

28 General chemicals (organic)

This Report on the General Chemicals (Organic) Industry relates to establishments engaged wholly or mainly in manufacturing separate chemically defined organic compounds (ie compounds containing carbon, but excluding condensates, polymers and copolymers, elemental carbon and certain simple carbon compounds such as calcium carbide, carbon disulphide and carbon dioxide). Products of tar distillation and benzole refining are included. Radio-active organic compounds and isotopes, mixtures of chemicals, and certain compounds used mainly for specific end-uses (such as simple phosphate or phthalate plasticiser chemicals) organic pharmaceutical chemicals and prepared products derived from organic chemicals such as dyestuffs, pesticide preparations and pharmaceutical preparations, are all excluded.

This industry corresponds to minimum list heading 271(2) in the Standard Industrial Classification (Revised 1968) which has been used for the first time as a basis of classification in the 1968 Census.

The industry was included in the General Chemicals Industry (Part 27) in the Reports on the last detailed Census of Production for 1963: together with the Reports on General Chemicals (Inorganic) (Part 27) and General Chemicals (other than inorganic and organic) (Part 29) it broadly corresponds with the 1963 Report on the General Chemicals Industry except that creosote/pitch mixtures for use as fuel are contained in the 1968 Report on Coke Ovens and Manufactured Fuel (Part 24); pharmaceutical chemicals in Pharmaceutical Chemicals and Preparations (Part 30); higher fatty alcohols in Soap and Detergents (Part 33); silicones and synthetic rubber in Synthetic Resins and Plastics Materials and Synthetic Rubber (Part 34); pigments in Dyestuffs and Pigments (Part 35); ammonium nitrate and ammonium phosphates in Fertilisers (Part 36); cellulose nitrate in Explosives, Fireworks and Matches (Part 39); and photographic developers and other compounded preparations for photographic purposes in Photographic Chemical Materials (Part 43).

Throughout this Report the figures given for 1963 have been reclassified as far as possible according to the Standard Industrial Classification (Revised 1968) so that data for 1963 and 1968 are on the same industrial basis. However the reclassification of small firms, which provided limited information only, has been arbitrary. Comparability of figures between 1963 and 1968 is further affected in this industry and elsewhere in the Chemicals and Allied Industries Order of the Standard Industrial Classification (Revised 1968) by differences in the reporting units of large firms engaged in distinct processes of chemical and chemical products manufacture.

In interpreting the data in the tables it is essential to bear in mind the notes and definitions which appear on pages (i) to (iv).

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(c) The following information relates to small establishments (employing fewer than 25 persons) in this industry. It includes an estimate for small establishments not making satisfactory returns.

	1963	1968
Number of establishments	46	57
Average number employed:		
Working proprietors	42	37
Other persons employed	411	604

(d) Including services rendered to other organisations (amounts charged for hiring out plant, machinery or other goods, for providing transport, or for technical or other services rendered).

(e) Administrative, technical and clerical employees.

(f) Excluding expenditure for establishments not yet in production.

(g) Acquisitions less disposals.

TABLE 1 Industry summary, 1963 and 1968 (a)
United Kingdom (b) (c)

	Unit	All establishments		
		1963	1968	
Number of enterprises	No.	96	97	
Number of establishments	"	166	167	
Gross output	£'000	353,092	480,484	
Net output	"	133,304	144,207	
Net output per head	£	2,959	3,961	
Sales and work done	£'000	314,674	413,390	
				goods produced and work done (d)
	"	38,125	69,894	
	"			
Customs and Excise duty (net)	"	17,296	18,731	
Purchases	"	160,357	242,133	
				materials for use in production and packaging and fuel
	"	31,065	59,631	
	"			
	"	3,102	6,953	
Payments to other organisations	"	8,033	1,243	
				for work done on materials given out for transport
				by road
	"		8,934	
	"			
	"			
	"			
Stocks and work in progress	"	+ 358	- 1,451	
Total stocks and work in progress				change during year
	"	46,390	50,671	
	"			
	"	+ 17	- 2,139	
Goods on hand for sale	"	21,722	21,822	
				change during year
	"			
	"	+ 275	- 661	
Work in progress	"	6,166	5,031	
				change during year
	"			
	"	+ 66	+ 1,349	
Materials, stores and fuel	"	18,501	23,818	
				change during year
	"			
Number employed on average during the year	Th.	45.0	36.4	
				total, including working proprietors
				operatives
	"	28.5	23.0	
	"			
	"	16.5	13.4	
Wages and salaries	£'000	23,815	26,795	
				of operatives
	"	19,480	22,066	
	"			
Capital expenditure (f)	"	21,793	60,304	
Total				
	"	2,134	1,982	
New building work	"	- 118	181	
Land and existing buildings (g)				
	"	19,489	57,837	
Plant and machinery (g)	"	288	305	
Vehicles (g)				

(a) The 1963 and 1968 figures in this table are not strictly comparable - see paragraph 4 of the introduction to this report.

(b) For 1968, estimates for establishments not making satisfactory returns and for small establishments, from which only employment data were collected, accounted for 2 per cent. of the total figures in which they were incorporated; for 1963, the comparable figure was less than 1 per cent. For both 1968 and 1963 unsatisfactory returns accounted for a negligible amount.

Footnotes continued on page 28/2.

TABLE 2 Analysis by size of establishment within the industry, 1968

(i) Output and employment

All establishments: United Kingdom

Number employed on average during the year by the establishment (a)	Estab-lish-ments	Enter-prises (b)	Total number employed on average during the year (a)	Gross output	Net output	Net output per head
	Number	Number	Number	£'000	£'000	£
1-5	12	12	27	..	..	..
6-10	20	19	161	..	..	..
11-24	24	21	440	..	..	..
25-49	23	22	809	11,047	2,575	3,182
50-99	29	21	2,104	21,665	5,956	2,831
100-199	21	18	3,030	37,778	12,157	4,012
200-299	10	10	2,366	27,955	8,640	3,652
300-399	10	9	3,656	28,762	10,329	2,825
400-749	8	7	4,490	86,467	20,773	4,626
750 and over	7	6	19,228	257,650	80,958	4,210
Unsatisfactory returns	3	3	100	..	..	..
Total	167	97	36,411	480,484(c)	144,207(c)	3,961(c)

(ii) Employees, wages and salaries

All establishments: United Kingdom

Number employed on average during the year by the establishment (a)	Employees		Wages and salaries		Wages and salaries per head	
	Oper-atives	Others (d)	Oper-atives	Others (d)	Oper-atives	Others (d)
	Number	Number	£'000	£'000	£	£
1-5	..	..	..	..	..	..
6-10	..	..	..	..	..	..
11-24	..	..	..	..	..	..
25-49	511	287	556	352	1,089	1,225
50-99	1,395	707	1,480	908	1,061	1,284
100-199	2,037	993	2,296	1,267	1,127	1,276
200-299	1,498	868	1,475	1,174	984	1,353
300-399	2,531	1,125	2,875	1,655	1,136	1,471
400-749	2,794	1,696	3,275	2,927	1,172	1,726
750 and over	11,796	7,433	14,347	13,376	1,216	1,800
Unsatisfactory returns	..	..	..	..	..	..
Total	22,990(c)	13,371(c)	26,795(c)	22,066(c)	1,166(c)	1,650(c)

(a) Including working proprietors.

(b) The sum of the figures for the size groups exceeds the total for the industry to the extent that enterprises made returns for establishments in more than one size group.

(c) Including estimates for establishments employing fewer than 25 persons and for establishments not making satisfactory returns.

(d) Administrative, technical and clerical employees.

TABLE 3 Percentage analysis of employees, by age and sex, 1969 (a)

All establishments: United Kingdom

Ages	Males	Females	All employees
	Per cent.	Per cent.	Per cent.
Under 18	1	1	2
18 and over	82	16	98
All ages	83	17	100

Source: Department of Employment

(a) The percentages relate to the numbers employed (excluding working proprietors) at June 1969, the earliest date for which the information is available on the basis of the Standard Industrial Classification, (Revised 1968).

Footnotes to Table 4.

(a) The 1963 and 1968 figures in this table are not strictly comparable - see paragraph 4 of the introduction to this report.

(b) Some establishments employing fewer than 25 persons were included in returns for larger establishments. For both 1968 and 1963 these amounted to 11 establishments.

(c) Including services rendered to other organisations (amounts charged for hiring out plant, machinery or other goods, for providing transport, or for technical or other services rendered).

(d) Direct sales of goods (excluding canteen takings) made to, and work done for, the general public by larger establishments are included. These amounted to £129,000 in 1968. Similar information is not available for 1963.

(e) This is the ratio of total sales of principal products by the industry to total sales of goods produced and work done.

(f) Customs and Excise duty paid on goods of firms' own manufacture where these were sold duty-paid was £16,606,000 in 1963 and £18,467,000 in 1968. The value of rebates in respect of alcohol used in the manufacture of medicinal preparations and of drawbacks received in respect of products exported was £31,000 in both 1963 and 1968.

(g) Administrative, technical and clerical employees.

(h) Excluding expenditure for establishments not yet in production.

TABLE 4 Analysis of larger establishments, 1963 and 1968 (a)
Establishments employing 25 or more persons: Analysis of returns received,
United Kingdom (b)

	Unit	1963	1968	
Number of enterprises	No.	60	58	
Number of establishments	"	130	119	
Gross output	£'000	349,964	472,896	
Net output	"	132,124	141,930	
Net output per head	£	2,959	3,961	
Sales and work done	{ goods produced and work done (c)(d)	£'000	311,887	406,861
	{ merchanted goods and canteen takings	"	37,787	68,790
Index of specialisation (e)	Per cent.	67	77	
Customs and Excise duty (net) (f)	£'000	17,143	18,435	
Purchases	{ materials for use in production and packaging, and fuel	"	158,936	238,309
	{ goods for merchenting and canteen purchases	"	30,790	58,690
Payments to other organisations	{ for work done on materials given out	"	3,075	6,843
	{ for transport	"	7,962	8,793
	{ by road	"		
	{ by rail and other means excluding postal services	"		1,224
Stocks and work in progress				
Goods on hand for sale	{ change during year	"	+ 17	- 2,105
	{ at end of year	"	21,529	21,477
Work in progress	{ change during year	"	+ 272	- 650
	{ at end of year	"	6,112	4,952
Materials, stores and fuel	{ change during year	"	+ 65	+ 1,327
	{ at end of year	"	18,337	23,442
Number employed on average during the year	{ total, including working proprietors	No.	44,644	35,836
	{ operatives	"	28,294	22,650
	{ other employees (g)	"	16,337	13,173
Wages and salaries	{ of operatives	£'000	23,627	26,399
	{ of other employees (g)	"	19,326	21,739
Wages and salaries per head	{ operatives	£	835	1,166
	{ other employees (g)	"	1,183	1,650
Capital expenditure (h)				
New building work	£'000	2,115	1,950	
Land and existing buildings	{ acquisitions	"	33	352
	{ disposals	"	150	174
Plant and machinery	{ acquisitions	"	19,671	57,453
	{ disposals	"	355	530
Vehicles	{ acquisitions	"	402	511
	{ disposals	"	116	211

For notes to this table - see page 28/5.

TABLE 5 Sales of principal products of the industry by larger establishments, including sales by establishments classified to other industries, 1963 and 1968 (a)
Establishments employing 25 or more persons:
Analysis of returns received, United Kingdom

	1963		1968			
	Quantity	Value	Quantity	Value	Enterprises	Entries
Acids (carboxylic), acid anhydrides and acid halides	Th.tons	£'000	Th.tons	£'000	Number	Number
Acetic acid (in terms of 100 per cent. acid) and citric acid	43.4	4,570	68.8	6,054	9	10
Phthalic anhydride	44.2	3,553	55.6	6,615	6	8
Salicylic acid	2.2	467	2.4	438	*	*
Adipic acid	43.4	5,865	..	561	*	*
Maleic anhydride			10.7	1,106	*	*
Sebacic acid			1.6	1,000	*	*
Other carboxylic acids, acid anhydrides and acid halides (b)			..	7,262	21	32
Alcohols (monohydric)						
Propyl alcohols	75.0	3,082	75.0	3,530	7	9
Butyl alcohols	45.3	3,900	44.4	3,383	*	6
Cyclic alcohols		(c)	2.5	567	5	5
Methanol, ethanol, methylated spirit (industrial and mineralised) and acyclic alcohols, C ₆ to C ₁₁ (d)	..	36,876	590	41,127	8	25
Alcohols (di-, tri and polyhydric) and certain derivatives						
Pentaerythritol	..	(c)	8.1	1,702	*	*
Ethanediol (ethylene glycol) (excluding grades containing 'inhibitors' for anti-freeze use)	47.0	4,745	67.6	4,899	*	*
Propane-1, 2 diol (propylene glycol) and other dihydric alcohols (excluding ether-alcohols)	13.3	889(e)	..	1,900	*	*
Other polyhydric alcohols (excluding glycerol)			3.9	612	*	*
Ether-alcohols (eg digol), ethers and ether-esters of polyhydric alcohols (excluding surface-active agents and plasticisers)	..	(c)	54.2	7,990	5	6
Aldehydes						
Formaldehyde and paraformaldehyde, in terms of 100 per cent. formaldehyde	34.0	2,363	37.6	2,660	*	6
Other		(c)	5.1	721	5	7
Bituminous products (other than paints)						
Emulsions	79.8	1,883	118	3,486	9	12
Other preparations	46.2	2,218	55.8	1,989	15	17
Cellulose derivatives						
Cellulose acetate (f)	44.4	9,014	60.9	13,562	*	5
Cellulose ethers and ether-esters	14.6	4,409	9.1	2,932	*	*
Other cellulose esters			3.7	1,244	*	*
Products of tar distillation and benzole refining (excluding fuel uses, disinfectants, sheep and cattle dips and dressings)						
Refined coal tar	630	6,678	555	6,200	14	20

Continued on next page.

TABLE 5 (continued)

	1963		1968		Enter-prises	Entries	
	Quantity	Value	Quantity	Value			
	Th.tons	£'000	Th.tons	£'000	Number	Number	
Products of tar distillation and benzole refining (excluding fuel uses, disinfectants, sheep and cattle dips and dressings) (continued)							
Creosote oils (including anthracene oils)	453	5,248	307	4,315	22	29	
Pitch	474	4,966	312	3,505	15	21	
Crude tar acids (dry basis) (g)	97.7	6,763	31.0	1,831	9	10	
Other unrefined coal tar products	..	2,543	151	2,105	12	18	
Epoxides (ethylene oxide, propylene oxide, etc)	..	(c)	58.5	5,428	5	6	
Esters							
Butyl acetate	5.5	700	6.3	702	*	*	
Ethyl acetate	7.8	858	10.7	970	*	*	
Vinyl acetate	6.9	821	31.0	2,968	*	*	
Acrylates	}	7,326	6.0	1,336	*	*	
Other			..	12,413	24	36	
Ethers (other than ether-alcohols etc and cellulose ethers and ether-esters)	..	(c)	..	699	8	9	
Halogenated derivatives of hydrocarbons							
Carbon tetrachloride	}	24,850	26.2	1,483	*	*	
1,2-Dichloroethane (ethylene dichloride)			..	97.5	2,417	*	*
1,2-Dibromoethane (ethylene dibromide)			..	20.1	2,756	*	*
Other halogenated derivatives of hydrocarbons			..	37,186	11	20	
Heterocyclic compounds, lactones and lactams							
Pyridine bases	}	(c)	3.0	1,010	6	9	
Other			..	5,412	7	7	
Hydrocarbons (excluding sales for use as fuel) (h)							
Aliphatic							
Methane, acetylene, ethane and ethylene	268	14,411	595	23,763	5	8	
Propane and propene (propylene)	10.2	311	215	3,946	6	8	
Butanes, butenes (butylenes) and butadienes	83.6	6,555	..	10,843	7	8	
C ₅ and higher aliphatic hydrocarbons (heptenes, di-isobutylene, propylene tetramer etc)	47.6	1,482	..	639	*	*	
Cyclic hydrocarbons							
Benzene (pure grades) (i)	203	8,593	197	4,981	12	17	
Coal tar naphthas, solvent and heavy	31.0	1,081	26.4	610	12	19	
Detergent alkylates	55.8	4,109	75.3	5,109	*	*	
Naphthalene (crystallising point 77.5°C or over)	73.9	2,169	76.0	3,057	14	30	
Styrene	60.9	5,113	..	14,215	*	*	
Toluene (pure grades) (j)	52.3	2,568	118	3,391	14	18	
Cumene	}	5,304	642	3,163	*	*	
Other (including benzole 90's, toluole 90's)			..	13,237	23	43	
Ketones							
Acetone	71.3	3,539	94.3	4,719	*	5	
4-Methyl pentan-2-one (isobutyl methyl ketone)	}	4,799	9.5	1,128	*	*	
Other			40.0	30.0	3,594	10	13

TABLE 5 (continued)

	1963		1968		Enter-prises	Entries
	Quantity	Value	Quantity	Value		
	Th.tons	£'000	Th.tons	£'000	Number	Number
Nitrogen-function organic compounds						
Hexamine	4.0	490	4.1	509	*	*
Acrylonitrile	}	5,847(k)	37.0	4,288	*	*
Ethanolamines			..	1,514	5	5
Other nitrogen-function organic compounds (including amino-acids, amides)			..	24,595	23	33
Phenols and their salts						
Phenol	48.3	4,232	96.9	6,655	9	11
Cresols (pure and mixed) ie including cresylic acids essentially composed of cresols	..	(c)	20.7	2,834	7	9
Cresylic acids (including mixed xylenols but excluding those essentially composed of cresols)	..	(l)	27.6	2,851	6	8
Refined high boiling tar acids	}	(c)	4.4	286	*	*
Salts of phenols, and other phenols			..	42.3	8,103	10	13
Rosin size	24.0	1,582	28.6	1,988	5	6
Salts of organic acids, with inorganic bases						
Sodium salts	..	(c)	9.6	1,274	12	14
Metallic soaps (m)	8.3	1,667	8.9	2,351	11	12
Other	..	(c)	13.5	1,787	13	16
Other organic chemicals	..	44,342	..	16,254	44	80
Other products	..	380	..	810	13	13
Waste products	..	1,541	..	768	11	15
Work done	..	1,042	..	1,244	14	15
Total		266,521		382,581	..	..
Sales in other industries (see Table 6)		57,491		67,646	..	..
Principal products of this industry sold by establishments in the industry		209,031		314,936	58	83(n)

- (a) The 1963 and 1968 figures in this table are not strictly comparable - see paragraph 4 of the introduction to this report.
- (b) For 1963 described as 'Other organic acids (other than crude tar acids)'.
- (c) Not separately recorded for 1963.
- (d) For 1963 alcohols (monohydric) and alcohols (di-, tri and polyhydric) and certain derivatives were not recorded separately and were described as methyl alcohol, ethyl alcohol, methylated spirit (industrial and mineralised) and other alcohols (excluding sulphonated or sulphated alcohols).
- (e) Propanediol (propylene glycol) only for 1963.
- (f) For 1963 described as 'Cellulose acetate flake'.
- (g) For 1963 described as 'Crude tar acids, including cresylic acid'.
- (h) For 1963 described as 'Primary hydrocarbons, synthetic or natural other than compressed gases or for use as fuel'.
- (i) For 1963 described as 'Benzoles'.
- (j) For 1963 described as 'Toluoles'.
- (k) So far as separately recorded.
- (l) Included with Crude tar acids for 1963.
- (m) For 1963 described as 'Alkaline earth and heavy metal soaps'.
- (n) This figure represents the total number of returns made for larger establishments in this industry which is less than the total number of establishments shown in Table 4 on account of combined returns covering more than one establishment.

TABLE 6 Sales of principal products of the industry by larger establishments classified to other industries, 1963 and 1968 (a)

Establishments employing 25 or more persons:
Analysis of returns received, United Kingdom

	1963		1968			
	Quantity	Value	Quantity	Value	Entries	Principal industries in which produced (b)
	Th.tons	£'000	Th.tons	£'000	Number	
Acids (carboxylic), acid anhydrides and acid halides	..	3,903	..	2,498	20	27,29,30,34
Alcohols (monohydric)	}	441	1.2	1,115	6	18,21,27,34
Alcohols (di-, tri- and polyhydric) and certain derivatives			12.2	2,133	*	26,27,29
Bituminous products (other than paints)	22.9	851	6.3	329	14	29,32,34,38
Cellulose derivatives	10.1	3,320	3.4	1,088	*	32,39,98
Products of tar distillation and benzole refining (excluding fuel uses, disinfectants, sheep and cattle dips and dressings)						
Creosote oils (including anthracene oils)	}	4,604	59.1	738	8	24,26,32,152
Crude tar acids (dry basis)			7.6	542	*	24,152
Refined coal tar, pitch, and other unrefined coal tar products			210	2,541	10	24,152
Esters	..	2,056	..	3,407	20	27,29,30,34
Hydrocarbons (excluding sales for use as fuel)						
Aliphatic	..	(c)	12.5	780	6	27,31
Cyclic hydrocarbons						
Benzene (pure grades)	117	5,413	63.8	1,269	9	24,27
Coal tar naphthas, solvent and heavy	4.3	183	9.9	227	9	24,25
Napthalene (crystallising point 77.5°C or over)	30.8	876	14.8	508	16	24,152
Toluene (pure grades)	26.1	1,477	13.1	402	7	24,25,27
Other (including benzole 90's, toluole 90's)	..	1,654	..	3,540	22	24,25,27,34
Nitrogen-function organic compounds	..	5,906	..	21,243	22	27,34,35,36
Salts of organic acids with inorganic bases	..	1,155	8.9	1,914	23	27,29,32
Aldehydes	}	25,652	8.8	600	5	27,34,38
Halogenated derivatives of hydrocarbons			42.2	3,813	13	27,29,30
Phenols and their salts			2.3	745	*	35,152
Other organic chemicals			..	18,214	55	27,30,34,36
Total		57,491		67,646	..	

(a) The 1963 and 1968 figures in this table are not strictly comparable - see paragraph 4 of the introduction to this report.

(b) The references given are to the list of industries at the front of this report.

(c) For 1963 included in 'Other organic chemicals'.

TABLE 7 Sales of other than principal products by larger establishments in the industry, 1963 and 1968 (a)

Establishments employing 25 or more persons:
Analysis of returns received, United Kingdom

	1963		1968	
	Quantity	Value	Quantity	Value
		£'000		£'000
Products of mineral oil refining	..	11,394	..	26,882
Pharmaceutical chemicals and preparations	..	1,633	..	1,774
Products of paint industry	..	402	..	500
Synthetic resins and plastics materials	..	12,600	..	849
Formulated pesticides and disinfectants	..	3,557	..	731
Coke and manufactured fuels	..	4,305	..	2,453
General chemicals (inorganic)	..	28,138	..	2,898
General chemicals (other than inorganic and organic)			Th.tons	
Chemical products and preparations mainly for polyvinyl chloride processing, plasticisers, mixed and unmixed	..	4,016	38.3	6,646
Anti-freeze mixtures for internal combustion engines (including inhibited grades of ethanediol (ethylene glycol) but excluding pure ethanediol)			12.8	1,099
Additives for liquid fuels and lubricating oils			46.7	7,297
Lubricating oil additives			6.5	1,251
Other (eg oxidation inhibitors for gasolines, metal deactivators, but excluding antiknock compounds)	..	11,008		
Surface active materials (other than washing and scouring preparations) including wetting and emulsifying agents and sulphonated or sulphated oils, alcohols and hydrocarbons			..	1,022
Textile auxiliaries (eg sizes, combing oils but excluding surface active materials)			..	787
Other mixtures of inorganic and organic chemicals and chemical products			..	1,818
Other products, including electricity and steam sold	..	21,126	..	18,733
Services rendered to other organisations (b)		4,678		17,186
Total value of goods sold without having been subjected to any manufacturing process (merchanted or factored)	..	37,265	..	68,143
Canteen takings		523		647
Total		140,643		160,716

(a) The 1963 and 1968 figures in this table are not strictly comparable - see paragraph 4 of the introduction to this report.

(b) Amounts charged for hiring out plant, machinery or other goods, for providing transport, or for technical or other services rendered to other organisations.

TABLE 8 Production of certain principal products of the industry by larger establishments, 1963 and 1968

Owing to the risk of disclosure of information relating to individual firms, details cannot be given.

TABLE 9 Purchases by larger establishments of selected principal products of the industry, 1968 (a)

Establishments employing 25 or more persons:
Analysis of returns received, United Kingdom

Standard Industrial Classification Minimum List Heading	Purchasing industry (b)	General chemicals, organic (including organic gases)
		Cost £'000
262	Mineral oil refining	6,180
263	Lubricating oils and greases	6,149
271/1	General chemicals (inorganic)	8,780
271/2	General chemicals (organic)	82,802
271/3	General chemicals (other than inorganic and organic)	35,205
272	Pharmaceutical chemicals and preparations	24,666
274	Paint	13,033
275	Soap and detergents	7,869
276	Synthetic resins and plastics materials and synthetic rubber	99,208
277	Dyestuffs and pigments	18,363
279/4	Formulated pesticides and disinfectants	9,070
411	Production of man-made fibres	31,831
	Other industries	39,195
	Total	382,351

(a) The figures include purchases of imported as well as of home produced goods.

(b) Specified census industries for which purchases are one per cent. or more of the total.

TABLE 10 Purchases by larger establishments in the industry, 1963 and 1968 (a)

Establishments employing 25 or more persons: Analysis of returns received, United Kingdom

	1963		1968	
	Quantity Th.tons	Cost £'000	Quantity Th.tons	Cost £'000
Materials for use in production				
Feedstock from petroleum (including gaseous feedstock but excluding hydrocarbons)	1,781	15,552	4,207	39,019
Crude coal tar for distillation	1,991	13,633	1,518	9,880
Crude or semi-refined benzole for refining	731	7,133	97.3	932
Crude tar acids and other derivatives of coal tar not elsewhere specified (including creosote and anthracene oils, etc, but excluding cyclic hydrocarbons)	..	2,966	..	3,407
Coal and coke other than for use as fuel	174	1,386	196	1,679
Limestone and lime	..	1,726	..	1,698
Molasses	..	1,527	..	1,058
Sulphur (elemental) and sulphur-bearing materials (including anhydrites, pyrites and spent oxide)	..	632	..	457
Salt and brine	..	100	..	80
Iron and steel, light metals and non-ferrous metals in all forms except finished parts, wire and scrap	..	130	..	388
Animal and vegetable oils and fats	..	(b)	..	382
Other vegetable products	..	(b)	..	1,412
Other mineral products (c)	..	51	..	1,168
Inorganic chemicals (including inorganic gases)				
Ammonia (in terms of 100 per cent. NH ₃) synthetic and by-product (d)	27.2	958	54.2	1,555
Sulphuric acid including oleum (in terms of 100 per cent. acid) (e)	115	1,071	232	2,106
Chlorine	106	2,366	487	9,736
Sodium carbonate (including soda crystals and soda ash)	28.7	381	24.9	340
Sodium hydroxide (caustic soda)	81.0	1,260	105	1,601
Phosphorus and phosphorus compounds	..	7,519	21	274
Other inorganic chemicals	..	(b)	..	12,783
Organic chemicals (including dyestuffs intermediates and organic gases)				
Carboxylic acids, their anhydrides and acid halides				
Acetic acid and acetic anhydride	10.6	795	42.9	2,109
Maleic anhydride	0.4	42	0.9	92
Phthalic anhydride	10.2	874	16.9	1,867
Other	..	(b)	8.6	1,345
Alcohols and ether-alcohols				
Methanol (methyl alcohol)	90.6	2,346	117	3,013
Ethanol (ethyl alcohol) duty free	85.2	4,468	77.1	4,291
Butanol (butyl alcohol)	8.3	754	9.8	861
Other	39.4	2,318	51.9	4,161

Continued on next page.

TABLE 10 (continued)

	1963		1968	
	Quantity	Cost	Quantity	Cost
Materials for use in production (continued)		£'000	Th.tons	£'000
Organic chemicals (including dyestuffs intermediates and organic gases (continued))				
Hydrocarbons				
Aliphatic				
Acetylene (not dissolved), ethane and ethylene			128	5,510
Propane and propene (propylene)			129	1,758
Butanes, butenes (butylenes), and butadienes	..	8,487	221	3,293
C ₅ and higher aliphatic hydrocarbons (heptenes, diisobutylene, propylene tetramer, etc)			1,258	20,048
Cyclic hydrocarbons				
Benzene (pure grades)			276	7,693
Detergent alkylates			3.2	308
Naphthalene (crystallising point 77.5°C or over)			51.8	2,200
Toluene (pure grades)	..	6,420	11.0	374
Xylenes, (pure grades - separate isomers and mixed isomers)			..	3,448
Other (including benzole 90's, toluole 90's)			..	4,298
	Th.tons			
Ketones (f)	33.1	1,572	..	1,883
Phenols and their salts (g)	10.2	1,282	40.7	3,206
Aldehydes			52.4	350
Epoxides (ethylene oxide, propylene oxide, etc)			12.6	1,229
Esters	..	12,153	3.5	344
Nitrogen-function compounds			13.3	462
Other organic chemicals			..	6,878
Other (eg mixtures of inorganic and organic chemicals) (h)				
Chemicals put up or prepared for laboratory use			..	91
Catalysts prepared for industrial purposes			..	2,674
Surface active materials (other than washing and scouring preparations), including wetting and emulsifying agents and sulphonated or sulphated oils, alcohols and hydrocarbons	..	1,629	..	178
Other chemicals			..	1,744
	Th.gal.		Th.gal.	
			456	112
Lubricating oils and greases	3,338	470	Th.cwt.	
			156	225
			..	166
Replacement parts for firms' own machinery, plant and vehicles, and accessories and consumable tools bought as replacement				
Tyres and other spare parts for firms' own road goods vehicles	..	5,895	..	473
Other			..	5,493
All other materials for use in production	..	22,051	..	23,541

TABLE 10 (continued)

	1963		1968	
	Quantity	Cost	Quantity	Cost
		£'000		£'000
Packaging materials				
Paper and board				
Boxes, cartons, drums and canisters (with or without metal ends) of paper and cardboard	..	302	..	238
Fibreboard packing cases			..	84
Bags and multiwall paper sacks (i)	..	587	..	422
Other packaging materials of paper and paperboard (including moulded pulp units and labels but excluding paper and board for converting into packaging materials (j))	..	49	..	31
Metal				
Cans and boxes	..	565	..	335
	Thousands		Thousands	
Barrels, kegs and drums	2,734	3,720	2,546	3,686
Other packaging materials of metal including crown corks, wire, foil and any laminates incorporating foil (other than aluminium foil), foil labels and foil closures, tensional steel strappings, etc	..	311	..	14
Timber	..	100	..	90
Plastics (other than transparent regenerated cellulose film)	..	146	..	189
Jute and hessian piece-goods, sacks and bags	..	81	..	42
All other packaging materials	..	302	..	182
Fuel and electricity (k)	Th.tons		Th.tons	
Coal	1,806	8,069	1,020	4,694
Coke (including screenings) and manufactured fuel	31.8	212	6.6	61
	Th.gal.		Th.gal.	
Derv fuel and motor spirit for use in road vehicles	2,337	444	1,957	485
Other liquid fuels (including creosote/pitch mixtures, etc, and liquefied petroleum gases)	98,410	3,088	256,538	9,040
	Th.therms		Th.therms	
Gas	9,401	251	60,700	946
	Th.kWh		Th.kWh	
Electricity	3,133,881	10,767	1,678,449	9,722
Total cost of materials and fuel		158,936		238,309
Goods purchased for merchanting		30,260		58,064
Canteen purchases		530		626
Total cost of purchases		189,726		296,999

(a) The 1963 and 1968 figures in this table are not strictly comparable - see paragraph 4 of the introduction to this report.

(b) Not recorded separately for 1963.

(c) Natural barium sulphate (barytes) and natural barium carbonate, and silicon and silicon-bearing materials only for 1963.

(d) For 1963 described as 'Ammonia liquor (in terms of 100 per cent. ammonia) and anhydrous'.

Footnotes continued on page 28/16.

TABLE 11 Transport costs and employment of larger establishments, 1963 and 1968 (a)

Establishments employing 25 or more persons:
Analysis of returns received, United Kingdom

	Unit	1963	1968
Average number mainly employed on transport	No.	1,181	992
Transport costs			
Wages and salaries	£'000	1,227	1,408
Derv fuel and motor spirit	"	444	485
Tyres and other spare parts for road goods vehicles	"	..	473
Payments to other organisations for transport	"	7,962	8,793
	"		1,224
Costs of operating road goods vehicles			
Insurance	"	50	51
Vehicle licences	"	121	158
Depreciation	"	436	262
Payments to other organisations for repairs and maintenance	"	115	174
Total	"	10,354(b)	13,028

(a) The 1963 and 1968 figures in this table are not strictly comparable - see paragraph 4 of the introduction to this report.

(b) Excluding tyres and other spare parts for road goods vehicles, not collected separately for 1963.

Footnotes continued from page 28/15.

(e) Oleum was not specifically included for 1963.

(f) Acetone only for 1963.

(g) Salts not specifically included for 1963.

(h) For 1963 described as 'Other heavy chemicals'.

(i) Multiwall paper sacks only for 1963.

(j) Paper and board for converting into packaging materials not specifically excluded for 1963.

(k) The total quantity of electricity generated in firms' own establishments in this industry in 1963 was 2,324,000 Th.kWh. Owing to the risk of disclosure of information relating to individual firms, the quantity for 1968 cannot be given.

(l) For 1968, may include a small amount of fuels not covered by specific headings.

TABLE 12 Payments for certain services, etc by larger establishments, 1963 and 1968 (a)(b)

Establishments employing 25 or more persons:
Analysis of returns received, United Kingdom

	Amounts payable	
	1963	1968
Repairs and maintenance to	£'000	£'000
Buildings	499	440
Road goods vehicles	115	174
Plant, machinery and other capital equipment	1,735	4,660
Insurance, licensing and depreciation of road goods vehicles (b)	607	471
Rates, excluding water rates	2,090	3,071
Hire of plant and machinery	145	1,325
Postage, telephone, telegrams, cables and telex (c)	665	851
Total	5,856	10,994

(a) The 1963 and the 1968 figures in this table are not strictly comparable - see paragraph 4 of the introduction to this report.

(b) No deduction is made for these payments to arrive at the figures of net output given in this report.

(c) For details see Table 11.

(d) Excluding telex for 1963.

TABLE 13 Percentage analysis of twelve-month periods covered by returns from larger establishments, 1968

Establishments employing 25 or more persons:
Analysis of returns received, United Kingdom

Year ended	Percentage of total returns received	Percentage of total number employed
1968	Per cent.	Per cent.
April (a)	1.2	0.1
May	1.2	0.2
June	3.6	1.4
July	1.2	0.2
August	-	-
September	6.0	3.7
October	3.6	1.0
November	2.4	1.5
December	54.3	77.9
1969		
January	1.2	0.4
February	-	-
March	25.3	13.6
April (b)	-	-
	100	100

(a) From 6 April.

(b) To 5 April.

TABLE 12 - Payments for certain services, 1952 and 1953

Year	1952	1953	1954
Postage, telephone, telegrams, cables and letters	100	100	100
Gifts of blank and carbon paper	100	100	100
Hotel, restaurant, travel	100	100	100
Transportation (b)	100	100	100
Printing, machinery and other related equipment	100	100	100
Food and drink	100	100	100
Barbering	100	100	100
Gasoline and oil	100	100	100
Auto	100	100	100
Total	1000	1000	1000

TABLE 13 - Percentage analysis of 1952-1953

Year ended	Percentage of total revenue received	Percentage of total number of engines
1952	1.2	0.1
1953	1.2	0.2
1954	1.2	0.3
1955	1.2	0.3
1956	1.2	0.3
1957	1.2	0.3
1958	1.2	0.3
1959	1.2	0.3
1960	1.2	0.3
1961	1.2	0.3
1962	1.2	0.3
1963	1.2	0.3
1964	1.2	0.3
1965	1.2	0.3
1966	1.2	0.3
1967	1.2	0.3
1968	1.2	0.3
1969	1.2	0.3
1970	1.2	0.3
1971	1.2	0.3
1972	1.2	0.3
1973	1.2	0.3
1974	1.2	0.3
1975	1.2	0.3
1976	1.2	0.3
1977	1.2	0.3
1978	1.2	0.3
1979	1.2	0.3
1980	1.2	0.3
1981	1.2	0.3
1982	1.2	0.3
1983	1.2	0.3
1984	1.2	0.3
1985	1.2	0.3
1986	1.2	0.3
1987	1.2	0.3
1988	1.2	0.3
1989	1.2	0.3
1990	1.2	0.3
1991	1.2	0.3
1992	1.2	0.3
1993	1.2	0.3
1994	1.2	0.3
1995	1.2	0.3
1996	1.2	0.3
1997	1.2	0.3
1998	1.2	0.3
1999	1.2	0.3
2000	1.2	0.3
2001	1.2	0.3
2002	1.2	0.3
2003	1.2	0.3
2004	1.2	0.3
2005	1.2	0.3
2006	1.2	0.3
2007	1.2	0.3
2008	1.2	0.3
2009	1.2	0.3
2010	1.2	0.3
2011	1.2	0.3
2012	1.2	0.3
2013	1.2	0.3
2014	1.2	0.3
2015	1.2	0.3
2016	1.2	0.3
2017	1.2	0.3
2018	1.2	0.3
2019	1.2	0.3
2020	1.2	0.3
2021	1.2	0.3
2022	1.2	0.3
2023	1.2	0.3
2024	1.2	0.3
2025	1.2	0.3
2026	1.2	0.3
2027	1.2	0.3
2028	1.2	0.3
2029	1.2	0.3
2030	1.2	0.3

(a) From 1952 to 1953
(b) To 1953