	38,789	19,281	-	-	1,094	5,735	23,249
50 - 99 "	25	1,068	2,319	5,811	5,067	28,022	77,284	44,110	-	-	1,738	9,844	47,768
100 - 199 "	13	1,382	3,126	8,100	8,038	29,299	76,204	39,776	-	-	1,924	11,539	42,045
200 - 499 "	9	1,660	3,627	8,418	4,856	33,595	86,843	49,324	-	-	2,637	14,291	50,601
500 employed and over	8	6,508	14,078	36,593	24,916	109,198	265,074	132,227	-	-	9,574	57,662	136,430
Head offices, sales offices and auxiliary units	...	...	...	...	...	...	...	...	...	...	347	2,492	2,070
Totals	129	11,402	24,885	62,731	46,115	221,067	553,762	290,194	-	-	17,587	102,935	308,831

TABLE 1 F. Principal Statistics classified by Type of Organization, 1962 and 1963

Type of organization	Estab-lish-ments	Manufacturing activity						Total activity					
		Production and related workers			Cost of fuel and elec-tricity	Cost of materials and supplies	Value of shipments of goods of own manu-facture	Value added	Working owners and partners		Total employees		Total value added
		Number	Man-hours paid	Wages					Number	With-drawals	Number	Salaries and wages	
No.		'000			'000				'000		'000		
1962													
Individual ownerships	-	-	-	-	-	-	-	-	-	-	-	-	
Partnerships	126	10,595	23,069	57,382	42,756	190,967	517,199	280,908	x	x	16,102	91,810	291,053
Incorporated companies													
Cooperatives	-	-	-	-	-	-	-	-	-	-	-	-	
Head offices, sales offices and auxiliary units	406	2,574	2,120
Totals	126	10,595	23,069	57,382	42,756	190,967	517,199	280,908	x	x	16,588	94,384	293,173
1963													
Individual ownerships	-	-	-	-	-	-	-	-	-	-	-	-	
Partnerships	-	-	-	-	-	-	-	-	-	-	-	-	
Incorporated companies	129	11,402	24,885	62,731	46,115	221,067	553,762	290,194	-	-	17,240	100,443	306,761
Cooperatives	-	-	-	-	-	-	-	-	-	-	-	-	
Head offices, sales offices and auxiliary units	347	2,492	2,070
Totals	129	11,402	24,885	62,731	46,115	221,067	553,762	290,194	-	-	17,587	102,935	308,831

TABLE 2. Industry Output, Input and Value Added, 1962 and 1963

	Manufacturing activity		Non-manufacturing activities		Total activity	
	1962	1963	1962	1963	1962	1963
\$'000						
Output						
1. Shipments and other revenue	517,199	553,762	71,152	86,600	588,351	640,362
Inventories - Goods of own manufacture:						
Add closing - Goods in process	8,173	8,832	...	...	8,173	8,832
Finished goods	41,608	44,632	...	...	41,608	44,632
Less opening - Goods in process	9,457	8,370	...	...	9,457	8,370
Finished goods	42,890	41,480	...	...	42,890	41,480
2. Net inventory change	(2,566)	3,614	...	...	(2,566)	3,614
3. Gross output (1+2)	514,632	557,376	71,152	86,600	585,783	643,976
Input						
4. Purchases of goods not of own manufacture .....	...	...	55,749	60,794	55,749	60,794
Inventories - Goods not of own manufacture:						
Add opening .....	...	...	5,093	7,267	5,093	7,267
Less closing .....	...	...	5,739	7,526	5,739	7,526
5. Cost of goods sold (not of own manufacture) .....	...	...	55,103	60,535	55,103	60,535
6. Materials, supplies, components and semi-processed goods	190,967	221,067	3,784	7,427	194,751	228,494
7. Fuel and electricity	42,756	46,115	...	...	42,756	46,115
8. Gross input (5+6+7)	233,723	267,182	58,887	67,962	292,610	335,144
Census value added (3-8)	280,908	290,194	12,265	18,638	293,173	308,831

TABLE 3. Employment and Payroll, 1962 and 1963

Year and province	Employees										Salaries and wages				
	Production and related workers				Adminis- trative and office		Sales and distribution		Total employees		Production and related workers		Adminis- trative and office	Sales and distribution	Total salaries and wages
	Manufacturing		Other		Male	Female	Male	Female	Male	Female	Manufacturing	Other			
	Male	Female	Male	Female											
	number										\$'000				
1962															
Newfoundland															
Prince Edward Island															
Nova Scotia	57	-	-	-	31	11	31	1	119	12	244	-	167	160	
New Brunswick															
Quebec	2,248	4	4	-	743	147	86	22	3,081	173	12,478	13	5,694	644	
Ontario	6,435	38	170	1	2,334	611	580	173	9,519	823	35,529	873	19,693	4,326	
Manitoba															
Saskatchewan	56	1	3	-	32	13	33	2	124	16	235	15	198	158	
Alberta	728	8	5	-	334	73	40	2	1,107	83	3,801	21	2,335	227	
British Columbia	1,017	3	3	-	326	40	52	10	1,398	53	5,096	14	2,153	311	
Yukon and Northwest Territories	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Totals	10,541	54	185	1	3,800	895	822	210	15,348	1,160	57,382	936	30,239	5,826	
1963															
Newfoundland	x	-	-	-	x	-	x	-	x	x	x	-	x	x	
Prince Edward Island	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Nova Scotia	39	-	-	-	30	11	11	-	80	11	163	-	171	58	
New Brunswick	x	x	-	-	x	x	x	-	x	x	x	-	x	x	
Quebec	2,767	4	4	-	887	178	90	25	3,748	207	14,949	19	6,956	736	
Ontario	6,708	33	193	1	2,409	658	571	111	9,881	803	37,853	1,149	21,022	4,136	
Manitoba	40	-	3	-	36	13	17	-	96	13	173	16	195	85	
Saskatchewan	x	-	-	-	x	x	x	x	x	x	x	-	x	x	
Alberta	751	9	6	-	353	70	34	2	1,144	81	4,165	26	2,630	190	
British Columbia	1,001	3	-	-	329	47	41	1	1,371	51	5,208	-	2,316	219	
Yukon and Northwest Territories	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Totals	11,353	49	206	1	4,074	982	783	139	16,416	1,171	62,731	1,212	33,462	5,530	

TABLE 3A. Production and Related Workers, - Manufacturing Activity, by Months, 1962 and 1963

Month	Establishments reporting monthly detail			
	1962		1963	
	Male	Female	Male	Female
	number			
January	10,882	51	10,172	51
February	10,903	56	10,785	47
March	10,783	54	11,389	46
April	11,000	52	11,409	50
May	11,127	52	11,580	47
June	11,237	57	11,779	48
July	11,448	51	11,857	52
August	9,964	53	11,856	46
September	9,817	55	11,575	47
October	9,831	54	11,580	53
November	9,738	52	11,223	50
December	9,735	51	11,124	51
Average for establishments reporting monthly detail (collected only for large establishments)..	10,541	54	11,353	49
Average for small establishments (only annual averages collected)	-	-	-	-
Average for all establishments	10,541	54	11,353	49

TABLE 4. Industry Inventories,¹ 1963

Province	Manufacturing				Non-manufacturing	Total inventories
	Raw materials and supplies	Goods in process	Finished goods of own manufacture	Total manufacturing	Products or materials purchased for resale	
book value \$'000						
Opening:						
Newfoundland	x	—	x	x	x	x
Prince Edward Island	—	—	—	—	—	—
Nova Scotia	57	—	18	75	110	185
New Brunswick	x	—	x	x	x	x
Quebec	7,165	1,678	6,701	15,544	2,793	18,337
Ontario	20,750	6,287	20,256	47,294	3,345	50,639
Manitoba	64	3	22	89	166	255
Saskatchewan	x	—	x	x	x	x
Alberta	2,571	189	3,318	8,078	263	6,341
British Columbia	5,388	213	11,435	17,036	419	17,455
Yukon and Northwest Territories	—	—	—	—	—	—
Totals	36,046	8,370	41,771	86,187	7,267	93,453
Closing:						
Newfoundland	x	—	x	x	x	x
Prince Edward Island	—	—	—	—	—	—
Nova Scotia	52	—	13	65	131	196
New Brunswick	x	x	x	x	x	x
Quebec	8,070	1,272	9,365	18,707	2,101	20,808
Ontario	20,423	7,092	21,497	49,012	3,847	52,859
Manitoba	54	9	16	79	204	283
Saskatchewan	x	—	x	x	x	x
Alberta	2,937	221	3,616	6,773	429	7,203
British Columbia	5,668	223	10,207	16,097	600	16,698
Yukon and Northwest Territories	—	—	—	—	—	—
Totals	37,309	8,832	44,735	90,876	7,526	98,401

TABLE 5. Purchased Fuel and Electricity Used in Manufacturing Activity, 1962 and 1963

Description	1962		1963	
	Quantity	Cost	Quantity	Cost
		\$'000		\$'000
1. Large establishments which reported commodity detail:				
Bituminous coal:				
(a) From Canadian mines	ton	52,144	21,900	229
(b) Imported	"	812,331	931,137	7,736
Sub-bituminous coal (from Alberta mines only)	"	—	—	—
Anthracite coal	"	3,327	71	1
Lignite coal	"	—	—	—
Coke	"	30,968	43,570	264
Gasoline (including gasoline used in cars and trucks)	Imp. gal.	1,090,924	969,519	309
Fuel oil including kerosene or coal oil	"	24,341,756	36,753,040	2,921
Wood	cord	18	13	--
Gas:				
(a) Liquefied petroleum gases	Imp. gal.	105,380	142,883	24
(b) Other manufactured gas	M cu.ft.	7,088,463	7,280,952	3,540
(c) Natural gas	"	18,880,771	20,476,131	5,267
Other fuel .....	...	...	...	543
Electricity purchased	kwh.	5,197,410,239	5,457,539,172	22,703
Steam purchased .....	...	...	...	2,580
2. Estimate for small establishments:				
Fuel and electricity	—	—	—	—
3. All establishments:				
Total fuel and electricity used .....	...	42,756	...	46,115

¹ The differences between figures in Table 4 and those in Table 2 arise from firms reporting output of products on the basis of production rather than of shipments. Consequently, inventories of finished products for such respondents are not taken into account for purposes of compiling value added in Table 2. See also "Concepts and Definitions" for explanation of other variances.

TABLE 6. Materials and Supplies - Manufacturing Activity, 1962 and 1963

Description	1962		1963	
	Quantity	Cost \$'000	Quantity	Cost \$'000
1. Materials used:				
Acetone	lb.	1,824,551		2,501,780
Acid - Acetic, 99½%	"	434,172		737,450
Fatty - Oleic	"	603,727		1,061,651
Stearic	"	970,745		1,858,445
Other fatty acids	"	10,435,767		11,264,475
Formic, 85%	"	718,229		600,593
Hydrochloric (muriatic), 100%	"	7,415,188		9,155,820
Hydrofluoric	"	4,362,215		5,245,895
Nitric, 100%	"	8,458,846		22,575,876
Phosphoric	"	15,603,831	1,432	65,665,000
Sulphuric - New acid (as 100%)	ton	42,973	1,154	74,099
Spent acid (as 100%)	"	1,244	8	294
Alcohol - Butyl (including isobutyl and normal)	lb.	4,280,281		3,914,289
Isopropyl	"	1,051,031		1,702,162
Methyl	imp. gal.	2,506,263		2,613,736
Aluminum chloride	lb.	3,914,792		3,647,334
Aluminum sulphate (alum)	"	1,219,499		1,626,353
Ammonia, anhydrous	ton	102,172	5,314	113,308
Barium carbonate	lb.	1,362,445		1,369,742
Barium chloride	"	689,662		680,226
Benzol	"	156,810,231	5,503	189,367,972
Betanaphthol	"	212,543		254,115
Calcium carbonate (whiting and chalk)	"	667,899		523,708
Carbon, activated	"	406,187		296,966
Carbon bisulphide (disulphide)	"	2,290,002		2,478,079
Carbon tetrachloride	"	15,807,530	1,254	20,865,880
Chlorine	ton	16,309	1,171	24,278
Coal, (except for fuel) - Anthracite	"	97,778	1,437	85,724
Bituminous	"	60,862	886	58,485
Cobalt acetate	lb.	8,400		33,812
Coke, (except for fuel) - Petroleum	ton	1,144		31
Other	"	125,609	2,377	138,832
Cresol (including cresylic acid, all forms)	lb.	255,934		262,181
Diatomaceous earth	ton	12,086		15,771
Electrodes (purchased)	"			763
Ethanolamine - Mono	lb.	673,026		783,930
Di	"	412,712		601,900
Tri	"	31,974		127,957
Fluorspar	ton	7,848		8,982
Formaldehyde, 100% solids basis	lb.	997,127		1,108,878
Glycerine (includes mainly crude grade)	"	1,197,775		1,138,414
Glycols - Ethylene	"	147,852		192,765
Other grades	"	1,193,448		1,484,741
Graphite	"	651,047		955,130
Iron and steel scrap (borings, etc.)	ton	5,578		5,767
Lead, pig	lb.	24,134,370	2,418	27,408,037
Lead sulphate	"	35,300		7,800
Limestone	ton	559,723	1,368	579,396
Lime - Hydrated	"	7,939		8,886
Quick	"	23,808		19,275
Litharge	lb.	1,858,800		2,176,248
Mercury	"	88,046		111,221
Muriate of potash (potassium chloride)	ton	10,215		5,790
Natural gas (as a material in manufacturing; not for fuel)	M cu. ft.	12,330,707	4,264	13,533,158
Oils - Castor	lb.	1,703,527		2,158,547
Cocoonut	"	2,738,193		2,395,298
Linseed	imp. gal.	22,176		4,935
Tall	lb.	360,810		639,803
Other oils	"	2,228,550		2,152,817
Phenol	"	3,568,704		5,957,495
Petrochemical feed stocks - L.P.G.'s (Butane, propane, other)	"		5,455	
Other	"		23,670	
Phosphate rock	ton	752,796		781,427
Potassium bichromate	lb.	136,894		227,512
Potassium hydroxide (as 100% KOH)	"	3,109,108		4,169,258
Phthalic anhydride	"	4,794,307		3,811,990
Quartz and quartzite	ton	63,914		66,252
Silica sand	"	24,210		25,446
Sodium chloride, dry (common salt)	"	353,863	3,332	405,476
Sodium chloride, brine (salt content)	"	55,053		72,042
Sodium bichromate	lb.	2,900,363		2,834,849
Sodium hydroxide (caustic soda as 100% Na OH)	ton	35,728	2,312	40,573
Sodium nitrate	lb.	264,309		321,847
Sodium prussiate	"	448,041		496,508
Sodium silicate (water glass) (including metasilicate)	"	517,155		2,256,315
Sulphur (brimstone)	ton	206,991	5,053	227,160
Tallow	lb.	10,884,365		18,219,993
Titanium dioxide	"	165,392		317,738
Toluene (toluol)	"	30,584,320		34,678,199
Urea	"	14,721,232		20,052,918
Xylene (xylol)	"	234,653		343,998
Zinc chloride	"	327,799		443,336
Zinc oxide	"	458,554		366,593
Steel sheets for making containers	ton	1,506		1,675
All other materials and components used			61,752	69,650
2. Containers and other packaging materials and supplies used				
3. Operating, maintenance and repair supplies used (excluding fuel)				
4. Amount paid out to others for work done on materials owned by establishments				
Totals			190,967	221,067

TABLE 7. Factory Shipments of Chemicals, 1962 and 1963

Description	Value	
	1962	1963
	\$'000	
Acids, including acetic, muriatic, nitric, sulphuric, phosphoric, stearic, etc.	33, 116	34, 992
Calcium compounds, including carbide, chloride, phosphide, cyanamide, cyanide acid phosphate, grey acetate, arsenate, chloride of lime, etc.	15, 781	18, 152
Sodium compounds, including hydroxide, phosphate, cyanide, silicate, hypochlorite, bisulphite, saltcake, Glauber's salt, chlorate, acid pyrophosphate, soda ash, sal soda, bisulphate, etc., (pharmaceutical salts included elsewhere)	50, 732	54, 983
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)	170, 841	187, 512
Compressed and liquefied gases, etc., including acetylene, carbon dioxide, oxygen, nitrous oxide, liquid sulphur dioxide, liquid chlorine, anhydrous and aqua ammonia, liquefied petroleum gases, etc.	81, 782	86, 380
Fertilizer chemicals, including ammonium sulphate, ammonium nitrate (fertilizer grade), ammonium phosphate and superphosphate	80, 158	83, 148
Synthetic resins, including casein type, vinyls, polystyrene, phenol-formaldehyde, urea-formaldehyde, alkyds, sodium carboxymethylcellulose, etc.	96, 709	116, 739
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.	73, 323	91, 248
Totals	602, 440	673, 154

TABLE 8. Production,¹ Imports, Exports and Apparent Consumption of Sulphuric Acid, 1925-63

Year	Production	Imports	Exports	Apparent consumption ²
	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
1950	756, 110	332	44, 417	712, 025
1955	950, 277	151	29, 578	920, 850
1957	1, 290, 000	1, 000	29, 500	1, 261, 500
1958	1, 586, 000	39, 345	23, 252	1, 602, 093
1959	1, 739, 000	18, 489	27, 863	1, 729, 626
1960	1, 673, 000	9, 526	43, 430	1, 639, 096
1961	1, 614, 000	7, 275	38, 914	1, 582, 361
1962	1, 696, 000	7, 162	34, 960	1, 668, 202
1963	1, 790, 000	5, 634	37, 316	1, 758, 318

¹ From all industries.

² No allowance made for changes in inventories.

TABLE 9. Production,¹ Imports and Exports of Chlorine and Caustic Soda, 1959-63

Year	Chlorine	Caustic soda ² (100% Na OH)
	tons	
(a) Production:		
1959	282, 000	341, 000
1960	322, 000	373, 000
1961	354, 000	415, 000
1962	371, 000	432, 000
1963	423, 000	485, 000
(b) Imports:		
1959	26, 584	35, 972
1960	27, 820	41, 361
1961	29, 686	37, 107
1962	32, 478	53, 062
1963	34, 552	77, 593
(c) Exports:		
1959	16, 844	2, 799
1960	24, 483	3, 135
1961	19, 965	..
1962	24, 900	..
1963	27, 000	..

¹ From all industries.

² Imports of caustic soda solution are generally reported in terms of gross weight of approximately 50% Na OH. Figures in Table 10 have been converted to 100% Na OH to agree with the basis used in production and exports.

TABLE 10. Available Data on the Consumption of Sulphuric Acid, by Industries, 1962 and 1963

Industry	1962	1963
	short tons of 100% acid	
Iron and steel mills	58,400	60,300
Other iron and steel	11,800	12,500
Electrical products	5,000	5,100
Vegetable oil mills	100	200
Sugar refineries	200	300
Leather tanneries	2,000	2,400
Pulp and paper mills	42,900	48,800
Uranium ore processing	239,700	228,800
Manufacturers of mixed fertilizers ¹	237,500	289,400
Manufacturers of plastics and synthetic resins	22,400	23,600
Manufacturers of soap and cleaning compounds	17,500	16,600
Other chemical industries	10,700	12,700
Manufacturers of industrial chemicals ² (includes bauxite concentration)	885,200	916,400
Petroleum refining industry	12,800	12,200
Mining ³	46,400 ⁴	40,100
Miscellaneous ⁵	65,400	68,300
Total accounted for	1,658,200	1,741,700

¹ Includes used for production of superphosphates.

² Includes consumption of "own make" or "captive" acid by firms classified to these industries.

³ Includes metal mines, non-metal mines, mineral fuels and structural materials.

⁴ Estimated.

⁵ Includes synthetic textiles, explosives and ammunition, other petroleum and coal, mineral wool and miscellaneous food industries.

TABLE 11. Available Data on the Consumption of Chlorine, by Industries, 1962 and 1963

Industry	1962	1963
	net tons	
Municipal waterworks (1959 latest available)	2,721	2,721
Mining ¹	5,113 ²	5,113 ²
Pulp and paper mills ³	211,400	229,583
Textile dyeing and finishing plants	8	9
Manufacturers of plastics and synthetic resins	241	239
Manufacturers of soap and cleaning compounds	4,680	5,312
Other chemical industries	1,357	584
Manufacturers of industrial chemicals ³	134,302	184,002
Miscellaneous food industries	-	764
Total accounted for	359,838	428,327

¹ Includes non-metal mines, metal mines, mineral fuels and structural materials.

² Estimated.

³ Includes consumption of "own make" or "captive" chlorine by firms classified to these industries.

TABLE 12. Available Data on the Consumption of Caustic Soda, by Industries, 1962 and 1963

Industry	1962	1963
	net tons of 100% Na OH	
Pulp and paper mills ¹	219,764	247,383
Manufacturers of soap and cleaning compounds	24,972	21,723
Manufacturers of industrial chemicals ¹ (includes bauxite concentration)	169,012	191,383
Petroleum refining	11,645	12,685
Manufacturers of plastics and synthetic resins	14,833	15,032
Other chemical industries	4,542	5,595
Miscellaneous food industries (includes starch and glucose)	2,121	1,651
Mining ²	10,356 ³	10,356 ³
Iron and steel mills	1,244	954
Textile dyeing and finishing	156	122
Sugar refineries	82	88
Vegetable oil mills	124	323
Miscellaneous ⁴	22,482	24,456
Total accounted for	481,333	531,751

¹ Includes consumption of "own make" or "captive" caustic by firms classified to these industries.

² Includes metal mines, non-metal mines, mineral fuels and structural materials.

³ Estimated.

⁴ Includes synthetic textile mills and plastic fabricators.

TABLE 13. Factory Shipments¹ of Ammonium Sulphate, 1959-63

Year	Shipments
	tons
1959	307,121
1960	349,677
1961	278,527
1962	291,683
1963	257,492

¹ From all industries.

TABLE 14. Factory Shipments¹ of Pigments and Dry Colours, 1959-63

Year	Shipments ²
	\$'000
1959	27,369
1960	25,980
1961	28,477
1962	33,306
1963	42,416

¹ From all industries.

² Includes white lead, red lead and litharge; colours, dry and in oils; acetylene black, satin white, zinc oxide, cobalt oxide, cobalt sulphate, carbon black, copper oxide, aluminum paste, synthetic iron oxide and titanium oxide.

TABLE 15. Factory Shipments of Synthetic Rubber, 1959-63

Year	Quantity	Selling value at plant
	M pounds	\$'000
1959 ¹	230,018	51,437
1960	335,872	76,039
1961	372,254	83,427
1962	372,394	80,200
1963	409,390	79,076

¹ The totals for 1959 reflect the effects of a strike in this industry from March 18, 1959 to June 23, 1959.

TABLE 16. Factory Shipments¹ of Acetylene and Oxygen, 1959-63

Year	Acetylene		Oxygen ²	
	Quantity	Selling value at plant	Quantity	Selling value at plant
	cu. ft.	\$'000	cu. ft.	\$'000
1959	184,915,535	7,199	1,390,233,113	11,424
1960	209,480,259	7,849	1,836,199,766	12,331
1961	178,777,276	6,967	1,888,655,030	12,317
1962	192,492,117	7,236	1,552,477,747	12,775
1963	197,462,539	7,690	1,704,636,705	12,244

¹ Includes only the shipments, chiefly in cylinders, or delivered by pipeline, to adjacent consuming plants. Does not include amounts made for own use by some chemical companies.

² Excludes tonnage oxygen.

List of Establishments classified to This Industry, 1963

(Does not include establishments classified to other industries, which as a secondary activity, manufacture products typical of this industry)

Name and location	Name and location
Newfoundland:	Ontario—Concluded:
L'Air Liquide and Canadian Liquid Air Co., Ltd., St. John's	Howards and Sons (Canada) Ltd., Cornwall
Nova Scotia:	Imperial Oil Limited, Sarnia
L'Air Liquide and Canadian Liquid Air Co., Ltd., Halifax	Kemball, Bishop, (Canada), Div. of Pfizer Corporation, Cornwall
L'Air Liquide and Canadian Liquid Air Co., Ltd., Sydney	L'Air Liquide and Canadian Liquid Air Co., Ltd., Hamilton
Liquid Carbonic Canadian Corp. Ltd., Dartmouth	L'Air Liquide and Canadian Liquid Air Co., Ltd., London
Union Carbide Canada Ltd., Linde Gases Div., Halifax	L'Air Liquide and Canadian Liquid Air Co., Ltd., Port Arthur
New Brunswick:	L'Air Liquide and Canadian Liquid Air Co., Ltd., Sudbury
Canadian Industries Limited, Dalhousie	L'Air Liquide and Canadian Liquid Air Co., Ltd., Toronto
L'Air Liquide and Canadian Liquid Air Co., Ltd., Moncton	Liquid Carbonic Canadian Corp. Ltd., Maitland
Union Carbide Canada Ltd., Linde Gases Div., Saint John	Liquid Carbonic Canadian Corp. Ltd., Toronto
Quebec:	Liquid Carbonic Canadian Corp. Ltd., Toronto
Abbey Chemical Co., St. Antoine des Laurentides	National Oxygen Ltd., Div. of Anthes Imperial Co., Ltd., Oakville
British Chrome Chemicals (Canada) Ltd., Ville St. Michel	National Silicates Ltd., Toronto
British Titan Products (Canada) Ltd., Tracy	Naugatuck Chemicals, Div. of Dominion Rubber Co., Ltd., Elmira
Canadian Alcolac Ltd., Valleyfield	Nichols Chemical Co., Ltd., The, Port Arthur
Canadian Industries Limited, Shawinigan Falls	Nichols Chemical Co., Ltd., The, Sulphide
Canadian Titanium Pigments Ltd., Varennes	Nichols Chemical Co., Ltd., The, Thorold
Carter White Lead Co. of Canada Ltd., The, 1071 Delorimier Ave., Montreal	Noranda Mines Limited, Culier
Chemicals Refineries Corp., Napierville	Northern Pigment Co., Ltd., Towns Rd., Etobicoke
Durham Industries (Canada) Limited, 1435 Island St., Montreal	Nuodex Products of Canada Ltd., 34 Industrial St., Toronto
Electric Reduction Co. of Canada Ltd., Buckingham	Pigment and Chemical Co. Ltd., Milton
Electric Reduction Co. of Canada Ltd., Varennes	Polymer Corporation Limited, Sarnia
Hercules Powder Co. (Canada) Ltd., St. Johns	Resco Chemicals and Colours Ltd., 113 Shorncliffe Rd., Toronto
L'Air Liquide and Canadian Liquid Air Co. Ltd., Baie Comeau	Sherbrooke Metallurgical Co. Ltd., Sherbrooke
L'Air Liquide and Canadian Liquid Air Co., Ltd., Montreal	St. Clair Chemical Ltd., Sarnia
L'Air Liquide and Canadian Liquid Air Co., Ltd., Quebec	Standard Ultramarine and Colour Co. Ltd., 120 St. Helens Ave., Toronto
L'Air Liquide and Canadian Liquid Air Co., Ltd., Tracey	Union Carbide Canada Ltd., Linde Gases Div., Fort William
Laurentides Chemicals and Sulphur Ltd., Montreal East	Union Carbide Canada Ltd., Linde Gases Div., Oakland
McArthur Irwin Ltd., 7 Bates Rd., Montreal	Union Carbide Canada Ltd., Linde Gases Div., Meriton
National Silicates Ltd., Valleyfield	Union Carbide Canada Ltd., Linde Gases Div., Sault Ste. Marie
Nichols Chemicals Co., Ltd., The, Valleyfield	Union Carbide Canada Ltd., Linde Gases Div., Welland
Ogilvie Flour Mills Co., Ltd., The, Montreal	Welland Chemicals of Canada Ltd., Port Colborne
Shawinigan Chemicals Ltd., Montreal East	Wilco Chemical Co. (Canada) Ltd., Oakville
Shawinigan Chemicals Ltd., Shawinigan Falls	Manitoba:
Shawinigan Chemicals Ltd., Varennes	Border Chemical Co. Ltd., Springfield
Shawinigan Chemicals Ltd. (Petrochemical Plant), Varennes	L'Air Liquide and Canadian Liquid Air Co., Ltd., Winnipeg
Shell Canada Ltd., Montreal East	Liquid Carbonic Canadian Corp. Ltd., Winnipeg
Standard Chemical Limited, Beauharnois	Union Carbide Canada Ltd., Linde Gases Div., Transcona
Sturge (Canada) Limited, Valleyfield	Saskatchewan:
Union Carbide Canada Ltd., Linde Gases Div., Lauzon	L'Air Liquide and Canadian Liquid Air Co., Ltd., Regina
Union Carbide Canada Ltd., Linde Gases Div., Montreal (305 Bourgeois St.)	Union Carbide Canada Ltd., Linde Gases Div., Saskatoon
Union Carbide Canada Ltd., Linde Gases Div., Montreal (10451 Metropolitan Blvd.)	Alberta:
Union Carbide Canada Ltd., Linde Gases Div., Sept Isles	Canadian Chemical Co., Ltd., Edmonton
Union Carbide Canada Ltd., Linde Gases Div., Shawinigan Falls	Consolidated Mining and Smelting Co. of Canada Ltd., Calgary
Ontario:	Dow Chemical of Canada Ltd., Fort Saskatchewan
Brockville Chemicals Ltd., Maitland	Inland Chemicals Ltd., Fort Saskatchewan
Brunner Mond Canada Ltd., Amherstburg	L'Air Liquide and Canadian Liquid Air Co., Ltd., Calgary
Cabot Carbon of Canada Limited, Sarnia	L'Air Liquide and Canadian Liquid Air Co., Ltd., Edmonton
Canada Packers Limited, Toronto	Naugatuck Chemicals, Div. of Dominion Rubber Co. Ltd., Clover Bar
Canadian Industries Limited, Copper Cliff	Northwest Nitro Chemicals Ltd., Medicine Hat
Canadian Industries Limited, Cornwall	Union Carbide Canada Ltd., Linde Gases Div., Edmonton
Canadian Industries Limited, Hamilton	Union Carbide Canada Ltd., Linde Gases Div., Ogdon
Canadian Industries Limited, Milhaven	Western Chemicals Limited., Duvernay
Canadian Oxygen Limited, 355 Horner Ave., Toronto	British Columbia:
Church and Dwight Ltd., Amherstburg	Consolidated Mining and Smelting Co. of Canada Ltd., Kimberley
Columbian Carbon (Canada) Ltd., 755 Parkdale Ave. N., Hamilton	Consolidated Mining and Smelting Co. of Canada Ltd., Tadnac
Cornwall Chemicals Limited, Cornwall	Dow Chemical of Canada Ltd., Ladner
Cyanamid of Canada Ltd., Niagara Falls	Electric Reduction Co. of Canada Ltd., North Vancouver
Cyanamid of Canada Ltd. (Welland works), Niagara Falls	Hooker Chemicals Ltd., North Vancouver
Cyanamid of Canada Ltd., Hamilton	L'Air Liquide and Canadian Liquid Air Co., Ltd., Cranbrook
Dominion Colour Corporation Ltd., 199 New Toronto St., New Toronto	L'Air Liquide and Canadian Liquid Air Co., Ltd., Dawson Creek
Dow Chemical of Canada Ltd., Sarnia	L'Air Liquide and Canadian Liquid Air Co., Ltd., Kitimat
Dryden Chemicals Ltd., Dryden	L'Air Liquide and Canadian Liquid Air Co., Ltd., Nanaimo
Du Pont of Canada Ltd., Maitland	L'Air Liquide and Canadian Liquid Air Co., Ltd., Vancouver
Dussek Bros. Canada Ltd., Belleville	L'Air Liquide and Canadian Liquid Air Co., Ltd., Victoria
Emery Industries (Canada) Ltd., London	Liquid Carbonic Canadian Corp. Ltd., Prince George
Ethyl Corporation of Canada Ltd., Corunna	Liquid Carbonic Canadian Corp. Ltd., Vancouver
Harchem Limited, 715 Kipling Ave. S., Toronto	Nichols Chemical Co., Ltd., Barnet
	Union Carbide Canada Ltd., Linde Gases Div., Vancouver

CONCEPTS AND DEFINITIONS

Census of Manufactures

General

The Census of Manufactures is an annual mail survey covering Canada's Manufacturing Industries. It is based on the Standard Classification of Industries and full details concerning the system may be found in the Standard Industrial Classification manual, Catalogue No. 12-501 which is available from the Queen's Printer or the Dominion Bureau of Statistics. In summary, the Classification as it relates to the manufacturing industries provides for a breakdown into 140 industries arranged in 20 major industry groups. Of the 140 (3 digit) industries, 18 are further broken down into 58 (4 digit) sub classes. At the Canada level, principal statistics are collected and compiled for 178 separate industries. They cannot all be published separately by province, however, because of the confidential nature of the data in certain provinces.

The reporting unit for the Census is designated as the **establishment** (see definition of "Establishment" in following section) and a return is requested from every establishment classified to a manufacturing industry. Although respondents are required to submit reports covering the calendar year, financial year reports other than the calendar year are accepted in instances where respondents find it impossible to supply calendar year data from accounting records. When an establishment is operated for only part of a year a report is required covering the period of operation.

There are four different questionnaires used in the Census of Manufactures; (a) short form (b) long form (c) head office questionnaire and (d) commodity questionnaire. The short and long forms are used to obtain principal statistics and commodities shipped from establishments classified to manufacturing industries and differ only in the amount of detail requested. The short form is a single-sheet questionnaire sent to small manufacturers generally reporting shipments of less than \$100,000; this cut-off, however, varies somewhat between industries. The head office questionnaire is generally used for company head offices and/or auxiliary units separately located from the manufacturing establishment(s), (see following notes on Head offices and auxiliary units). The Commodity questionnaire is used to survey certain establishments which are coded (on the basis of their principal activity) to industries other than manufacturing in the Standard Industrial Classification system, but which undertake some manufacturing as a subsidiary activity. This single-sheet questionnaire is designed to collect information on the quantity and value of goods of own manufacture shipped by such establishments in order to achieve full coverage of domestically manufactured commodities (see the following note under Shipments).

The results of the Census are presented in some 140 publications. In addition to these annual industry publications there are annual summary reports for Canada and the provinces and special reports giving principal statistics by detailed geographic areas, by type of ownership and size of establishment. A special annual report covering the shipments of all manufactured commodities arranged in alphabetical order is also published.

Since 1960 the following major changes have been implemented in the Census of Manufactures: (a) a revised Standard Industrial Classification (b) a new establishment definition and (c) an extension of the establishment definition to cover the non-manufacturing activities of manufacturing establishments. The statistics presented in the various 1963 reports reflect the complete implementation of these changes and enable comparisons to be made with the years 1961 and 1962. For a complete description of the procedures followed in establishing the revised series, reference should be made to the Explanatory Notes included in the 1960, 1961 and 1962 industry publications. The statistical framework within which the Census of Manufactures is now carried out is based on the following concepts and definitions which have been developed as part of a general programme to achieve a fully integrated system of economic statistics.

Establishment

A manufacturing establishment is typically a factory, mill or plant principally engaged in manufacturing activities. The majority of such establishments are firms but many firms have more than one establishment. Such firms are requested to submit a separate Census of Manufactures report for each manufacturing establishment which can meet the reporting requirements embodied in the following definition of the "establishment":

"The smallest unit which is a separate operating entity capable of reporting the following principal statistics:

- Materials and supplies used
- Goods purchased for resale as such
- Fuel and power consumed
- Number of employees and salaries and wages
- Man-hours worked and paid
- Inventories
- Shipments or sales."

Each establishment is required to report on all the activities carried out within its accounting boundaries (except income from investments such as rent, interest and dividends) and data on the different activities (manufacturing, trading in goods not of own manufacture, construction by own labour

force, revenue from services, etc.) are requested to be reported separately. It should be noted that the statistics for separate activities are not completely consistent since some respondents cannot distinguish, in their records, materials, shipments and inventories relating solely to their own manufacturing activities. For example, inventory of goods purchased for re-sale may not be distinguishable from inventory of own manufactured goods. Complete consistency, therefore, can be obtained only at the "all operations" (total activity) level and for studies or statistical measures requiring accurate coordinated data, the "total" statistics should be used.

The number of establishments represents the number of operating units that are principally engaged in the activities of the manufacturing industries to which they have been classified. These units do not necessarily represent the total number engaged in the production of a commodity mainly produced in a certain industry. Some commodities are produced as secondary products in other manufacturing and non-manufacturing industries. It should be noted that head offices and auxiliary units which are surveyed separately are not included in the establishment count, (see following notes on head offices and auxiliary units).

Head Offices and Auxiliary Units

All head offices and auxiliary units of companies classified to the manufacturing industries such as sales offices, administrative offices, warehouses, laboratories, etc. are now surveyed as part of the Census of Manufactures.

These head offices and auxiliary units are either included in an establishment report or are surveyed by means of the head office questionnaire. The former is the most common case where a single establishment firm has its executive personnel, sales office, etc. located at the site of the manufacturing plant (establishment). The special head office questionnaire is generally used where a firm, regardless of the number of establishments, has separately located offices or auxiliary units. Such offices or units do not constitute establishments within the Census of Manufactures as they do not normally generate operational revenues, but give rise only to costs of operations (mainly salaries and wages) which are automatically included in the value of shipments or sales. Although not considered as establishments, and hence, not included in the "establishment" count for an industry, the operational costs are reflected in either the "Industry" statistics (3 or 4 digit level) or the "Major group" statistics (2 digit level) according to the following rules:

(a) In the case of single establishment firms, statistics for separately located offices and units are classified to the same industry (3 or 4 digit) as the establishment;

(b) In the case of multi-establishment firms, the statistics for such offices and units are coded to the same industry as the establishments of the

firm, when all establishments are in the same industry (3 or 4 digit). When establishments of such firms are coded (1) to different industries within a major group, (2) to industries in different major groups or (3) to industries in different divisions of the Standard Industrial Classification, then the statistics are included in the major group totals (2 digit level) in which the major part of the company's operations are classified. Although this may result in some distortion of major group statistics in the case of (2) and (3) the statistics at the industry (3 or 4 digit) level in all cases will be left free of these company-wide data.

Employees

(a) Production and related workers - Manufacturing activity

In addition to those engaged in production and assembling activities, they include those employed in storing, inspecting, handling, packing, warehousing, etc. They also include employees engaged in maintenance, repair, janitorial and watchman services and line supervisors (working foremen) engaged in similar work to that of the employees they supervise. Production and related workers engaged in manufacturing activity are reported as those receiving pay during the last pay period of each month, an average for the year being obtained by summing the monthly figures and dividing by 12. This procedure is followed even though the establishment did not operate in all months in order to arrive at equivalent annual full-time employment. The numbers are somewhat affected by turnover, in that employment is overstated when an employee changes employment during a pay period. The man-hours of production and related workers in manufacturing activity represent total man-hours paid (total hours at work during the calendar year plus hours not worked but nevertheless paid for, such as paid vacations, sick leave, statutory holidays, etc.). In reporting overtime hours, respondents are requested to report only hours actually at work. It should be noted that the division of hours paid into production and related workers payrolls results in average hourly earnings and does not represent hourly wage rates which are collected and published by the Department of Labour and which are based on selected occupations.

(b) Production and related workers - Non-manufacturing activities

Such employees include those on manufacturing establishments' payrolls engaged in activities such as construction undertaken for the use of these establishments, some outside piece-workers employed in certain industries, logging employees who are reported as part of a sawmilling establishment and any other production workers who are not engaged in manufacturing-type operations.

(c) Administrative and office employees

This category includes all executive and supervisory officials such as presidents, vice-presidents, comptrollers, secretaries, treasurers,

etc., together with managers, professional, technical and research employees, superintendents and factory supervisors above the line supervisor or working foreman level, and clerical staffs. Also included are employees in activities such as advertising, credit collections, purchasing, personnel, legal, medical, etc. It should be noted that prior to 1961 this category also included working owners and partners. Also included in this category are employees located at head offices or auxiliary units separately located from the establishment; these are generally included in the figures for the province in which they are located according to the rules outlined under "Head offices and auxiliary units" above.

(d) Sales and distribution workers

This category includes office personnel whose salaries are charged to selling expense, travelling salesmen, driver salesmen, truckdrivers and their helpers, etc. It may also include some sales employees who are reported as part of a manufacturing establishment but are not working at the establishment's location. These are generally broken down by province in cases where more than 15 employees are involved in any one province. The figures exclude persons working on a commission basis who are not considered regular employees of the establishment.

(e) Total Employees

This total comprises the foregoing categories including employees located at separately located head offices and auxiliary units. The numbers of employees included under categories (b), (c) and (d) are reported in the form of annual averages and represent as closely as possible full time employment; adjustments are made when reported figures indicate the existence of part time or seasonal employment. In all the above categories, figures on employment refer to the calendar year whether or not other establishment statistics can only be reported on a fiscal year other than the calendar year.

Working Owners or Partners

These are not now included in the statistics of employees and salaries and wages. There is some duplication in numbers when a person owns more than one establishment and is reported as a working owner on each Census return. Withdrawals of working owners defined as amounts withdrawn by owners or partners for normal living expenses excluding withdrawals for payment of income tax.

Salaries and Wages

Salaries and wages refer to gross earnings of employees **before** deductions for income tax and employees contributions to social services such as sickness, accident and unemployment insurance, pensions, etc. They include all salaries, wages, bonuses, profits shared with employees, the value of room and board where provided, commissions (paid to regular employees only) as well as any

other allowance forming part of the worker's earnings. Payments for over-time are included. Figures on salaries and wages refer to the calendar year.

Fuel and Electricity

Figures for fuel refer to amounts actually used (including fuel used in cars, trucks, locomotives, etc.), not to purchases unless the quantities are substantially the same. **Any fuel and electricity produced by establishments for internal consumption are not included in the total cost.** Values represent laid down cost at the establishment including freight, duty, etc. Although fuel and electricity used is considered part of manufacturing activity it should be noted that it also includes relatively small amounts used in non-manufacturing activities since these cannot be reported separately.

Materials and Supplies

(a) Manufacturing activities

Figures represent quantities and laid down cost values, at the establishment, of materials, supplies and purchased components owned and used during the year in manufacturing activities and related processes. These statistics represent only commodity items or physical goods (cost of services or overhead charges such as advertising, insurance, depreciation, etc. are not included) whether purchased from others or received as transfers (in the form of materials, components or semi-processed goods) from other establishments of the reporting company. Included are maintenance and repair supplies not chargeable to fixed assets accounts and any amounts charged by other establishments for work done on materials owned by the reporting establishment. Cost of repairs or maintenance done by outside contractors and cost of returnable containers are not included.

(b) Non-manufacturing activities

1. Purchases for re-sale as such

Figures represent cost of materials or products purchased from others by the reporting establishment (or received as transfers from other establishments of the reporting company) for re-sale as such in the same condition as purchased. Included are any finished products received on consignment from other countries.

2. Other materials and supplies used

Figures represent the cost of materials and supplies, if any, used in new construction and in the production of machinery and equipment (for the use of the reporting establishment) by the establishment's own employees. Included are materials used for any capital repairs and alterations carried out by the establishment's employees. Amounts paid to outside contractors for construction and repair work are not included nor is the cost of purchased machinery and equipment. Also included is the cost of office supplies not chargeable to

fixed assets accounts and the cost of such other items of materials and supplies used as food, beverages and supplies for establishment-operated cafeterias and lunch counters, first aid and medical supplies, laboratory supplies, etc.

Shipments

(a) General

The figures represent revenue from all production, sales, services and related activities of reporting establishments with shipments valued in Canadian dollars at the point at which the establishment relinquishes control. The unsold portion at year end of consignment shipments in Canada is treated as inventory and not as shipments but all shipments to foreign countries for which the form B13 "Customs Canada Export Entry" has been completed, are treated as shipments.

In those industries where work on principal products extends over a relatively long period, (Fabricated Structural Metal Industry, Aircraft and Parts Manufacturers, Railroad Rolling Stock Industry and Shipbuilding and Repair Industry) the value of production rather than the value of shipments is recorded. There are certain establishments in other industries which also operate on a basis of progress payments. For these establishments, shipments are also adjusted to work put in place on the basis of the net change in progress payments over the year.

(b) Shipments of goods of own manufacture

These figures represent shipments of goods made from own materials either in the reporting establishments or by other manufacturers on the basis of a charge to the reporting establishments for work done. Included are revenue from repair and custom work, amounts received in payment for work done on materials owned by other establishments and the cost (book value) of any goods shipped on a rental basis.

All products and by-products of own manufacture shipped from the establishment are covered, including transfer shipments to sales outlets, distributing warehouses or to other manufacturing plants of the reporting firm, when such units are treated as separate establishments. The value of shipments are net of returned goods, discounts, returns, allowances, sales tax and excise taxes and duties, returnable containers and charges for outward transportation by common or contract carriers. Transportation or delivery expense incurred by the reporting establishment's own carriers are included.

Shipments of goods of own manufacture of establishments which are coded to some other division of the Standard Industrial Classification (on the basis of principal activity) but which are engaged in manufacturing as a subsidiary activity are collected by means of the Commodity questionnaire referred to earlier. Such shipments together

with shipments of goods of own manufacture of establishments forming the universe of manufacturing industries are compiled and recorded in the various industry publications.

(c) Shipments of goods not of own manufacture

These figures represent the net selling value at establishment (net of discounts, returns, allowances, sales taxes and excise duties and taxes and transportation charges by common or contract carriers) of all products or materials (including products transferred from other establishments of the reporting firm) sold as such in the same condition as purchased or received as transfers. For those industries which ship such goods on a rental basis, the value of shipments represents the book value of these goods. All sales of consignment goods from other countries are included.

(d) Other revenue

Figures represent the book value of fixed assets, if any, (new construction and machinery and equipment including major repairs, alterations, additions, modifications, installation and assembly work) produced during the year for the use of reporting establishments by the establishment's own employees and for which depreciation accounts are maintained. Included also are any revenues from the sale of electricity and from any operations performed by the establishment's own employees, such as revenue from goods produced or purchased for rental (the book value of such goods are included as part of shipments of goods of own manufacture or shipments of goods not of own manufacture), servicing revenues, commissions on sales (when not included in value of sales), revenue for company-operated cafeterias and lunch counters and revenue from outside installation or construction work not related to the establishment's own products, sale of used materials (excluding sale of used fixed assets) research and development work, etc. As mentioned previously the figures do not include non-operating revenue such as rent, dividends, interest, etc.

Inventories

(a) Manufacturing activities

Values represent the book values of manufacturing inventory owned in Canada. Inventories held for which progress payments have been received are not included. Where progress payment accounts are maintained, the change in these accounts is treated as a net adjustment to shipments. Figures consist of inventory owned at the plant and at warehouses or selling outlets which are treated as extensions of establishments for the purpose of reporting shipments. Inventory owned in transit in Canada or on consignment in Canada is included. Goods shipped abroad and held in inventory are included in shipments. Opening inventories may differ from the closing inventories of the previous year because of changes in classification, the

receipt of revised data, the inclusion of new establishments and the removal of establishments which did not operate during the survey year.

(b) Non-manufacturing activities

Figures represent the book value of inventory of goods purchased for re-sale as such without further processing, owned by the reporting establishments and held at plants and at any warehouses or selling outlets which are treated as extensions of establishments. Other characteristics are the same as in (a) above.

Value Added

(a) By manufacturing activities

Figures are compiled by deducting the cost of materials and fuel and electricity consumed from the value of production (value of shipments adjusted for changes in the value of inventories of finished goods and goods in process).

(b) By non-manufacturing activities

The figures are compiled by deducting the cost of goods purchased for re-sale (adjusted for changes in the value of inventories of goods

purchased for re-sale) and the cost of other materials and supplies used from the value of shipments of goods not of own manufacture, plus other revenue.

(c) By Total activities

The figures consist of value added by manufacturing activities plus value added by non-manufacturing activities. This total value added figure may, in some cases, be less than value added by manufacturing activities as a result of expenditures associated with non-manufacturing exceeding revenues from such activities or because of a decrease in inventory of goods not of own manufacture exceeding the mark-up on the sale of such goods. "Value added" is sometimes referred to as net production. However, to arrive at the National Accounts concept of net production, or Gross Domestic Product at "Factor cost" it would be necessary to subtract also the cost of advertising, insurance and other business expenses which are not collected as part of the annual Census of Manufactures. "Value added" figures for the primary industries, manufacturing and construction are published in DBS publication Catalogue No. 61-202, "Survey of Production".

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