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# MANUFACTURERS OF INDUSTRIAL CHEMICALS

## 1962

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### 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.
- preliminary figures.
- ⋆ revised figures.



# MANUFACTURERS OF INDUSTRIAL CHEMICALS

1962

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.

The combination of improvements in internal procedures with the introduction of the final stage of the establishment concept has produced changes which, for some industries, have required adjustments to industry statistical data. (See Explanatory Notes section for further details; also text in 1961 bulletin.) In the case the industry under review changes affecting manufacturing activity were relatively minor. Furthermore a strike in the industry in 1962, while causing the number of employees to decline, produced no comparable offsetting reduction in shipments by this industry.

**TABLE 1. Principal Statistics - Manufacturing Activity,<sup>1</sup> 1957-61**  
Basis: Revised Standard Industrial Classification and New Establishment Concept<sup>2</sup>

Year	Establishments	Employees						Cost of fuel and electricity <sup>4</sup>	Cost of materials and supplies used <sup>4</sup>	Value of shipments of goods of own manufacture <sup>4</sup>	Value added <sup>4</sup>
		Production and related workers <sup>4</sup>		Administrative and office employees <sup>3</sup>		Total <sup>4</sup>					
		Number	Wages	Number	Salaries	Number	Salaries and wages				
	No.		\$'000		\$'000				\$'000		
1957	117	11,113	49,161	5,887	29,435	17,000	78,596	32,476	157,524	366,295	207,453
1958	122	11,439	52,920	5,582	30,798	17,021	83,718	37,818	173,238	413,653	218,526
1959	119	10,924	52,927	5,790	32,154	16,714	85,081	40,332	183,411	444,786	237,425
1960	120	11,196	55,540	5,652	32,854	16,848	88,394	43,690	179,908	450,820	257,622
1961	128	10,831	56,010	5,360	33,355	16,191	89,364	42,023	182,032	476,603	257,622

See footnotes following Table 3 A.

**TABLE 1 A. Principal Statistics - Manufacturing Activity and Total Activity,<sup>1</sup> 1961 and 1962**  
Basis: Revised Standard Industrial Classification and New Establishment Concept<sup>2</sup>

Year and province	Establishments	Manufacturing activity						Total activity					
		Production and related workers <sup>4</sup>			Cost of fuel and electricity <sup>5</sup>	Cost of materials and supplies used <sup>4</sup>	Value of shipments of goods of own manufacture <sup>4</sup>	Value added <sup>4</sup>	Working owners and partners <sup>6</sup>		Total employees <sup>7</sup>		Total value added <sup>8</sup>
		Number	Man-hours paid	Wages					Number	Withdrawals	Number	Salaries and wages	
1961	No.		'000		\$'000				\$'000		\$'000		
Newfoundland	1	55	110	211	97	336	2,078	1,644	"	"	128	515	1,967
Nova Scotia	4												
New Brunswick	2												
Quebec	32												
Ontario	53	2,700	5,886	13,708	8,883	37,056	97,321	51,302	-	-	3,891	21,074	53,704
Manitoba	4	6,178	13,606	32,929	27,835	114,873	297,666	156,415	-	-	9,898	55,793	162,762
Saskatchewan	2	55	110	217	53	564	2,423	1,818	-	-	144	598	2,302
Alberta	11	731	1,586	3,673	2,699	11,586	35,919	22,150	-	-	1,196	6,273	22,708
British Columbia	16	1,072	2,187	5,060	2,434	17,209	43,282	26,809	-	-	1,491	7,433	27,245
<b>Totals</b>	<b>125</b>	<b>10,791</b>	<b>23,485</b>	<b>55,798</b>	<b>42,001</b>	<b>181,624</b>	<b>478,690</b>	<b>260,137</b>	<b>"</b>	<b>"</b>	<b>16,748</b>	<b>91,686</b>	<b>270,688</b>
1962													
Newfoundland	1	57	125	244	104	375	2,295	1,819	"	"	131	570	2,219
Nova Scotia	4												
New Brunswick	3												
Quebec	31												
Ontario	58	2,252	4,885	12,478	7,421	35,757	91,442	47,763	-	-	3,254	18,829	50,281
Manitoba	4	6,473	14,186	35,529	29,714	121,176	327,052	174,728	-	-	10,342	60,421	162,484
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
<b>Totals</b>	<b>126</b>	<b>10,595</b>	<b>23,069</b>	<b>57,382</b>	<b>42,756</b>	<b>190,967</b>	<b>517,199</b>	<b>280,908</b>	<b>"</b>	<b>"</b>	<b>16,508</b>	<b>94,384</b>	<b>293,173</b>

See table 2 and footnotes following Table 3 A.

**TABLE 1 B. Principal Statistics classified by Size Groups based on Shipments of Goods of Own Manufacture, 1961 and 1962**  
Basis: Revised Standard Industrial Classification and New Establishment Concept<sup>2</sup>

Size group	Establishments	Manufacturing activity						Total activity					
		Production and related workers <sup>4</sup>			Cost of fuel and electricity <sup>5</sup>	Cost of materials and supplies used <sup>4</sup>	Value of shipments of goods of own manufacture <sup>4</sup>	Value added <sup>4</sup>	Working owners and partners <sup>6</sup>		Total employees <sup>7</sup>		Total value added <sup>8</sup>
		Number	Man-hours paid	Wages					Number	Withdrawals	Number	Salaries and wages	
1961	No.		'000		\$'000				\$'000		\$'000		
Under \$10,000	4	9	13	28	2	49	103	51	-	-	11	43	136
\$ 10,000 to \$ 24,999													
25,000 " 49,999													
50,000 " 99,999													
100,000 " 199,999													
200,000 " 499,999													
500,000 " 999,999													
1,000,000 " 4,999,999													
5,000,000 and over	22	8,402	18,430	44,448	35,006	146,570	379,824	202,403	-	-	12,310	69,100	206,454
Head offices, sales offices and auxiliary units <sup>10</sup>	...	...	...	...	...	...	...	...	...	...	392	2,448	1,400
<b>Totals</b>	<b>125</b>	<b>10,791</b>	<b>23,485</b>	<b>55,798</b>	<b>42,001</b>	<b>181,624</b>	<b>478,690</b>	<b>260,137</b>	<b>"</b>	<b>"</b>	<b>16,748</b>	<b>91,686</b>	<b>270,688</b>

See footnotes following Table 3 A.

TABLE 1 B. Principal Statistics classified by Size Groups based on Shipments of Goods of Own Manufacture, 1961 and 1962 - Concluded

Size group	Estab- lish- ments	Manufacturing activity							Total activity					
		Production and related workers <sup>4</sup>			Cost of fuel and elec- tricity <sup>5</sup>	Cost of materials and supplies used <sup>4</sup>	Value of shipments of goods of own manu- facture <sup>4</sup>	Value added <sup>4</sup>	Working owners and partners <sup>6</sup>		Total employees <sup>7</sup>		Total value added <sup>8</sup>	
		Number	Man- hours paid	Wages					Number	With- drawals	Number	Salaries and wages		
No.		'000			\$'000				\$'000		\$'000			
1962														
Under \$10,000 .....	}	3	6	10	20	2	45	88	41	11	11	8	32	73
\$ 10,000 to \$ 24,999 .....														
25,000 " 49,999 .....	}	3	6	11	21	8	81	255	167	-	-	11	52	188
50,000 " 99,999 .....														
100,000 " 199,999 .....	}	11	42	95	176	36	828	1,780	950	-	-	73	306	1,093
200,000 " 499,999 .....														
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 .....														
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 <sup>10</sup> .....														
Totals .....		126	10,595	23,069	57,382	42,756	190,967	517,199	280,908	11	11	16,508	94,384	293,173

See footnotes following Table 3 A.

TABLE 1 C. Principal Statistics classified by Size Groups based on Manufacturing Value Added, 1961 and 1962  
Basis: Revised Standard Industrial Classification and New Establishment Concept<sup>2</sup>

Size group	Estab- lish- ments	Manufacturing activity							Total activity					
		Production and related workers <sup>4</sup>			Cost of fuel and elec- tricity <sup>5</sup>	Cost of materials and supplies used <sup>4</sup>	Value of shipments of goods of own manu- facture <sup>4</sup>	Value added <sup>4</sup>	Working owners and partners <sup>6</sup>		Total employees <sup>7</sup>		Total value added <sup>8</sup>	
		Number	Man- hours paid	Wages					Number	With- drawals	Number	Salaries and wages		
No.		'000			\$'000				\$'000		\$'000			
1961														
Under \$10,000 .....	}	5	10	16	31	3	87	163	73	-	-	15	63	158
\$ 10,000 to \$ 24,999 .....														
25,000 " 49,999 .....	}	4	22	47	84	14	445	616	168	-	-	36	142	172
50,000 " 99,999 .....														
100,000 " 199,999 .....	}	10	49	103	185	71	1,160	1,893	770	11	11	81	356	801
200,000 " 499,999 .....														
500,000 " 999,999 .....	}	18	113	232	517	148	2,433	5,163	2,647	-	-	203	970	3,089
1,000,000 " 4,999,999 .....														
5,000,000 and over .....	}	31	520	1,128	2,296	763	8,979	19,306	9,796	-	-	1,008	4,748	12,176
Head offices, sales offices and auxiliary units <sup>10</sup> .....														
1,000,000 " 4,999,999 .....	}	20	582	1,246	2,791	1,806	8,025	22,702	12,985	-	-	1,146	5,607	14,343
5,000,000 and over .....														
Head offices, sales offices and auxiliary units <sup>10</sup> .....	}	23	2,056	4,406	10,398	8,832	33,327	98,651	57,015	-	-	2,990	15,938	58,124
Totals .....														
Totals .....		125	10,791	23,485	55,798	42,001	181,624	478,690	260,137	11	11	16,748	91,686	270,688
1962														
Under \$10,000 .....	}	6	15	33	63	13	280	399	109	11	11	22	101	153
\$ 10,000 to \$ 24,999 .....														
25,000 " 49,999 .....	}	8	50	108	217	40	996	1,638	587	-	-	78	359	601
50,000 " 99,999 .....														
100,000 " 199,999 .....	}	15	107	235	502	382	4,456	6,883	2,183	-	-	165	847	2,500
200,000 " 499,999 .....														
500,000 " 999,999 .....	}	34	449	986	2,016	554	8,384	19,533	10,628	-	-	811	3,860	12,052
1,000,000 " 4,999,999 .....														
5,000,000 and over .....	}	24	620	1,350	3,109	1,860	11,003	28,890	16,394	-	-	1,165	6,104	18,589
Head offices, sales offices and auxiliary units <sup>10</sup> .....														
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 .....														
Head offices, sales offices and auxiliary units <sup>10</sup> .....	}	16	7,373	15,950	41,000	31,584	132,950	359,598	192,361	-	-	10,914	64,293	195,569
Totals .....														
Totals .....		126	10,595	23,069	57,382	42,756	190,967	517,199	280,908	11	11	16,508	94,384	293,173

See footnotes following Table 3 A.



**TABLE 1 D. Principal Statistics classified by Size Groups based on Total Value Added, 1961 and 1962**  
Basis: Revised Standard Industrial Classification and New Establishment Concept<sup>2</sup>

Size group	Estab- lish- ments	Manufacturing activity							Total activity				Total value added <sup>6</sup>	
		Production and related workers <sup>4</sup>			Cost of fuel and elec- tricity <sup>5</sup>	Cost of materials and supplies used <sup>4</sup>	Value of shipments of goods of own manu- facture <sup>4</sup>	Value added <sup>4</sup>	Working owners and partners <sup>4</sup>		Total employees <sup>7</sup>			
		Number	Man- hours paid	Wages					Number	With- drawals	Number	Salaries and wages		
No.	'000	\$'000					'000	\$'000		\$'000				
1961														
Under \$10,000	}													
\$ 10,000 to \$ 24,999		8	30	61	110	17	515	744	222	-	-	48	191	263
25,000 " 49,999		12	54	112	201	74	1,282	2,139	888	"	"	94	402	967
50,000 " 99,999		12	74	156	363	102	1,600	3,381	1,698	-	-	116	576	1,823
100,000 " 199,999		30	519	1,163	2,422	1,122	9,309	16,956	6,954	-	-	881	4,295	8,224
200,000 " 499,999	25	572	1,184	2,563	1,425	8,109	25,491	15,923	-	-	1,214	5,868	18,161	
500,000 " 999,999	24	2,105	4,506	10,642	8,897	33,639	99,782	57,768	-	-	3,126	16,492	59,423	
1,000,000 " 4,999,999	14	7,437	16,303	39,496	30,364	127,170	330,196	176,684	-	-	10,877	61,414	180,426	
5,000,000 and over	14	7,437	16,303	39,496	30,364	127,170	330,196	176,684	-	-	10,877	61,414	180,426	
Head offices, sales offices and auxiliary units <sup>10</sup>	...	...	...	...	...	...	...	...	...	...	392	2,448	1,400	
<b>Totals</b>	<b>125</b>	<b>10,791</b>	<b>23,485</b>	<b>55,798</b>	<b>42,001</b>	<b>181,624</b>	<b>478,690</b>	<b>260,137</b>	<b>"</b>	<b>"</b>	<b>16,748</b>	<b>91,686</b>	<b>270,688</b>	
1962														
Under \$10,000	}													
\$ 10,000 to \$ 24,999		5	13	30	55	7	263	335	68	"	"	18	86	100
25,000 " 49,999		10	59	129	261	59	1,553	2,330	731	-	-	91	427	753
50,000 " 99,999		12	88	191	415	344	3,601	5,537	1,702	-	-	134	695	1,771
100,000 " 199,999		33	417	930	1,896	526	8,422	18,760	9,845	-	-	693	3,360	11,008
200,000 " 499,999	24	552	1,206	2,730	1,754	9,396	26,024	15,210	-	-	1,050	5,468	16,878	
500,000 " 999,999	25	1,967	4,362	10,416	7,517	33,594	97,529	56,066	-	-	3,028	16,560	59,895	
1,000,000 " 4,999,999	17	7,499	16,221	41,608	32,548	134,139	366,683	197,286	-	-	11,088	65,215	200,648	
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 <sup>10</sup>	...	...	...	...	...	...	...	...	...	...	406	2,574	2,120	
<b>Totals</b>	<b>126</b>	<b>10,595</b>	<b>23,069</b>	<b>57,382</b>	<b>42,756</b>	<b>190,967</b>	<b>517,199</b>	<b>280,908</b>	<b>"</b>	<b>"</b>	<b>16,508</b>	<b>94,384</b>	<b>293,173</b>	

See footnotes following Table 3 A.

**TABLE 1 E. Principal Statistics classified by Size Groups based on Total Employed,<sup>12</sup> 1961 and 1962**  
Basis: Revised Standard Industrial Classification and New Establishment Concept<sup>2</sup>

Size group	Estab- lish- ments	Manufacturing activity							Total activity				Total value added <sup>6</sup>
		Production and related workers <sup>4</sup>			Cost of fuel and elec- tricity <sup>5</sup>	Cost of materials and supplies used <sup>4</sup>	Value of shipments of goods of own manu- facture <sup>4</sup>	Value added <sup>4</sup>	Working owners and partners <sup>4</sup>		Total employees <sup>7</sup>		
		Number	Man- hours paid	Wages					Number	With- drawals	Number	Salaries and wages	
No.	'000	\$'000					'000	\$'000		\$'000			
1961													
Under 5 employees	12	23	42	86	17	628	1,441	788	"	"	31	138	915
5 - 14 employees	23	128	267	556	179	1,967	6,106	4,076	-	-	209	962	4,577
15 - 49 "	39	604	1,317	2,813	1,887	12,885	32,293	17,905	-	-	1,055	5,152	19,597
50 - 99 "	19	722	1,545	3,493	2,697	17,667	44,283	23,941	-	-	1,247	6,449	25,572
100-199 "	16	1,362	3,005	7,328	9,184	23,466	68,898	36,783	-	-	2,141	11,605	38,320
200-499 "	8	1,485	3,281	7,355	3,826	26,100	69,620	38,566	-	-	2,182	11,507	39,411
500 employees and over	8	6,467	14,029	34,166	24,212	96,911	256,049	138,078	-	-	9,491	53,424	140,896
Head offices, sales offices and auxiliary units <sup>10</sup>	...	...	...	...	...	...	...	...	...	...	392	2,448	1,400
<b>Totals</b>	<b>125</b>	<b>10,791</b>	<b>23,485</b>	<b>55,798</b>	<b>42,001</b>	<b>181,624</b>	<b>478,690</b>	<b>260,137</b>	<b>"</b>	<b>"</b>	<b>16,748</b>	<b>91,686</b>	<b>270,688</b>
1962													
Under 5 employees	12	25	52	107	29	766	1,843	1,053	"	"	35	168	1,203
5 - 14 employees	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	9,872	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 employees 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 <sup>10</sup>	...	...	...	...	...	...	...	...	...	...	406	2,574	2,120
<b>Totals</b>	<b>126</b>	<b>10,595</b>	<b>23,069</b>	<b>57,382</b>	<b>42,756</b>	<b>190,967</b>	<b>517,199</b>	<b>280,908</b>	<b>"</b>	<b>"</b>	<b>16,508</b>	<b>94,384</b>	<b>293,173</b>

See footnotes following Table 3 A.

**TABLE 1 F. Principal Statistics classified by Type of Organization, 1961 and 1962**

Basis: Revised Standard Industrial Classification and New Establishment Concept<sup>1</sup>

Type of organization	Establishments	Manufacturing activity							Total activity				
		Production and related workers <sup>4</sup>			Cost of fuel and electricity <sup>2</sup>	Cost of materials and supplies used <sup>4</sup>	Value of shipments of goods of own manufacture <sup>4</sup>	Value added <sup>4</sup>	Working owners and partners <sup>6</sup>		Total employees <sup>7</sup>		Total value added <sup>8</sup>
		Number	Man-hours paid	Wages					Number	Withdrawals	Number	Salaries and wages	
No.		'000			\$'000			\$'000		\$'000			
<b>1961</b>													
Individual ownerships .....	} 125	10,791	23,485	55,798	42,001	181,624	478,690	260,137	11	11	16,356	89,237	269,288
Partnerships .....													
Incorporated companies .....													
Cooperatives .....	-	-	-	-	-	-	-	-	-	-	-	-	-
Head offices, sales offices and auxiliary units <sup>10</sup> .....	...	...	...	...	...	...	...	...	...	...	392	2,448	1,400
<b>Totals .....</b>	<b>125</b>	<b>10,791</b>	<b>23,485</b>	<b>55,798</b>	<b>42,001</b>	<b>181,624</b>	<b>478,690</b>	<b>260,137</b>	<b>11</b>	<b>11</b>	<b>16,748</b>	<b>91,686</b>	<b>270,688</b>
<b>1962</b>													
Individual ownerships .....	-	-	-	-	-	-	-	-	-	-	-	-	-
Partnerships .....	} 126	10,595	23,069	57,382	42,756	190,967	517,199	280,908	11	11	16,102	91,810	291,053
Incorporated companies .....													
Cooperatives .....													
Head offices, sales offices and auxiliary units <sup>10</sup> .....	...	...	...	...	...	...	...	...	...	...	406	2,574	2,120
<b>Totals .....</b>	<b>126</b>	<b>10,595</b>	<b>23,069</b>	<b>57,382</b>	<b>42,756</b>	<b>190,967</b>	<b>517,199</b>	<b>280,908</b>	<b>11</b>	<b>11</b>	<b>16,508</b>	<b>94,384</b>	<b>293,173</b>

See footnotes following Table 3 A.

**TABLE 2. Industry Outputs, Inputs and Value Added, 1961 and 1962**

Basis: Revised Standard Industrial Classification and New Establishment Concept<sup>1</sup>

Item	1961		1962	
	\$'000			
<b>Manufacturing activity:</b>				
Value of shipments - Goods of own manufacture .....		478,690		517,199
Add: Closing inventory - Goods in process .....	8,856		8,173	
Finished goods .....	41,661	50,517	41,608	49,781
Deduct: Opening inventory - Goods in process .....	8,446		9,457	
Finished goods .....	36,998	(45,444)	42,890	(52,347)
Gross output - Manufacturing activity .....		483,763		514,632
Deduct: Cost of materials and supplies used in manufacturing activity .....	181,624		190,967	
Cost of fuel and electricity used .....	42,001	(223,625)	42,756	(233,723)
Value added - Manufacturing activity .....		260,137		280,908
<b>Non-manufacturing activities:</b>				
Value of shipments - Goods not of own manufacture .....		..		67,354
Add: All other revenue .....	..		3,798	
Closing inventory - Goods purchased for resale .....	5,726	..	5,739	9,537
Deduct: Purchases of goods for resale as such .....	..		55,749	
Opening inventory - Goods not of own manufacture .....	4,688		5,093	
Cost of all other materials and supplies used .....	..	(..)	3,784	(64,626)
Value added - Non-manufacturing activities .....		10,551		12,265
<b>Total value added .....</b>		<b>270,688</b>		<b>293,173</b>

See footnote following Table 3 A.

**TABLE 3. Employment and Payroll, 1961 and 1962**  
Basis: Revised Standard Industrial Classification and New Establishment Concept<sup>1</sup>

Year and province	Employees										Salaries and wages				
	Production and related workers				Adminis-trative and office <sup>6,9</sup>		Sales, and distribution <sup>9</sup>		Total employees <sup>7,9</sup>		Production and related workers		Adminis-trative and office	Sales, and distri-bution	Total salaries and wages
	Manufacturing <sup>4</sup>		Other <sup>9</sup>		Male	Female	Male	Female	Male	Female	Manufacturing	Other			
	Male	Female	Male	Female											
1961	number										\$'000				
Newfoundland .....															
Nova Scotia .....	55	-	..	..	..	..	..	..	113	15	211	..	..	515	
New Brunswick .....															
Quebec .....	2,690	10	..	..	..	..	..	..	3,675	216	13,708	..	..	21,074	
Ontario .....	6,141	37	..	..	..	..	..	..	9,088	810	32,929	..	..	55,793	
Manitoba .....	54	1	..	..	..	..	..	..	122	22	217	..	..	598	
Saskatchewan .....															
Alberta .....	723	8	..	..	..	..	..	..	1,114	82	3,673	..	..	6,273	
British Columbia .....	1,060	12	..	..	..	..	..	..	1,435	56	5,060	..	..	7,433	
<b>Totals .....</b>	<b>10,723</b>	<b>68</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>..</b>	<b>15,547</b>	<b>1,201</b>	<b>55,798</b>	<b>..</b>	<b>..</b>	<b>91,686</b>	
1962	number										\$'000				
Newfoundland .....															
Nova Scotia .....	57	-	-	-	31	11	31	1	119	12	244	-	167	570	
New Brunswick .....															
Quebec .....	2,248	4	4	-	743	147	86	22	3,081	173	12,478	13	5,694	18,829	
Ontario .....	6,435	38	170	1	2,334	611	580	173	9,519	823	35,529	873	19,693	60,421	
Manitoba .....	56	1	3	-	32	13	33	2	124	16	235	15	198	606	
Saskatchewan .....															
Alberta .....	728	8	5	-	334	73	40	2	1,107	83	3,801	21	2,335	6,384	
British Columbia .....	1,017	3	3	-	325	40	52	10	1,398	53	5,096	14	2,153	7,574	
<b>Totals .....</b>	<b>10,541</b>	<b>54</b>	<b>185</b>	<b>1</b>	<b>3,800</b>	<b>895</b>	<b>822</b>	<b>210</b>	<b>15,348</b>	<b>1,160</b>	<b>57,382</b>	<b>936</b>	<b>30,239</b>	<b>94,384</b>	

See footnotes following Table 3 A.

**TABLE 3 A. Production and Related Workers,<sup>4</sup> - Manufacturing Activity, by Months, 1962**  
Basis: Revised Standard Industrial Classification and New Establishment Concept<sup>1</sup>

Month	Establishments reporting monthly detail	
	Male	Female
	number	
January .....	10,882	51
February .....	10,903	56
March .....	10,783	54
April .....	11,000	52
May .....	11,127	52
June .....	11,237	57
July .....	11,448	51
August .....	9,964	53
September .....	9,817	55
October .....	9,831	54
November .....	9,738	52
December .....	9,735	51
Monthly averages .....	10,541	54

<sup>1</sup> See Table 2 and Explanatory Notes concerning manufacturing and non-manufacturing activities.

<sup>2</sup> See Explanatory Notes.

<sup>3</sup> This category, in this table only, includes working owners and partners. Since administrative and office employees are engaged in a variety of activities they have been excluded from manufacturing activity beginning with the revised 1961 series shown in the following tables. They are included here for purposes of comparison with the tabulations of previous years.

<sup>4</sup> Conceptually identical to previous years. See Explanatory Notes.

<sup>5</sup> Cannot be reported separately for manufacturing and non-manufacturing activities but related substantially to manufacturing activity. Identical concept to previous years.

<sup>6</sup> Working owners and partners were included with administrative and office employees in the "Manufacturing series" published in former years. See Explanatory Notes.

<sup>7</sup> Includes production and related workers, administrative and office employees, sales distribution and other employees. See Explanatory Notes for the treatment of head office employees and those employed in auxiliary units.

<sup>8</sup> Value of total shipments and other operational revenue less total cost of materials, supplies, fuels used and purchases of products and materials for resale in the same condition; all adjusted for inventory changes where required. See Table 2 and Explanatory Notes.

<sup>9</sup> Sales and distribution workers and production workers (non-manufacturing) are included for the first time as a result of the full implementation of the new definition of the establishment. The figures for production workers (non-manufacturing), administrative and office employees and sales and distribution workers are not yet available for 1961 but form part of total employees. Sales and distribution workers may include some employees that are reported as part of a manufacturing establishment but are not working at the establishment's location. Head offices, sales offices, etc., which report separately are included in the figures for the province in which they are located.

<sup>10</sup> These data cover the activities reported by separately located units such as head offices, sales offices, administrative offices, laboratories, warehouses, etc. Such units do not usually constitute separate "establishments" as they do not normally generate all the necessary elements of input and output statistics. However, they are treated as extensions of manufacturing establishments and, in the case of individual industries, may be located in provinces where no processing plants are situated. For the most part, these units contribute only to costs of operations (mainly salaries and wages) and they are included here to provide completeness and consistency of the statistics. See Explanatory Notes which deal with Single and Multi establishments for a complete explanation of procedures.

<sup>11</sup> Confidential data.

<sup>12</sup> Includes paid employees and working owners but includes unpaid family workers.

Note: Figures may not add due to rounding.



**TABLE 4: Materials and Supplies Used in Manufacturing Activity, 1962**  
 Basis: Revised Standard Industrial Classification and New Establishment Concept<sup>1</sup>

Description	Quantity	Cost \$'000
<b>1. Materials used:</b>		
Acetone	lb. 1,824,551	161
Acid - Acetic, 99½%	" 434,172	53
Fatty - Oleic	" 603,727	111
Stearic	" 970,745	100
Other fatty acids	" 10,435,767	917
Formic, 85%	" 718,229	97
Hydrochloric (muriatic), 100%	" 7,415,188	367
Hydrofluoric	" 4,362,215	789
Nitric, 100%	" 8,458,846	262
Phosphoric	" 15,603,831	1,432
Sulphuric - New acid (as 100%)	ton 42,973	1,154
Spent acid (as 100%)	" 1,244	8
Alcohol - Butyl (including isobutyl and normal)	lb. 4,280,281	578
Isopropyl	" 1,051,031	78
Methyl	Imp. gal. 2,506,263	757
Aluminum chloride	lb. 3,914,792	496
Aluminum sulphate (alum)	" 1,219,499	34
Ammonia, anhydrous	ton 102,172	5,314
Barium carbonate	lb. 1,362,445	76
Barium chloride	" 689,662	46
Benzol	" 156,810,231	5,503
Betanaphthol	" 212,543	57
Calcium carbonate (whiting and chalk)	" 667,899	11
Carbon, activated	" 406,187	98
Carbon bisulphide (disulphide)	" 2,290,002	117
Carbon tetrachloride	" 15,807,530	1,254
Chlorine	ton 16,309	1,171
Coal, (except for fuel) - Anthracite	" 97,778	1,437
Bituminous	" 60,862	886
Cobalt acetate	lb. 8,400	7
Coke, (except for fuel) - Petroleum	ton 1,144	31
Other	" 125,609	2,377
Cresol (including cresylic acid, all forms)	lb. 255,934	48
Diatomaceous earth	ton 12,086	718
Electrodes (purchased)	" .....	763
Ethanolamine - Mono	lb. 673,026	194
Di	" 412,712	107
Tri	" 31,974	10
Fluorspar	ton 7,848	385
Formaldehyde, 100% solids basis	lb. 997,127	111
Glycerine (includes mainly crude grade)	" 1,197,775	186
Glycols - Ethylene	" 147,852	21
Other grades	" 1,193,448	192
Graphite	" 651,047	241
Iron and steel scrap (borings, etc.)	ton 5,578	182
Lead, pig	lb. 24,134,370	2,418
Lead sulphate	" 35,300	6
Limestone	ton 559,723	1,368
Lime - Hydrated	" 7,939	88
Quick	" 23,808	322
Litharge	lb. 1,858,800	256
Mercury	" 88,046	212
Muriate of potash (potassium chloride)	ton 10,215	477
Natural gas (as a material in manufacturing; not for fuel)	M cu. ft. 12,330,707	4,264
Oils - Castor	lb. 1,703,527	273
Cocconut	" 2,738,193	359
Linseed	Imp. gal. 22,176	38
Tall	lb. 360,610	40
Other oils	" 2,228,550	240
Phenol	" 3,568,704	511
Petrochemical feed stocks - L.P.G.'s (Butane, propane, other)	" ..	5,455
Other	" ..	23,670
Phosphate rock	ton 752,796	10,073
Potassium bichromate	lb. 136,894	28
Potassium hydroxide (as 100% KOH)	" 3,109,108	180
Phthalic anhydride	" 4,794,307	635
Quartz and quartzite	ton 63,914	219
Silica sand	" 24,210	232
Sodium chloride, dry (common salt)	" 353,863	3,332
Sodium chloride, brine (salt content)	" 55,053	173
Sodium bichromate	lb. 2,900,363	392
Sodium hydroxide (caustic soda as 100% Na OH)	ton 35,728	2,312
Sodium nitrate	lb. 264,309	14
Sodium prussiate	" 448,041	65
Sodium silicate (water glass) (including metasilicate)	" 517,155	22
Sulphur (brimstone)	ton 206,991	5,053
Tallow	lb. 10,884,365	622
Titanium dioxide	" 165,392	41
Toluene (toluol)	" 30,584,320	910
Urea	" 14,721,232	541
Xylene (xylol)	" 234,653	10
Zinc chloride	" 327,799	21
Zinc oxide	" 458,554	64
Steel sheets for making containers	ton 1,506	262
All other materials and components used		61,752
<b>2. Containers and other packaging materials and supplies used</b>		<b>11,286</b>
<b>3. Operating, maintenance and repair supplies used (excluding fuel)</b>		<b>22,714</b>
<b>4. Amount paid out to others for work done on materials owned by establishments</b>		<b>1,080</b>
<b>Total</b>		<b>190,967</b>

<sup>1</sup> See Explanatory Notes.

**TABLE 5. Fuel and Electricity Used<sup>1</sup> in Manufacturing Activity,<sup>2</sup> 1962**  
Basis: Revised Standard Industrial Classification and New Establishment Concept<sup>3</sup>

Description	Quantity	Cost	
		\$'000	
Bituminous coal:			
(a) From Canadian mines .....	ton 52,144	509	
(b) Imported .....	" 812,331	6,831	
Sub-bituminous coal (from Alberta mines only) .....	-	-	
Anthracite coal .....	ton 3,327	62	
Lignite coal .....	-	-	
Coke .....	ton 30,968	190	
Gasoline (including gasoline used in cars and trucks) .....	Imp. gal. 1,090,924	354	
Fuel oil including kerosene or coal oil .....	" 24,341,756	1,988	
Wood .....	cord 18	--	
Gas:			
(a) Liquefied petroleum gases .....	Imp. gal. 105,380	20	
(b) Other manufactured gas .....	M cu. ft. 7,088,463	3,909	
(c) Natural gas .....	" 18,880,771	4,615	
Other fuel .....	...	498	
Electricity purchased .....	kwh. 5,197,410,239	21,362	
Steam purchased .....	...	2,418	
<b>Total fuel and electricity used .....</b>	...	<b>42,756</b>	

<sup>1</sup> Does not include fuel and electricity produced for own use.  
<sup>2</sup> Includes only fuel and electricity purchased. Conceptually identical to previous years in that it also includes relatively small amounts used in non-manufacturing activities since these cannot be reported separately.  
<sup>3</sup> See Explanatory Notes.

**TABLE 6. Industry Inventories,<sup>1</sup> 1962**  
Basis: Revised Standard Industrial Classification and New Establishment Concept<sup>2</sup>

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: <sup>3</sup>						
Newfoundland .....						
Nova Scotia .....	87	-	23	111	136	246
New Brunswick .....						
Quebec .....	6,220	1,872	6,939	15,030	1,298	16,328
Ontario .....	20,484	7,314	20,375	48,303	2,834	51,137
Manitoba .....	49	3	24	76	124	200
Saskatchewan .....	20	-	12	32	98	130
Alberta .....	2,284	263	4,323	6,871	226	7,097
British Columbia .....	5,203	5	11,194	16,402	378	16,780
<b>Totals<sup>4</sup> .....</b>	<b>34,346</b>	<b>9,457</b>	<b>42,890</b>	<b>86,824</b>	<b>5,093</b>	<b>91,917</b>
Closing:						
Newfoundland .....						
Nova Scotia .....	88	-	26	115	179	294
New Brunswick .....						
Quebec .....	6,648	1,545	6,764	14,957	1,319	16,276
Ontario .....	20,798	6,281	19,975	47,445	3,291	50,736
Manitoba .....	64	3	22	89	167	255
Saskatchewan .....	16	-	12	28	102	130
Alberta .....	2,566	189	3,316	6,071	263	6,334
British Columbia .....	5,388	156	11,492	17,035	420	17,455
<b>Totals<sup>4</sup> .....</b>	<b>35,568</b>	<b>8,173</b>	<b>41,608</b>	<b>85,740</b>	<b>5,739</b>	<b>91,479</b>

<sup>1</sup> Values represent book values of inventories 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.

<sup>2</sup> See Explanatory Notes.

<sup>3</sup> The opening inventories may differ from the closing inventories for the previous survey 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.

<sup>4</sup> Figures may not add due to rounding.

**Note:** The differences between figures in this table 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.

TABLE 7. Factory Shipments of Chemicals, 1961 and 1962

	Selling value at plant	
	1961	1962
	\$'000	
Acids, including acetic, muriatic, nitric, sulphuric, phosphoric, stearic, etc. ....	30,950	33,116
Calcium compounds, including carbide, chloride, phosphide, cyanamide, cyanide acid phosphate, grey acetate, arsenate, chloride of lime, etc. ....	15,210	15,781
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) .....	46,568	50,732
Organic chemicals, including acetic anhydride, butyl acetate, ethyl acetate paraaldehyde, glycols, pentasol acetate, vinyl acetate, ethyl alcohol, methyl hydrate, glycerine, phenol, cresol, benzol, etc., (acetic acid and acetylene included elsewhere) .....	147,110	170,841
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. ....	74,030	81,782
Fertilizer chemicals, including ammonium sulphate, ammonium nitrate (fertilizer grade), ammonium phosphate and superphosphate .....	64,524	80,158
Synthetic resins, including casein type, vinyls, polystyrene, phenol-formaldehyde, urea-formaldehyde, alkyds, sodium carboxymethylcellulose, etc. ....	91,975	96,709
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. ....	64,183	73,323
<b>Totals</b> .....	<b>534,550</b>	<b>602,448</b>

TABLE 8. Production,<sup>1</sup> Imports, Exports and Apparent Consumption of Sulphuric Acid, 1925 -62

Year	Production	Imports	Exports	Apparent consumption <sup>2</sup>
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	1,839,096
1961 .....	1,614,000	7,275	38,914	1,582,361
1962 .....	1,696,000	7,162	34,960	1,668,202

<sup>1</sup> From all industries.

<sup>2</sup> No allowance made for changes in inventories.

TABLE 9. Production,<sup>1</sup> Imports and Exports of Chlorine and Caustic Soda, 1958 -62

Year	Chlorine	Caustic soda <sup>2</sup> (100% Na OH)
<b>(a) Production:</b>		
1958 .....	268,000	313,000
1959 .....	282,000	341,000
1960 .....	322,000	373,000
1961 .....	354,000	415,000
1962 .....	371,000	432,000
<b>(b) Imports:</b>		
1958 .....	23,102	30,737
1959 .....	26,584	35,972
1960 .....	27,820	41,361
1961 .....	29,686	37,107
1962 .....	32,478	53,062
<b>(c) Exports:</b>		
1958 .....	14,491	1,710
1959 .....	16,844	2,799
1960 .....	24,483	3,135
1961 .....	19,965	..
1962 .....	24,900	..

<sup>1</sup> From all industries.

<sup>2</sup> 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, 1961 and 1962

Industry	1961	1962
	short tons of 100% acid	
Iron and steel mills .....	55,100	58,400
Other iron and steel .....	12,600	11,800
Electrical products .....	4,900	5,000
Vegetable oil mills .....	100	100
Sugar refineries .....	200	200
Leather tanneries .....	2,200	2,000
Pulp and paper mills .....	36,100	42,900
Uranium ore processing .....	283,300	239,700
Manufacturers of mixed fertilizers <sup>1</sup> .....	114,600	237,500
Manufacturers of plastics and synthetic resins .....	20,900	22,400
Manufacturers of soap and cleaning compounds .....	15,700	17,500
Other chemical industries .....	11,500	10,700
Manufacturers of industrial chemicals <sup>2</sup> (includes bauxite concentration) .....	833,400	885,200
Petroleum refining industry .....	13,800	12,800
Mining <sup>3</sup> .....	52,000 <sup>4</sup>	46,400 <sup>4</sup>
Miscellaneous <sup>5</sup> .....	96,300	65,400
<b>Total accounted for .....</b>	<b>1,552,700</b>	<b>1,658,200</b>

<sup>1</sup> Includes used for production of superphosphates.

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

<sup>3</sup> Includes metal mines, non-metal mines, mineral fuels and structural materials.

<sup>4</sup> Estimated.

<sup>5</sup> Includes synthetic textiles, explosives and ammunition, and other petroleum and coal.

Note: Figures shown by industry for 1960 and subsequent years are not necessarily comparable with previous years because of the change in the industry concept brought about by the implementation of the new Standard Industrial Classification (S.I.C.) in 1960 and the New Establishment Concept in 1961.

A further result of the new S.I.C. concept is that some industries have disappeared completely.

TABLE 11. Available Data on the Consumption of Chlorine, by Industries, 1961 and 1962

Industry	1961	1962
	net tons	
Iron and steel mills .....	104	-
Municipal waterworks (1959 latest available) .....	2,721	2,721
Mining <sup>1</sup> (1960 data latest available) .....	5,113 <sup>2</sup>	5,113 <sup>2</sup>
Pulp and paper mills <sup>3</sup> .....	192,828	211,400
Textile dyeing and finishing plants .....	6	8
Manufacturers of plastics and synthetic resins .....	280	241
Manufacturers of soap and cleaning compounds .....	4,238	4,680
Other chemical industries .....	1,472	1,357
Manufacturers of industrial chemicals <sup>3</sup> .....	146,522	134,302
<b>Total accounted for .....</b>	<b>353,284</b>	<b>359,838</b>

<sup>1</sup> Includes non-metal mines, metal mines, mineral fuels and structural materials.

<sup>2</sup> Estimated.

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

Note: Figures shown by industry for 1960 and subsequent years are not necessarily comparable with previous years because of the change in the industry concept brought about by the implementation of the new Standard Industrial Classification (S.I.C.) in 1960 and the New Establishment Concept in 1961. A further result of the new S.I.C. concept is that some industries have disappeared completely.

TABLE 12. Available Data on the Consumption of Caustic Soda, by Industries, 1961 and 1962

Industry	1961	1962
	net tons of 100% Na OH	
Pulp and paper mills <sup>1</sup> .....	178,022	219,764
Manufacturers of soap and cleaning compounds .....	22,597	24,972
Manufacturers of industrial chemicals <sup>1</sup> (includes bauxite concentration) .....	162,817	169,012
Petroleum refining .....	10,927	11,645
Manufacturers of plastics and synthetic resins .....	12,740	14,833
Other chemical industries .....	5,025	4,542
Miscellaneous food industries (includes starch and glucose) .....	1,450	2,121
Mining <sup>2</sup> (1960 data latest available) .....	10,356 <sup>3</sup>	10,356 <sup>3</sup>
Manufacturers of pharmaceuticals and medicines .....	346	..
Iron and steel mills .....	1,274	1,244
Textile dyeing and finishing .....	145	156
Manufacturers of toilet preparations .....	116	..
Other petroleum and coal products industries .....	17	..
Sugar refineries .....	87	82
Vegetable oil mills .....	131	124
Miscellaneous <sup>4</sup> .....	18,200	22,482
<b>Total accounted for .....</b>	<b>424,250</b>	<b>481,333</b>

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

<sup>2</sup> Includes metal mines, non-metal mines, mineral fuels and structural materials.

<sup>3</sup> Estimated.

<sup>4</sup> Includes synthetic textile mills, explosives, plastic fabricators, sausage and sausage casings.

Note: Figures shown by industry for 1960 and subsequent years are not necessarily comparable with previous years because of the change in the industry concept brought about by the implementation of the new Standard Industrial Classification (S.I.C.) in 1960 and the New Establishment Concept in 1961. A further result of the new S.I.C. concept is that some industries have disappeared completely.



TABLE 13. Factory Shipments<sup>1</sup> of Ammonium Sulphate, 1958 - 62

Year	Shipments
	tons
1958	300,049
1959	307,121
1960	349,677
1961	278,527
1962	291,683

<sup>1</sup> From all industries.

TABLE 14. Factory Shipments<sup>1</sup> of Pigments and Dry Colours, 1958 - 62

Year	Shipments <sup>2</sup>
	\$'000
1958	26,506
1959	27,369
1960	25,980
1961	28,477
1962	33,306

<sup>1</sup> From all industries.

<sup>2</sup> 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, 1958 - 62

Year	Quantity	Selling value at plant
	pounds	\$'000
1958	299,185,000	67,351
1959 <sup>1</sup>	230,018,000	51,437
1960	335,872,000	76,039
1961	372,254,000	83,427
1962	372,394,000	80,200

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

TABLE 16. Factory Shipments<sup>1</sup> of Acetylene and Oxygen, 1958 - 62

Year	Acetylene		Oxygen <sup>2</sup>	
	Quantity	Selling value at plant	Quantity	Selling value at plant
	cu. ft.	\$'000	cu. ft.	\$'000
1958	180,973,230	6,772	1,203,933,175	10,604
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

<sup>1</sup> 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.

<sup>2</sup> Excludes tonnage oxygen.

TABLE 17. Capital and Repair Expenditures, 1960 - 62

Year	Capital expenditures			Repair expenditures			Total capital and repair expenditures		
	Construction	Machinery and equipment	Sub-total	Construction	Machinery and equipment	Sub-total	Construction	Machinery and equipment	Total
	\$'000								
1960	..	..	..	..	..	..	..	..	..
1961	..	..	..	..	..	..	..	..	..
1962	25,325	35,547	60,872	6,429	32,426	38,855	31,754	67,973	99,727

Source: Business Finance Division. - DBS.

List of Establishments, 1962

Name	Address
<b>Newfoundland:</b>	
L'Air Liquide and Canadian Liquid Air Co., Ltd. ....	St. John's
<b>Nova Scotia:</b>	
L'Air Liquide and Canadian Liquid Air Co., Ltd. ....	Halifax
L'Air Liquide and Canadian Liquid Air Co., Ltd. ....	Sydney
Liquid Carbonic Canadian Corp. Ltd. ....	Dartmouth
Noah, A. and H. ....	Yarmouth
<b>New Brunswick:</b>	
L'Air Liquide and Canadian Liquid Air Co., Ltd. ....	Moncton
Pearlglow Products Co. Ltd. ....	Saint John
Union Carbide Canada Ltd., Linde Gases Div. ....	Saint John
<b>Quebec:</b>	
Abbey Chemical Co. ....	St. Antoine des Laurentides
British Chrome Chemicals (Canada) Ltd. ....	Ville St. Michel
Canadian Alcolac Ltd. ....	Valleyfield
Canadian Industries Limited ....	Shawinigan Falls
Canadian Titanium Pigments Ltd. ....	Varenes
Carter White Lead Co. of Canada Ltd., The ....	Montreal
Chemicals Refineries Corp. ....	Napierville
Durham Industries (Canada) Limited ....	Montreal
Electric Reduction Co. of Canada Ltd. ....	Buckingham
Electric Reduction Co. of Canada Ltd. ....	Varenes
Hercules Powder Co. (Canada) Ltd. ....	St. Johns
L'Air Liquide and Canadian Liquid Air Co., Ltd. ....	Montreal
L'Air Liquide and Canadian Liquid Air Co., Ltd. ....	Quebec
L'Air Liquide and Canadian Liquid Air Co., Ltd. ....	Tracey
Laurentides Chemicals and Sulphur Ltd. ....	Montreal East
Liquid Carbonic Canadian Corp. Ltd. ....	Montreal
McArthur Irwin Ltd. ....	Outremont
National Silicates Ltd. ....	Valleyfield
Nichols Chemicals Co., Ltd., The ....	Valleyfield
Ogilvie Flour Mills Co., Ltd., The ....	Montreal
Shawinigan Chemicals Ltd. ....	Montreal East
Shawinigan Chemicals Ltd. ....	Shawinigan Falls
Shawinigan Chemicals Ltd. ....	Varenes
Shell Canada Ltd. ....	Montreal East
Standard Chemical Limited ....	Beauharnois
Sturge (Canada) Limited ....	Valleyfield
Union Carbide Canada Ltd., Linde Gases Div. ....	Lauzon
Union Carbide Canada Ltd., Linde Gases Div. ....	Montreal (305 Bourgeois St.)
Union Carbide Canada Ltd., Linde Gases Div. ....	Montreal (10451 Metropolitan Blvd.)
Union Carbide Canada Ltd., Linde Gases Div. ....	Sept Isles
Union Carbide Canada Ltd., Linde Gases Div. ....	Shawinigan Falls

List of Establishments, 1962 - Continued

Name	Address
<b>Ontario:</b>	
Brockville Chemicals Ltd. ....	Maitland
Brunner Mond Canada Ltd. ....	Amberstburg
Cabot Carbon of Canada Limited .....	Sarnia
Canada Packers Limited .....	Toronto
Canadian Industries Limited .....	Copper Cliff
Canadian Industries Limited .....	Cornwall
Canadian Industries Limited .....	Hamilton
Canadian Industries Limited .....	Millhaven
Canadian Oxygen Limited .....	Toronto
Church and Dwight Ltd. ....	Amberstburg
Columbian Carbon (Canada) Ltd. ....	Hamilton
Cornwall Chemicals Limited .....	Cornwall
Cyanamid of Canada Ltd. ....	Niagara Falls
Cyanamid of Canada Ltd. (Welland works) .....	Niagara Falls
Cyanamid of Canada Ltd. ....	Hamilton
Dominion Colour Corporation Ltd. ....	New Toronto
Dow Chemical of Canada Ltd. ....	Sarnia
Dryden Chemicals Ltd. ....	Dryden
Dupont Co. of Canada Ltd. ....	Maitland
Dussek Bros. Canada Ltd. ....	Belleville
Emery Industries (Canada) Ltd. ....	London
Ethyl Corporation of Canada Ltd. ....	Corunna
Harchem Limited .....	Toronto
Howards and Sons (Canada) Ltd. ....	Cornwall
Imperial Oil Limited .....	Sarnia
Kemball, Bishop, (Canada), Div. of Pfizer Corporation .....	Cornwall
L'Air Liquide and Canadian Liquid Air Co., Ltd. ....	Hamilton
L'Air Liquide and Canadian Liquid Air Co., Ltd. ....	London
L'Air Liquide and Canadian Liquid Air Co., Ltd. ....	Port Arthur
L'Air Liquide and Canadian Liquid Air Co., Ltd. ....	Sudbury
L'Air Liquide and Canadian Liquid Air Co., Ltd. ....	Toronto
Liquid Carbonic Canadian Corp. Ltd. ....	Maitland
Liquid Carbonic Canadian Corp. Ltd. ....	Toronto
Liquid Carbonic Canadian Corp. Ltd. ....	Toronto
National Oxygen Ltd., Div. of Anthes Imperial Co., Ltd. ....	Oakville
National Silicates Ltd. ....	Toronto
Naugatuck Chemicals, Div. of Dominion Rubber Co., Ltd. ....	Elmira
Nichols Chemical Co., Ltd., The .....	Port Arthur
Nichols Chemical Co., Ltd., The .....	Sulphide
Nichols Chemical Co., Ltd., The .....	Thorold
Noranda Mines Limited .....	Cutler
Northern Pigment Co., Ltd. ....	Ethobicoke
Nuodex Products of Canada Ltd. ....	Leaside
Pigment and Chemical Co. Ltd. ....	Milton
Polymer Corporation Limited .....	Sarnia
Resco Chemicals and Colours Ltd. ....	Toronto
Sherbrooke Metallurgical Co. Ltd. ....	Dunnville
St. Clair Chemical Ltd. ....	Sarnia
Standard Ultramarine and Colour Co. Ltd. ....	Toronto

List of Establishments, 1962 - Concluded

Name	Address
<b>Ontario—Concluded</b>	
Union Carbide Canada Ltd., Linde Gases Div. ....	Fort William
Union Carbide Canada Ltd., Linde Gases Div. ....	Oakland
Union Carbide Canada Ltd., Linde Gases Div. ....	St. Catharines
Union Carbide Canada Ltd., Linde Gases Div. ....	Sault Ste. Marie
Union Carbide Canada Ltd., Linde Gases Div. ....	Welland
Welland Chemicals of Canada Ltd. ....	Port Colborne
Witco Chemical Co. (Canada) Ltd. ....	Oakville
<b>Manitoba:</b>	
Border Chemical Co. Ltd. ....	Springfield
L'Air Liquide and Canadian Liquid Air Co., Ltd. ....	Winnipeg
Liquid Carbonic Canadian Corp. Ltd. ....	Winnipeg
Union Carbide Canada Ltd., Linde Gases Div. ....	Transcona
<b>Saskatchewan:</b>	
L'Air Liquide and Canadian Liquid Air Co., Ltd. ....	Regina
Union Carbide Canada Ltd., Linde Gases Div. ....	Saskatoon
<b>Alberta:</b>	
Canadian Chemical Co., Ltd. ....	Edmonton
Consolidated Mining and Smelting Co. of Canada Ltd. ....	Calgary
Inland Chemicals Ltd. ....	Fort Saskatchewan
L'Air Liquide and Canadian Liquid Air Co., Ltd. ....	Calgary
L'Air Liquide and Canadian Liquid Air Co., Ltd. ....	Edmonton
Naugatuck Chemicals, Div. of Dominion Rubber Co. Ltd. ....	Clover Bar
Northwest Nitro Chemicals Ltd. ....	Medicine Hat
Union Carbide Canada Ltd., Linde Gases Div. ....	Edmonton
Western Chemicals Limited ....	Duvernay
<b>British Columbia:</b>	
Consolidated Mining and Smelting Co. of Canada Ltd. ....	Kimberley
Consolidated Mining and Smelting Co. of Canada Ltd. ....	Tadanac
Dow Chemical of Canada Ltd. ....	Ladner
Electric Reduction Co. of Canada Ltd. ....	North Vancouver
Hooker Chemicals Ltd. ....	North Vancouver
L'Air Liquide and Canadian Liquid Air Co., Ltd. ....	Cranbrook
L'Air Liquide and Canadian Liquid Air Co., Ltd. ....	Dawson Creek
L'Air Liquide and Canadian Liquid Air Co., Ltd. ....	Kitimat
L'Air Liquide and Canadian Liquid Air Co., Ltd. ....	Nanaimo
L'Air Liquide and Canadian Liquid Air Co., Ltd. ....	North Vancouver
L'Air Liquide and Canadian Liquid Air Co., Ltd. ....	Vancouver
L'Air Liquide and Canadian Liquid Air Co., Ltd. ....	Victoria
Liquid Carbonic Canadian Corp. Ltd. ....	Prince George
Liquid Carbonic Canadian Corp. Ltd. ....	Vancouver
Nichols Chemical Co., Ltd. ....	Barnet
Union Carbide Canada Ltd., Linde Gases Div. ....	Vancouver



## EXPLANATORY NOTES

This report is one in a series of about 140 publications which present the results of the 1962 Census of Manufactures. Most reports in this series refer to specific industries, but there are summary reports for Canada and the provinces and special reports on geographical distribution and on type of ownership and size of establishments.

With the publication of the results of the 1962 Census of Manufactures, the Bureau has completed a major revision in the classification and concept of its annual census of manufacturing establishments. Because of its size and complexity, this project had to be carried out in three stages. The first stage was the change in classification and the results of the 1960 Census, together with the re-compilation of the 1957, 1958 and 1959 Censuses were published in the 1960 reports on the basis of the revised Standard Industrial Classification. This part of the project was confined entirely to a re-coding of existing reporting units. The second stage consisted of the implementation of the new definition of the reporting unit i.e. "establishment" as it applied to **manufacturing activities** of manufacturing establishments (See following note on "Establishment"). Results of the 1961 Census reflected this change in concept and, in order to provide comparability of data for recent years, the 1961 reports contained principal statistics on the basis of the new establishment definition for years back to 1957.

The third stage which was the extension of the definition of the establishment to cover **total activities** of manufacturing establishments is reflected in the statistics for 1961 and 1962 contained in this report. This full implementation of the new definition of the establishment has resulted in an extension of the data to non-manufacturing activities of manufacturing establishments and in additional changes in the 1961 statistics of manufacturing activities. Statistics on manufacturing activities will continue to be shown separately as in the past but, beginning with 1961, data on all operations (total activity) of manufacturing establishments will also be given. By definition "total activity" relates to all operational data and excludes such non-operational items as rent, interest and dividends. In addition, statistics on man-hours paid will be included as part of the regular series of industry statistics. For many industries, adjustments and revisions were made to the 1961 data on **manufacturing activities** which were published during the second stage to bring them in line with reporting procedures followed in the 1962 Census and to reflect the final application of the new concept. The 1961 statistics on manufacturing activities contained in this report are thus not entirely comparable with those published in the 1961 reports. However, the 1961 statistics are shown in this publication in both their original and revised forms in order to provide a link with the immediate past. A more complete account of recent changes and additions and brief descriptions of the principal industry statistics are given in following sections of these notes.

### Standard Industrial Classification

The revised Standard Industrial Classification which was introduced with the 1960 Census of Manufactures and applied to the results of the 1957, 1958 and 1959 censuses provides for a breakdown of the manufacturing universe into 140 industries arranged in 20 major groups. Custom Tailoring Shops is the only industry class in the Manufacturing Industries Division of the classification which is not covered in the annual Census of Manufactures. It is surveyed as part of the Decennial Census of Merchandising and Service Establishments. Of the 140 "three-digit" industry classes in the Manufacturing Industries Division, 21 are further broken down into 67 "four-digit" sub-classes. With the exception of the Wood Preservation and Sound Recording industries, the figures for which are at present confidential and have to be included with those of related industries, the statistics for all of the "four-digit" sub-classes are published regularly. Thus, at the Canada level, principal statistics are compiled for 183 industries. These cannot all be published separately by province because of the confidential nature of the data in certain provinces.

Reporting establishments are classified or allotted to specific industries in the classification system on the basis of the value of principal products made or shipped. In general, establishments primarily engaged in repair work (Shoe Repair Shops, Motor Vehicle Repair Shops etc.) are not included in manufacturing industries. Exceptions are establishments primarily engaged in furniture, ship, boat, aircraft and railroad rolling stock repairs which are classified to the manufacturing industries producing the products involved. Establishments primarily engaged in assembling parts into complete units have always been included in manufacturing industries.

Full details concerning the revised classification system are contained in the Standard Industrial Classification Manual, Catalogue No. 12-501, which is available from either the Queen's Printer or the Dominion Bureau of Statistics.

It should be noted that two new industries (Poultry Processors and Dental Laboratories) and three new groups of establishments (book publishers in the Publishing Industry, electro-plating establishments in the Metal Stamping, Pressing and Coating Industry and prescription branches in the Ophthalmic Goods Manufacturers Industry) have been included in the 1961 (revised) and 1962 Census statistics and will continue to be included thereafter. They were surveyed for the first time in the 1960 Census (1961 Census in the case of prescription branches) in line with the revised classification but, since they did not represent new production, they were removed from the 1960 and 1961 compilations published in the 1961 Census reports in order to provide complete comparability of data over the period 1957-61. Statistics for this period are repeated in the 1962 reports to supply a link with the revised 1961 data and the new 1962 statistics.

## Establishment

The reporting unit in the Census of Manufactures is the **establishment**. The majority of establishments are firms, but many firms have more than one manufacturing establishment. Such firms are requested to submit a separate Census of Manufactures report for each manufacturing establishment which can meet the reporting requirements described below.

Beginning with the 1961 Census of Manufactures the establishment is defined as follows:

"The smallest unit which is a separate operating entity capable of reporting all 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,
- Inventories,
- Shipments or sales."

Following is a description of the main features of the new establishment concept introduced in the 1961 Census, how they differ from those of the old "activity" concept and the steps taken to correct for breaks in continuity.

(a) The establishment is to be distinguished from smaller subdivisions or departments which do not have records that permit them to report all items required of an establishment. Prior to 1961, some establishments were required to submit two or more separate reports when they were engaged in activities which were classifiable to different industries. Beginning with 1961, separate reports for such activities are required only in cases where accounting records can provide the necessary input and output elements of principal statistics. Special reporting arrangements were made with respondents when the acceptance of combined reports would have seriously affected the statistics for particular industries or areas. Where continuity of industry statistics was affected by this change in reporting procedures, adjustments to the data were made back to 1957 in order to maintain comparability of the series for recent years.<sup>1</sup>

(b) A manufacturing establishment is typically a factory, mill or plant principally engaged in manufacturing activities. Prior to 1961, the Census of Manufactures attempted to cover the manufacturing activities of all establishments, whether or not they were primarily engaged in manufacturing. Beginning with the 1961 Census, establishments (accounting entities) which are not primarily engaged in manufacturing are no longer included as manufacturing establishments in the basic industry statistics.<sup>1</sup>

<sup>1</sup> Most of these adjustments were made when the results of the 1961 Census were being compiled. Since publication of these results in the 1961 reports additional adjustments were made to the 1961 data, as noted earlier, and these are reflected, where applicable, in the revised 1961 statistics contained in this report.

Again, adjustments were made to reflect the removal of such reporting units for the period 1957-60. These reporting units are now listed as establishments in other Bureau surveys, such as Wholesale Trade, Construction etc. This has resulted in a somewhat smaller universe represented by the Census of Manufactures. In terms of overall 1960 Census results, the number of establishments transferred to other industries totalled 2,786 or 8% but these represented only 0.7% of total employment and of total value of shipments of manufactured products. In order, however, to maintain complete coverage of certain commodity items produced mainly in manufacturing establishments, many non-manufacturing establishments are now surveyed by the Industry Division for commodity shipments only and the latter are included in those tables of industry reports showing shipments of certain commodities "from all industries".

(c) A manufacturing establishment may be, and often is, engaged in other activities in addition to its principal manufacturing activity. Prior to 1961 the main emphasis in the Census of Manufactures was on manufacturing activity. Beginning with 1961, each establishment reports on all the activities carried out within its accounting boundaries (except income from investments such as rent, interest and dividends) and data on different activities (manufacturing, trading in goods not of own manufacture, construction by own labour force, revenue from services etc.) are requested separately. However, the statistics published in the 1961 reports were confined to manufacturing activity only in order to maintain comparability with previous years and to permit a more thorough audit of the new data. The 1962 reports contain principal statistics on total activities of manufacturing establishments for 1961 and 1962 with the main elements of manufacturing activity shown separately as in the past. It should be noted that the statistics for separate activities are not completely consistent. Some respondents cannot distinguish in their records materials, shipments and inventories relating to own manufacturing activities from those relating to goods not of their own manufacture or to other activities and can report operational data in total only under manufacturing activity. This situation has always existed, however, and is not considered important enough to invalidate the use of the data in the measurement of manufacturing as an "activity". The values assigned by the respondent to materials and shipments of own manufactured goods include costs in varying degrees that relate to internal (to the establishment) transportation, warehousing and selling activities, but it is not possible to make adjustments to arrive at a uniform valuation for manufacturing activity only; although valuation at the establishment "boundary" must be accepted, the items valued under manufacturing activities still relate, in most cases, to "goods of own manufacture". In the case of employment only data on manufacturing production workers and manufacturing man-hours can be assigned, in total, to manufacturing activity; administrative and office employees can seldom be allocated to separate activities.



Complete consistency, therefore, can be obtained only at the "all operations" (total activity) level, and for studies or statistical measures requiring accurate co-ordinated data, the "total" statistics should be used.

(d) Additional changes resulted from intensive editing and follow-up consistent with the introduction of the new concept. An example of such changes is the provision for the elimination, in total, of sales taxes and outward transportation charges from value of shipments. Prior to 1961, although the value of shipments for each product was requested excluding taxes and transportation charges, no allowance had been made for the reporting of these items in total when the respondents' records did not permit their deduction from the values of the individual products. Another example is a change in the valuation of shipments where, prior to 1961, a manufacturing company operating warehouses or sales outlets was reporting value of shipments in terms of an estimated manufacturer's price in accordance with the old activity concept, even though his records were not kept on this basis. Since the accounting boundary in such cases extends to distribution operations, the respondent was instructed in 1961 to report shipments at the final selling price in order to obtain more realistic and accurate data.<sup>2</sup> Adjustments were made to the value of shipments for the period 1957-60 to reflect such changes and maintain continuity of the shipments data. Since no actual data to make these corrections were available for back years, 1961 adjustment ratios were applied to the previous years for each industry affected, on the assumption that the valuation changes in 1961 applied in equal proportions to the preceding period.<sup>3</sup>

(e) The new concept also demands that inventories held apart from plant be included with plant inventories if establishment boundaries extend to warehouses and sales outlets. Prior to 1961, compilations took into account only the inventories held at plant. In this case, however, most of the missing data were available from supplementary questions in the Annual Census and from the Monthly Inventories and Shipments Survey and actual corrections could be made for previous years.

<sup>2</sup> Some manufacturing firms operate sales branches or selling warehouses as separate sales establishments for which complete accounting records of receipts, expenses, employment and sales are maintained. In such cases the plants, in effect, "sell" to the sales outlets on much the same basis as they would to independent buyers. The value of plant shipments is based on factory prices and the "boundary" of the manufacturing establishment does not extend beyond the plant. The sales outlets in such cases constitute separate sales establishments and are classified to wholesale or retail trade. Some sales outlets of manufacturing firms, although they physically handle products of the plants, do not maintain separate accounts and are generally treated for statistical purposes as extensions of manufacturing operations. Special arrangements were made for separate reporting in a few cases where the treatment of such outlets as manufacturing extensions would seriously affect the significance of statistics for particular manufacturing and trade industries.

<sup>3</sup> See footnote 1.

(f) Prior to 1961 the Census of Manufactures did not have complete coverage of head and administrative offices and had never surveyed separate sales offices, warehouses or laboratories operated by manufacturing firms. Beginning with the 1961 survey, complete coverage of these auxiliary units was effected. In the past the employment and salaries and wages of those head and administrative offices that were surveyed were either coded in total to the industry in which the greatest portion of the company's manufacturing activities was classified or else, in the case of certain large multi-unit firms with establishments in several industries, were pro-rated among the different industries involved. In the original 1961 statistics published in 1961 reports, the same coverage and treatment of head offices was applied to maintain comparability over the 1957-61 period. Beginning with the revised 1961 statistics, all head offices and auxiliary units are covered and are processed according to the methods described below.

### 1. Single-Establishment Companies

In the great majority of cases central administrative and executive personnel of companies consisting only of one establishment are generally located at the site of the manufacturing plant and are automatically included in the plant reports. Where head offices and auxiliary units are geographically separate from plant locations and employ a sizeable number of workers they are surveyed on special questionnaires.

Separately located head offices, sales offices, administrative offices and other separate auxiliary units (laboratories, warehouses, etc.) do not usually constitute separate establishments<sup>4</sup> for purposes of industry statistics since they do not normally generate operational revenues but give rise only to costs of operation (mainly salaries and wages) which make up part of the selling price of manufactured products and which are thus included in the value of shipments or sales. Where such units belong to single-establishment companies, they will be considered as extensions of the establishment's boundaries and their operations consolidated with the establishment's total activity.

### 2. Multi-Establishment Companies

In the case of companies with more than one establishment the following rules are applied:

(i) Where all the establishments of a company are classified to the same (three-digit) industry, the head office and other auxiliary units are coded to that same industry.

(ii) Where the establishments of a company are not all classified to the same (three-digit) industry but are coded to different industries, or industries in different industry groups or even different divisions

<sup>4</sup> See footnote 2 for exceptions.

of the Standard Industrial Classification, the inclusion of data for head office and auxiliary units in any one of the (three-digit) industries concerned would distort the relationship between items of principal statistics. In such cases, the auxiliary units are coded at the group (two-digit) level in tabulations of industry statistics. Where multi-establishment companies cut across group or major division lines of the Classification, the head office and auxiliary units will be coded to the (two-digit) industry group in which the major part of the company's operations are classified. Although this may result in some distortion of (two-digit) industry group statistics it will eliminate distortion within groups as it will leave statistics at the (three-digit) industry level free of these company-wide data.

### **Period Covered**

Respondents are asked to submit figures for the calendar year, if at all possible, and most reports are on this basis. Financial year reports for periods differing from the calendar year are accepted in instances where respondents find it impossible to supply calendar year data from accounting records. However, the data on employees, salaries, wages and man-hours are requested on a calendar year basis in all cases.

When establishments are operated for only a portion of a year, a report is required covering the period of operation.

### **Working Owners or Partners**

Beginning with the revised 1961 statistics working owners and partners of unincorporated businesses are shown as a separate category in the principal statistics and are neither included in the number of employees nor in 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. In all previous reports of the Census of Manufactures these workers were included as part of the number of administrative and office employees and their withdrawals were included as part of salaries. Withdrawals are defined as amounts withdrawn by owners or partners for normal living expenses, excluding withdrawals for payment of income tax.

### **Number of Establishments**

The number of establishments represents the number of operating units (accounting entities as per the new definition of the establishment) for which separate reports are submitted. Head offices located apart from establishments and which are surveyed separately and separate sales and administrative auxiliaries that are treated as extensions of manufacturing activities are not included in the establishment count. However, the operational statistics (employment, salaries etc.) of such auxiliary units which are coded at the "three-digit"

level are included in the principal statistics of industries coded at the same level; those units coded at the "two-digit" level are included with the statistics for groups of industries.

### **Employees**

As noted above, the number of working owners and partners are excluded from the number of employees, beginning with the revised 1961 statistics. This change brings the definition of "employees" in the Census of Manufactures in line with that of "employees" in the Bureau's monthly Employment Survey and with that of "paid workers" in the Bureau's Labour Force Survey. For purposes of historical comparisons, the number of working owners and partners should be added to total employees (beginning with the revised 1961 data) in order to correspond with the figure of "total employees" published in previous reports concerned with the Annual Census of Manufactures.

In addition to production and related workers engaged in manufacturing activities, total employees include administrative, office, sales and distribution workers as well as any production workers employed in non-manufacturing activities such as construction undertaken for the use of the establishment by its own employees (when these are treated as a separate work force) or logging (mostly in connection with sawmills or planing mills). Number of employees represents as closely as possible equivalent annual full-time employment. Adjustments are made when reported figures indicate the existence of part-time or seasonal employment.

Administrative and office employees include all executive and supervisory officials such as presidents, vice-presidents, controllers, secretaries, treasurers etc., together with managers, professional, technical and research employees, superintendents and factory supervisors above the working foreman level, and clerical staffs. Also included are employees in activities such as advertising, credit collections, purchasing, personnel, legal, medical etc. Sales and distribution workers include office personnel whose salaries are charged to selling expense, travelling salesmen, driver salesmen, truck drivers and their helpers, etc. They exclude persons working on a commission basis who are not considered regular employees.

Production and related workers in manufacturing activities include, in addition to those engaged in processing and assembling, those employed in storing, inspecting, handling, packing, warehousing, etc. They also include employees in related activities such as maintenance, repair, janitorial and watchman services. Working foremen doing similar work to that of employees they supervise are also included. Production workers employed in non-manufacturing activities such as construction undertaken for the use of the establishment, logging



employees or outside piece-workers employed in certain industries are excluded from the number of production and related workers but are part of the total number of employees in those industries.

Production and related workers 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 twelve. This procedure is followed even though the plant did not operate in all months in order to derive equivalent annual full-time employment. The numbers are somewhat affected by turn over, in that employment is overstated when an employee changes employment within the same industry during a pay period. Other categories of workers are reported in the form of annual averages. Figures on employment and man-hours refer to the calendar year whether or not some establishments report other data on a financial year basis.

Man-hours of production and related workers in manufacturing activities 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.

### Salaries and Wages

Salaries and Wages refer to gross earnings of the employees described above, **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 workers' earnings. Payments for overtime are included.

Wages refer to amounts paid to production and related workers engaged in manufacturing operations as defined above. Salaries refer to amounts paid to all other categories of employees including relatively small numbers of production workers engaged in construction and extractive operations or who are employed as outside piece-workers. Figures on salaries and wages refer to the calendar year whether or not some establishments reported other data on a financial year basis.

### 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.

### Materials and Supplies

(a) Used in 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. The statistics represent only commodity items or physical goods (costs 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. Respondents are required to report materials and supplies **used not purchased**. 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) Purchases for resale as such. Figures represent the 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.

(c) 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. Value of construction and repair work done by outside contractors is 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 medical supplies, laboratory supplies etc.

### Shipments

In general the figures represent revenue from all production, sales, services and related activities of reporting establishments. Non-operating revenues such as rent, interest and dividends and the sale of used fixed assets are excluded.

#### (a) 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 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. (See notes on "Establishment").

Such shipments are net of returned goods, and value figures at the establishment exclude discounts, returns, allowances, sales taxes and excise duties, returnable containers, and charges for outward transportation by common or contract carriers. Transportation or delivery expenses incurred by the reporting establishments' own carriers are not deducted.

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 form B.13 "Customs Canada, Export Entry" has been completed, are treated as shipments.

In four industries, viz. Fabricated Structural Metal Industry, Aircraft and Parts Manufacturers, Railroad Rolling Stock Industry and Shipbuilding and Repair, where work on principal products extends over a relatively long period, the value of production, rather than the value of shipments, is recorded. For these industries value of production is computed from the value of deliveries of complete units during the year plus the value of work done during the year on unfinished units less the value of work done in previous years on units delivered in the year under review. Adjustments to the value of shipments are also made for firms in these industries and in some other industries which operate on the basis of progress payments. The latter are treated as sales and not as inventory, so that for firms which use a progress payments account, an adjustment to the value of shipments is made for the net change in this account during the year.

#### (b) Shipments of goods not of own manufacture

These figures represent the net selling value at the establishment (less discounts, returns, allowances, sales taxes and excise duties 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 goods on a rental basis value of shipments represents the book value of such goods. All sales of consignment goods from other countries are included.

#### (c) Other revenue

Figures represent the book value of fixed assets, if any, (new construction and machinery and equipment including major repairs and alterations, additions, modifications, installation and assembly work) produced during the year for the use of reporting establishments by the establishments' 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 establishments' own employees, such as revenue from goods produced for rental (the book value of such goods are included as part of factory shipments), servicing revenues, commissions on sales (when not included in value of sales), revenue from company-operated cafeterias and lunch counters and revenue from outside installation or construction work not related to the establishments' 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 inventory

Values represent the book value of manufacturing inventory owned in Canada. The value of inventory held for which progress payments have been received is treated as shipments and is not included in inventory owned. 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. Inventory owned abroad has already been reported as shipments and is excluded.

#### (b) Inventory of goods purchased for re-sale

Figures represent the book value of inventory of goods purchased for re-sale as such without further processing, owned by reporting establishments and held at the plants and at any warehouses or selling outlets which are treated as extensions of establishments. Inventory owned in transit in Canada or on consignment in Canada is included.

Because of changes in classification, the receipt of revised data, the inclusion of new establishments or the removal of old establishments which did not operate during the latest year, the opening inventory for the latest year does not necessarily coincide with the closing inventory of the preceding year.

### 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 total activities

Figures consist of value added by manufacturing activities plus value added by non-manufacturing activities and is compiled by deducting the cost 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, adjusted for changes in the value of inventories of goods purchased for re-sale.

"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 in 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.

### Short Forms

Since 1949, in order to ease the reporting burden for smaller firms, a one-page short form has been used asking for only a limited amount of detail. For purposes of publication, missing data were estimated on the basis of appropriate ratios. Beginning with the 1959 census, the general limit for short forms was raised from \$50,000 (the limit used since 1949) to \$100,000 value of shipments and a new medium form was used. This form is a shortened version of the long form in that some of the general questions were pared down and the detailed lists of materials and products were limited to the more important items. The general limits for firms in this category were set at between \$100,000-\$500,000 value of shipments, but in the case of both the

short and medium forms there are lower cut-offs for a number of industries in which the smaller firms account for a larger share of total shipments.

Prior to 1961, the short form was limited to a question on the principal items of factory shipments. In the 1961 and 1962 censuses, in addition to the question on shipments of goods of own manufacture, general questions on employment and payroll and on total revenue were added on all short forms. The other elements of principal statistics, viz. value of materials, fuel and electricity and inventories, were estimated by using ratios based on the change in the value of shipments reported in 1961 and 1962. This was done to permit the complete compilation of basic industry statistics by industry and by geographic location. The proportions of the estimated data was generally less than 5 per cent of the total in each category of principal statistics.

Beginning with the 1963 census, general questions on total purchases of materials, fuel and electricity and on total inventory were added on the short forms. The two questions, however, were designed so that the data can be easily derived from respondents' regular accounting records. This will permit a complete tabulation of principal statistics without the necessity of estimating missing items and will result in increased accuracy for rural area statistics where small firms account for a relatively important part of industrial output.

The addition of extra questions on the short form in recent years has also permitted an increase in the cut-off limits for short forms in many industries. This has meant that many more firms are now receiving the short form instead of the long or medium form. It has also resulted in the withdrawal of the medium form in a number of industries, thus further simplifying collection and tabulation procedures.

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