

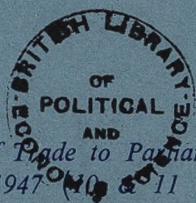
BOARD OF TRADE

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*The Report on the
Census of Production
for 1954*

Volume 2: Industry E

CHEMICALS (GENERAL)



*Presented by the Board of Trade to Parliament in pursuance of the
Statistics of Trade Act, 1947 (11 Geo. 6 Ch. 39, Sec. 7)*

LONDON: HER MAJESTY'S STATIONERY OFFICE

1958

TWO SHILLINGS NET

The Report on the Census of Production for 1954

VOLUME 2 INDUSTRY E

CHEMICALS (GENERAL)

THIS REPORT on the Chemicals (General) Industry relates to establishments engaged wholly or mainly in the manufacture of acids, alkalis, salts, industrial gases and miscellaneous chemicals.

This industry corresponds to minimum list heading 31(4) (apart from drugs, pharmaceutical chemicals and coal tar products) in the Standard Industrial Classification, with the addition of ceramic glazes and frits from heading 29(3).

Establishments engaged wholly or mainly in the manufacture of plastics materials are, for 1951 and 1954, covered by a separate report (Volume 2, Industry R - Plastics Materials). The figures given in the report for 1948 on the Chemicals (General) Industry, which included particulars for establishments manufacturing plastics materials, have accordingly been adjusted in this report to exclude these establishments.

Separate reports have also been published, as for 1948 and 1951, for establishments engaged wholly or mainly in the manufacture of coal tar products; dyes and dyestuffs; fertilisers, disinfectants, insecticides, etc; drugs and pharmaceutical preparations; and explosives and fireworks.

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IMPORTANT NOTES and definitions appear on the next page. In interpreting the data in the tables, it is essential to bear these in mind.

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The following notes describe terms in general use in the tables of the report. More detailed explanations of the terms used and a description of the scope and method of taking the census are given in the separate booklet entitled 'The Report on the Census of Production for 1954 - Introductory Notes' (price 1s. 6d. net).

Industrial Classification: Establishments are classified to industries according to the nature of their output and, as far as possible, in conformity with the Standard Industrial Classification. Certain products are identified as the principal products of individual industries, the principal products for a given industry being of a similar nature or commonly associated in production. The principle of classification normally followed is that an establishment is classified to an industry if its output of the principal products of that industry accounted for a greater proportion of the value of its output than did its output of the principal products of any other industry.

Specialist producers normally comprise those establishments 50 per cent. or more of whose total output by value is accounted for by the characteristic products of the specialist group.

Intermediate products: For some industries figures are given showing the total quantities made during the year of intermediate products, i.e., products which may be further processed in the establishments in which they are produced.

Larger establishments: The information given in the report relates mainly to larger establishments, i.e., establishments of firms employing on the average more than 10 persons. In most cases an establishment comprises the whole of the premises under the same ownership or management at a particular address (e.g., a mine or factory). Offices, warehouses, laboratories and other ancillary places of business situated apart from the producing works are not regarded as separate establishments and are included in the return for the works.

Small firms are those employing on the average 10 or fewer persons.

The estimates for the industry as a whole given in Table 1 are normally obtained by increasing the other items shown in the same proportion as total employment.

Gross output (production) is the total value of goods made and other work done during the year; it is obtained by adjusting the value of sales and work done during the year for changes in the value of stocks of products on hand for sale and work in progress.

Net output is the amount left after deducting from the value of gross output the aggregate of the cost of materials and fuel used, the amount paid for work given out, and, for 1951 and 1954, any transport payments made. This represents the value added to materials by the process of production, and constitutes the fund from which wages, salaries, rents, rates and taxes, advertising and other selling expenses and all other similar charges have to be met, as well as depreciation and profits.

Sales means sales during the year of goods made in the establishment covered by the return or made on commission for it, whether produced in the year or not. The value of sales is the net selling value, i.e., the amount charged to customers, whether on an ex-works or delivered basis, and net of any trade discounts, agents' commissions, allowances for returnable cases, purchase tax, etc. For goods charged on a delivered basis to customers overseas, firms were required to give the f.o.b. value.

Materials and fuel: The total cost of materials and fuel purchased includes all purchases during the year of materials for use in production, and of fuel (includ-

ing oil, gas and electricity) for all purposes: packing materials, including the full cost of returnable cases when first purchased; workshop and office materials; water charges; materials for repairs to buildings, plant and vehicles when carried out by firms' own work-people included in their returns; consumable tools; and parts for machinery purchased as replacements. Purchases of goods for merchanting are excluded. The cost of materials and fuel used, given in Table 2, is obtained by adjusting purchases for changes during the year in the value of stocks.

Stocks: Firms were required to give stocks of materials and fuel, products on hand for sale, and work in progress, at income tax values.

Customs and Excise Duty paid on materials purchased is normally included in the cost of materials. Finished goods are similarly valued as they were sold, duty-paid or duty-free. The net amount of any duty paid is deducted in arriving at net output.

Employment: Total employment includes working proprietors, administrative, technical and clerical employees, and operatives, but excludes outworkers, canteen employees and persons engaged in merchanting or any other activity not covered by a firm's return, who are shown separately as excluded employees. Employees are persons on the pay-roll (i.e., persons whose National Insurance cards were held by employers), whether employed full-time or part-time.

Working proprietors are proprietors of businesses other than limited companies, together with members of their families who worked in the business without receiving fixed wages or salaries. Any persons working less than half the normal hours are excluded. For Northern Ireland directors of limited companies (other than those paid by fee only) are also included.

Administrative, technical and clerical employees include directors, other than those paid by fee only (except in Northern Ireland); managers, superintendents and works foremen; research, experimental, development, technical and design employees (other than operatives); draughtsmen and tracers; travellers; and office (including works office) employees.

Operatives include all other classes of employees, i.e., broadly speaking, all manual workers.

Outworkers are persons employed by the firm who work on materials supplied by the firm in their own homes.

Wages and salaries include all overtime payments, bonuses and commissions without any deductions for income tax, insurances, contributory pensions etc. They exclude payments to working proprietors.

Capital expenditure includes expenditure on new building work, and on plant, machinery and vehicles, charged to capital account during the year, including any transport and installation costs involved. It includes expenditure in respect of establishments in Great Britain which had not begun production before the end of the year (which has not previously been included in the Census of Production reports for individual industries).

Symbols used:

.. for not available
for nil or negligible (less than half the final digit shown).

Where figures are rounded, e.g., given to the nearest £ thousand, there may be apparent slight discrepancies between the sums of constituent items and the totals shown. In some cases, figures have been combined with others of a similar nature where publication of separate details might disclose information relating to an individual undertaking.

Industry summary
Estimates for the industry as a whole

TABLE 1

	United Kingdom			Scotland 1954	Wales 1954
	1948	1951	1954		
	£ million	£ million	£ million	£ million	£ million
Gross output (production)	164.1	266.0	333.0	18.14	21.61
Net output	65.2	98.0	134.0	6.86	8.53
Total stocks and work in progress					
At beginning of year	+ 25.6	+ 33.6	+ 45.4	+ 2.80	+ 2.81
Change during year	+ 6.0	+ 18.1	+ 6.2	+ 0.17	+ 0.32
Capital expenditure less disposals (a)	12.3	30.3	34.1	0.86	1.19
Wages and salaries	32.7	41.0	51.9	3.10	3.42
Total employment (including working proprietors)	Thousands 86.6	Thousands 89.0	Thousands 91.0	Thousands 5.57	Thousands 6.04

(a) Capital expenditure on new building work, plant, machinery and vehicles (including (except in 1948) that incurred in Great Britain for establishments not yet in production), less amounts received for plant, machinery and vehicles disposed of.

Summary of returns received

TABLE 2

	Unit	Great Britain 1948	United Kingdom	
			1951	1954
FIRMS EMPLOYING ON AVERAGE MORE THAN 10 PERSONS				
Number of establishments	No.	456	493	487
Total value of sales and work done	£'000	162,910	255,194	323,660
Products on hand for sale	..	7,714	11,848	17,215
and work in progress	.. +	2,611	5,781	2,618
Gross output (production) (a)	..	160,271	260,975	326,278
Purchases of materials and fuel (b)	..	99,622	166,129	183,812
Stocks of materials and fuel	..	17,273	21,119	27,266
Cost of materials and fuel used	.. +	3,293	11,979	3,494
Payment for work done on materials given out	..	96,329	154,150	180,318
Payment for transport (c)	..	248	477	451
	..	5,250	10,201	14,214
Net output	..	63,694	96,148	131,296
Average number of employees	No.	62,988	62,904	62,732
Total employment (e)	..	21,598(d)	24,365	26,375
Net output per person employed (e)	..	84,599	87,282	89,115
	£	753	1,102	1,473
Wages and salaries	£'000	21,493	26,064	31,861
	..	10,440	14,161	18,965
Capital expenditure	..			
New building work (f)	..	1,770	3,729	4,865
Plant and machinery	..	10,037	17,442	24,604
	..	828	285	436
Vehicles	..	1,133	1,053	1,126
	..	109	159	420
FIRMS EMPLOYING ON AVERAGE 10 OR FEWER PERSONS				
Number of returns	No.	233	293(g)	309
Total employment, including working proprietors	..	1,371	1,584(g)	1,719

- (a) For the year 1948 gross output excludes payments for transport services outwards on finished goods sold. For subsequent years gross output includes payments to other firms and undertakings and to firms' own separate transport organisations for transport services.
- (b) Excluding Customs and Excise rebates and drawbacks in respect of any materials on which duty was paid. The rebates and drawbacks receivable in respect of alcohol amounted to £361,000 in 1948, £642,000 in 1951 and £391,000 in 1954.
- (c) Payments to other firms and undertakings and to firms' own separate transport organisations. For the year 1948 payments cover only transport outwards of finished goods sold. For subsequent years they cover payments for transport of both finished goods sold and materials and fuel purchased.
- (d) Number in week ended September 25, 1948.
- (e) Excluding outworkers and including working proprietors.
- (f) Excluding expenditure for establishments not yet in production.
- (g) Excluding Northern Ireland. No information about small firms was collected in Northern Ireland for 1951.

TABLE 3

Average number employed (a)	Estab-lish-ments	Gross output	Net output	Employees		Wages and salaries		Capital expenditure (b)	Net output per person employed (a)
				Operatives	Others	Operatives	Others		
	Number	£'000	£'000	Number	Number	£'000	£'000	£'000	£
11 - 24(c)	120	6,840	2,301	1,346	643	608	452	215	1,155
25 - 49	116	15,290	5,126	2,987	1,350	1,421	900	999	1,181
50 - 99	98	23,915	8,521	4,573	2,146	2,102	1,420	807	1,268
100 - 199	65	33,881	12,933	6,276	3,058	3,091	1,928	3,512	1,386
200 - 299	21	22,715	8,358	3,549	1,466	1,879	982	1,896	1,667
300 - 399	14	19,284	8,601	3,660	1,413	1,997	849	2,651	1,696
400 - 499	11	19,615	7,407	3,754	1,401	1,885	971	793	1,437
500 - 749	20	44,649	16,943	8,714	3,512	4,482	2,495	4,938	1,386
750 - 999	6	23,473	10,366	3,668	1,457	1,937	1,053	1,692	2,023
1,000 and over	16	116,616	50,739	24,205	9,929	12,459	7,916	13,091	1,486
Total	487	326,278	131,296	62,732	26,375	31,861	18,965	30,595	1,473

(a) Excluding outworkers and including working proprietors.

(b) Capital expenditure on new building work and on acquisition of plant, machinery and vehicles, excluding expenditure for establishments not yet in production.

(c) Including a small number of establishments with fewer than 11 persons employed, particulars of which were included with those for larger establishments on a single return.

Analysis according to specialisation within the industry, 1954

Larger establishments in the United Kingdom

TABLE 4

	Unit	Specialist producers of pigments (a)	Remainder of the industry	Total
Number of establishments	No.	44	443	487
Total value of sales and work done	£'000	11,892	311,768	323,660
Sales of characteristic products	"	11,265		
Products on hand for sale	"	1,005	16,211	17,215
and work in progress	{ at beginning of year			
Gross output (production)	{ change during year	- 50	+ 2,669	+ 2,618
	"	11,842	314,436	326,278
Purchases of materials and fuel (b)	"	6,599	177,213	183,812
Stocks of materials and fuel	{ at beginning of year	1,011	26,255	27,266
Cost of materials and fuel used	{ change during year	+ 272	+ 3,221	+ 3,494
Payment for work done on materials given out	"	6,326	173,992	180,318
Payment for transport	"	307	14,357	14,664
Net output	"	5,209	126,088	131,296
Average number of employees	{ operatives	No. 2,009	60,723	62,732
Total employment (c)	{ others	" 835	25,540	26,375
Net output per person employed (c)	"	2,845	86,270	89,115
	£	1,831	1,462	1,473
Wages and salaries	{ of operatives	£'000 974	30,886	31,861
	{ of others	" 602	18,362	18,965
Capital expenditure	"	74	4,790	4,865
New building work (d)	"	366	24,238	24,604
Plant and machinery	{ acquisitions (d)	" 3	433	436
	{ disposals	" 21	1,105	1,126
Vehicles	{ acquisitions (d)	" 7	413	420
	{ disposals	"		

(a) Including specialist producers of mineral and carbon blacks and iron oxides, chemically manufactured.

(b) Excluding Customs and Excise rebates and drawbacks in respect of any materials on which duty was paid. The rebates and drawbacks receivable in respect of alcohol amounted to £391,000.

(c) Excluding outworkers and including working proprietors.

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

TABLE 5

	1951		1954		
	Quantity	Value	Quantity	Value	Entries
Chemical manufactures	Th.tons	£'000	Th.tons	£'000	Number
Acids					
Hydrochloric (as at 1.14 specific gravity)	236.9	1,888	256.0	2,408	37
Sulphuric (in terms of 100 per cent. acid)	1,055.1	9,492	1,258.2	13,124	80
Salicylic			Th.lb. 3,584	392	..
Other acids, not elsewhere specified	..	12,429	..	10,528	93
Acid resisting cements and mixing solutions (formaldehyde and similar constitutions) (a)	..	264	Th.tons 0.3	24	..
Alcohol and alcohol ethers, not elsewhere specified			..	180	..
Alcohol					
Higher fatty (b)	Th.cwt. 7.6	123	Th.cwt. 56.6	471	6
Sulphonated	52.0	729	76.7	849	8
Butyl alcohols, all forms	Th.tons		Th.tons 14.7	1,783	..
Other alcohols and alcohol ethers, except ethyl alcohol (c)	..	6,592	..	9,217	24
Aluminium compounds					
Aluminium oxide					
Anhydrous but not including abrasives	79.0	1,982	85.0	2,391	..
Hydrated	24.9	467	30.2	502	7
Alums (sodium, potassium and ammonium)			..	141	..
Other sorts, excluding metallic driers, bauxite and abrasives such as alundum	..	2,907	16.9	522	8
Ammoniacal liquor (in terms of 100 per cent. ammonia) (d)	439.4	3,504(e)	..	2,975	22
Ammonium compounds					
Carbonate and bicarbonate	8.2	388	6.9	307	6
Other sorts excluding ammonium bromide and ammonium sulphate	..	3,035	..	2,927	40
Barium compounds					
Blanc fixe	12.3	368	13.7	420	..
Other sorts, including peroxide and chloride but excluding metallic driers, barytes, natural barium carbonate and pigments	18.3	503	19.1	627	13
Bismuth salts and compounds (excluding pigments)	Th.lb. 259.0	325	Th.lb. 260.4	249	7
Bleaching materials					
Bleaching powder (chloride of lime)					
hydrogen peroxide, hydrosulphites and like compounds	146.0	5,707	53.2	3,907	16
Other sorts (including percarbonates, perborates, persulphates, sodium peroxide, etc.)			{ 74.3	1,721	15
			..	393	..
Bromides					
Ammonium, potassium and sodium	Th.cwt. 10.8	163	Th.cwt. 14.8	219	9
Other	3.1	79	..	45	..

TABLE 5 (contd.)

	1951		1954		
	Quantity	Value	Quantity	Value	Entries
Chemical manufactures (contd.)	Th.cwt.	£'000	Th.cwt.	£'000	Number
Cadmium compounds, including plating salts, but not pigments	4.8 ..	345 63	7.5	487	11
Calcium compounds	Th.tons		Th.tons		
Carbide	99.3	2,320	110.0	3,565	..
Other sorts, not elsewhere specified, excluding calcium cyanamide (f)	314.8	2,454	96.5	2,661	51
Carbon disulphide	54.7	2,783	77.5	3,969	8
Carbon tetrachloride	7.4	483			
Carbons, decolorising and activated	Th.cwt. 223.0	929	Th.cwt. 115.2	567	7
Cellulose esters and ethers, excluding cellulose acetate (g)	Th.tons 6.0	2,737	Th.cwt. 4.9 ..	1,896 200	8
Chloroform	Th.cwt. 42.3	424	Th.cwt. 37.5	327	6
Copper sulphate	Th.tons 48.5	3,297	Th.tons 48.6	3,428	8
Ethyl acetate	Th.cwt. ..	(h)	Th.cwt. 194.0	1,071	..
Ethyl chloride	104.1	575	Th.lb. 1,995	195	..
Ethyl ether (sulphuric ether) (a)	Th.tons 3,370	293	Th.tons		
Formaldehyde and paraformaldehyde, including solutions in terms of 40 per cent. solution	102.1	2,248	108.2	2,825	11
Gases, compressed (including liquified and solidified)					
Acetylene, dissolved	Mn.cu.ft. 443.6	2,885	Mn.cu.ft. 502.1	3,592	8
Carbon dioxide	Th.tons 51.4	1,191	Th.tons 52.7	1,201	16
Hydrogen	Mn.cu.ft. 799.1	195	Mn.cu.ft. 859.1	325	9
Nitrous oxide	Mn.gal. 142.8	369	Mn.gal. 173.4	538	..
Oxygen	Mn.cu.ft. 4,361.9	4,388	Mn.cu.ft. 5,665.2	5,512	5
Petroleum hydrocarbons (butane, isobutane and propane)	Th.tons 103.9	1,724	Th.tons 241.4	2,737	..
Nitrogen	..	5,186	Mn.cu.ft. 454.2 ..	239 49	..
Other sorts			..	10,555	29
Iodides					
Potassium	Th.lb. 615.1	493	Th.lb. 213.5	140	5
Ammonium and sodium (a)	71.4	56	385.6	257	6
Other (a)	106.7	107	26.8	24	6
Ketones					
Acetone	Th.tons 18.5	1,619	Th.tons 43.6	2,847	5
Other	10.6	1,604	14.7 ..	1,835 195	7

TABLE 5 (contd.)

	1951		1954		
	Quantity	Value	Quantity	Value	Entries
Chemical manufactures (contd.)	Th.cwt.	£'000	Th.cwt.	£'000	Number
Lead compounds					
Lead oxides	651.2	5,460			
White lead, basic carbonate, dry	232.0	1,797	1,105.7	9,793	61
Other lead compounds, except pigments	299.6 ..	4,158 294			
Magnesium compounds	Th.tons		Th.tons		
Sulphate	23.8	441	19.3	302	11
Other magnesium compounds, not elsewhere specified	..	1,749	..	1,988	21
Mercury compounds	Th.cwt. 6.8	549	Th.cwt. 6.0	902	9
Phthalic anhydride (d)	..	(h)	238.4	1,923	..
Plasticisers, not elsewhere specified					
Phthalates	Th.tons 8.2	2,352	Th.tons 17.9	4,563	9
Phosphates	5.4	1,361	10.1	2,356	6
Other plasticisers	3.3	1,379	2.1	835	9
Potassium compounds					
Sulphate	Th.cwt. 12.9	19	Th.cwt. 308.1	1,529	43
Other sorts, excluding potassium bromide and potassium iodide	352.7	1,624			
Proprietary bleaches	237.8 ..	695 197	..	1,157	9
Rubber accelerators, not elsewhere specified	Th.tons 5.0	1,750	Th.tons 8.5	2,397	9
Rubber anti-oxidants, not elsewhere specified	4.5	1,496	5.4	2,079	..
Rubber substitute (factice)	Th.cwt. 51.9	569 (a)	Th.cwt. 37.4	338	..
Silver nitrate	Th.lb. 441.9	1,430	Th.lb. 471.0	2,112	5
Sodium compounds					
Sulphate of all grades (including salt cake)	Th.tons 146.1	948	Th.tons 160.9	1,064	34
Silicate (water glass, in terms of solid glass)	..	..	97.8	1,657	..
Phosphates	2,269.8	37,419	2,181.7	44,256	114
Other sorts, excluding sodium bromide and sodium iodide					
Synthetic organic chemicals for photographic purposes, not elsewhere specified	Th.cwt. 1.2 ..	184 263	Th.cwt. 4.1 ..	336 521	9
Synthetic organic chemicals for tanners use, not elsewhere specified	652.6	1,513	287.9	786	15
Tartrates, not elsewhere specified, including cream of tartar	23.7	271	15.3	144	6
Tin compounds	11.4	540	9.0	336	11
Titanium dioxide	716.8	4,296	1,270.8	8,842	..
Wood distillation products not elsewhere specified (except acetic acid, acetone and methyl alcohol)					
Charcoal, other than decolorising and activated carbons	Th.tons 8.6	238	Th.tons 7.7	237	7
Other	..	277	..	210	11

TABLE 5 (contd.)

	1951		1954		
	Quantity	Value	Quantity	Value	Entries
Chemical manufactures (contd.)	Th. tons	£'000	Th. tons	£'000	Number
Zinc oxide	44.6	7,379	47.0	3,376	20
Zinc sulphate	9.1	494			
Fine chemicals, not elsewhere specified					
Technical	..	2,474	..	1,526	16
Synthetic perfumery chemicals	..	1,260	..	1,106	11
Other (including analytical reagents and research)	..	676	..	1,949	17
	Th.cwt.		Th.cwt.		
Metallic organic compounds (naphthenates, linoleates, resinates, stearates and like compounds) not separately specified, excluding metallo-organic medicinal compounds	177.5	1,750	198.2	1,910	18
Metallic salts and compounds, not elsewhere specified, excluding pigment colours	..	10,036	..	8,453	61
Other chemical manufactures	..	36,568	..	57,476	..
Unclassified chemical manufactures	..	4,590	..	7,405	48
Total chemical manufactures		228,207		284,026	
Other chemical products					
Manufactured bituminous products					
Bituminous emulsions (except emulsions for use as paint)	Th. tons		Th. tons		
Other bituminous compounds	73.0	957	58.3	742	16
	58.4	1,204	..	168	
	..	129	36.9	960	22
	..	..	..	170	..
	Th.cwt.		Th.cwt.		
Sulphur	481.7	606	779.1	772	12
	Th. tons		Th. tons		
Sulphonated animal and vegetable oils	13.0	1,575	11.2	1,074	15
Finishing materials for the textile industries other than oils (including gums, starch, etc. not elsewhere specified)	..	735	..	542	13
	Th.cwt.		Th.cwt.		
Boiler compositions and disincrustants	221.6	682	387.9	1,282	15
	..	77	..	..	..
Brewers' finings, etc.	..	282	..	254	10
	Th.lb.		Th.lb.		
Essential oils (other than turpentine)	1,321.7	1,382	1,013.6	1,610	29
Flavouring essences and dyes for food, etc.					
Flavouring essences	..	5,189	..	4,088	65
Dyes (including confectioners' colours)	..	..	..	314	30
	Th.gal.		Th.gal.		
Flavouring compounds	1,169	866	1,538	997	28
	..	760	..	227	..
	Th. tons		Th. tons		
Lithopone, dry	53.3	3,299	44.5	2,447	..
	Th.cwt.		Th.cwt.		
Rosin size	294.0	601	493.7	1,081	7
Synthetic organic pigments (pure or reduced)					
Pigment dyestuffs (i)	124.4	2,576	80.3	3,407	32
Lakes (i)	..	..	25.1	464	24
	..	..	..	494	..
Toners	118.1	1,966	35.3	831	19
	..	..	..	265	..

TABLE 5 (contd.)

	1951		1954		
	Quantity	Value	Quantity	Value	Entries
Other chemical products (contd.)	Th.cwt.	£'000	Th.cwt.	£'000	Number
Blacks, mineral and carbon (including vegetable, lamp, acetylene and bone black)	173.1	578	1,434.9	5,290	16
Earth colours, processed or powdered					
Ochres	271.2	320	96.9	128	9
Red oxides of iron	478.5	434	401.8	402	12
Other earth colours, except black	43.9	83	74.7	149	10
	..	..	..	58	
Iron oxides, chemically manufactured	2,482.7	1,394	2,011.2	1,220	24
Inorganic pigment colours not elsewhere specified (pure or reduced) dry and in pulp form					
Iron blues	49.3	617	39.9	528	13
Chromium compounds (including lead greens and zinc greens)	205.5	2,226	194.8	2,094	20
Other	160.6	1,183	114.3	1,015	24
	..	..	..	114	
Unclassified inorganic pigment colours and oxides of iron	58.7	357	..	334	17
Frits	..	..	563.7	2,691	18
Ceramic colours	883.0	4,671	35.8	593	12
	..	1,211	..	672	
Ceramic glazes	..	..	255.3	851	19
	..	..	..	113	
Vitreous enamels	..	..	73.3	347	6
			Th. tons		
Miscellaneous textile chemicals (excluding finishing materials) not elsewhere specified (e.g. combing oils) (a)	..	..	5.4	1,454	15
Other chemical products	..	2,423	..	3,232	13
Waste products	..	605	..	766	75
Work done for the trade or on commission (j)	..	864	..	927	56
Total		268,060		329,194	..
Sales in other industries (see Table 6)		46,967		45,278	..
Principal products of this industry sold by establishments in the industry		221,093		283,916	400

- (a) So far as recorded separately.
 (b) Excluding higher fatty alcohols from sperm oil for which see the Soap, Candles and Glycerine Industry (Volume 2, Industry J).
 (c) Sales of ethyl alcohol are included in the Spirit Distilling Industry (Volume 9, Industry J).
 (d) Excluding the output of Coke Ovens and Gas Undertakings, which returned the following amounts:

	1951		1954	
	Th. tons	£'000	Th. tons	£'000
Coke Ovens	18	114	10	100
Gas Undertakings	..	14	..	59
	56	160	61	214

- (e) Recorded in terms of .880 ammonia.
 (f) Sales of calcium cyanamide are included in the Fertilizer, Disinfectant, Insecticide and Allied Industries (Volume 2, Industry C).
 (g) Sales of cellulose acetate produced by rayon manufacturers are included in the Rayon, Nylon, etc., Production Industry (Volume 6, Industry D), and by other manufacturers in the Plastics Materials Industry (Volume 2, Industry R).
 (h) Included with 'Other chemical manufactures'.
 (i) Firms were asked in 1954 to return the quantities of pigment dyestuffs and lakes sold in terms of 100 per cent pure dye content. No instructions on the basis of return were given for earlier years.
 (j) Amount charged.

Sales of principal products of the industry by establishments
classified to other industries

Larger establishments in the United Kingdom

TABLE 6

	1954			Principal industries in which produced (a)
	Quantity	Value	Entries	
	Th. tons	£'000	Number	
Chemical manufactures				
Acids				
Hydrochloric (as at 1.14 specific gravity)	15.8	133	6	2C, 2D, 2R, 3G
Sulphuric (in terms of 100 per cent acid)	52.8	500	22	(b)
Other acids, not elsewhere specified	..	1,702	15	(b)
Alcohols and alcohol ethers, not elsewhere specified, except ethyl alcohol and higher fatty alcohols	..	168	..	2B, 2H, 6D
Aluminium compounds, excluding metallic driers, bauxite and abrasives such as alundum	..	155	..	2C, 3G, 9G
Ammoniacal liquor (in terms of 100 per cent ammonia) and ammonium compounds excluding ammonium bromide and ammonium sulphate	..	289	8	2D, 2H, 3G
Barium compounds other than blanc fixe, including peroxide and chloride but excluding metallic driers, bismuth salts and compounds	..	282	..	2F, 2H, 2J
Bleaching materials	0.8	114	8	2B, 2F, 2J, 8J
	..	205	..	
	Th.cwt.			
Bromides	7.7	116	..	2F
	..	45	..	
	Th. tons			
Calcium compounds	0.4	62	..	2D, 2I, 3B, 3G
Cellulose esters and ethers, chloroform and copper sulphate	..	3,244	14	(b)
	Th.lb.			
Ethyl ether (sulphuric ether)	1,994.7	195	..	2F
	Th. tons			
Gases compressed (including liquified and solidified)	..	2,398	17	(b)
Iodides				
	Th.lb.			
Ammonium, sodium and potassium	385.6	257	6	2F
Other	26.8	24	6	2F
Acetone and lead compounds	..	1,666	25	2D, 2I, 3G, 6D
Mercury compounds, plasticisers not elsewhere specified, proprietary bleaches, rubber accelerators not elsewhere specified and rubber substitute (factice)	..	1,171	10	(b)
	Th.cwt.			
Phthalic anhydride	189.3	1,079	..	2A, 2B
Potassium compounds	72.2	319	10	2C, 2F, 2H
	Th. tons			
Sodium compounds	112.4	2,512	19	(b)
	Th.cwt.			
Synthetic organic chemicals for photographic purposes and for tanners use, not elsewhere specified	214.8	554	10	2B, 2F, 2O, 5H
	..	585	..	
Wood distillation products not elsewhere specified	..	20	..	2C, 2J, 2K
Fine chemicals not elsewhere specified	..	851	6	2D, 2F, 3B
Metallic salts and compounds, not elsewhere specified, excluding pigment colours	77.7	755	15	(b)
	..	846	..	

TABLE 6 (contd.)

	1954			Principal industries in which produced (a)
	Quantity	Value	Entries	
		£'000	Number	
Chemical manufactures (contd.)				
Other chemical manufactures (c)	..	10,468	..	(b)
Unclassified chemical manufactures	..	5,586	33	(b)
Total chemical manufactures		36,425		
Other chemical products				
Manufactured bituminous products				
	Th. tons			
Bituminous emulsions (except emulsions for use as paint)	13.6	22	7	2C, 2D
	..	41	..	
Other bituminous compounds	1.8	39	9	(b)
	..	91	..	
Sulphonated animal and vegetable oils, finishing materials for the textile trades other than oils (including gums, starch, etc.) and boiler compositions and disincrustants	..	596	6	2B, 2J, 2O
Brewers' finings, etc., essential oils (other than turpentine) and lithopone, dry	..	597	16	2F, 2I, 8H, 9H
Flavouring essences and dyes for food, etc.				
Flavouring essences	..	782	37	(b)
Dyes (including confectioners' colours)	..	31	8	8J, 9G, 9L
	Th.gal.			
Flavouring compounds	810.8	459	13	2I, 9I, 9L
Synthetic organic pigments (pure or reduced)				
	Th.cwt.			
Pigment dyestuffs	29.3	2,022	16	2B, 2I, 2L
Lakes and toners	7.9	377	13	2B, 2L
	..	239	..	
Blacks, mineral and carbon (including vegetable, lamp, acetylene and bone black) and earth colours, processed or powdered (except black)	38.9	114	..	2C, 2I, 4N
	..	83	..	
Inorganic pigment colours, not elsewhere specified (pure or reduced), dry and in pulp form	22.1	211	22	2B, 2I, 2L
	..	334	..	
Frits	173.3	747	5	1H, 3C, 3G, 5E
	..	238	..	
Ceramic colours and glazes	34.6	466	11	2G, 5K
	..	113	..	
Lanolin, case hardening compounds returned as such, miscellaneous textile chemicals and acid resisting cements and mixing solutions	..	1,251	14	(b)
Total		45,278	..	

(a) The volume number and industry references given are to the industries shown in the list at the back of this report.

(b) Production is widely distributed among other industries.

(c) Includes work done for the trade or on commission.

Sales in the industry of other than principal products: Larger establishments in the United Kingdom
TABLE 7

	1954	
	Quantity	Value
		£'000
Pharmaceutical chemicals and preparations	..	4,002
	Th.cwt.	
Dyes and dyestuffs	189.5	1,674
Perfumery, cosmetics and toilet preparations	..	1,012
	Th.tons	
Fertilisers	68.6	920
	Th.cwt.	
Disinfectants, antiseptics and sheep and cattle dips and dressings	8.5	162
	..	25
Weedkillers	204.5	1,836
Agricultural and horticultural insecticides and fungicides	273.1	1,109
Industrial and household insecticides, rodenticides, etc.	8.8	59
	..	7
	Th.gal.	
Bituminous paints and bituminous solutions and emulsions for use as paint	216.4	85
Other products of the Paint and Varnish Industry	..	964
Concentrated fruit juices and soft drinks in liquid form including squashes and cordials and unsweetened concentrated drinks	70.1	38
	..	328
	Th.cwt.	
Miscellaneous preserved foods	5.8	53
	..	10
Soapless detergents, scouring materials and washing materials other than soap	240.2	1,512
	..	529
Other products of the Soap, Candles and Glycerine Industry	6.6	19
	..	39
Coal tar products	..	4,260
Inks, stains, dyes and gums for the Leather and Allied Industries	..	118
Oils and greases	..	99
	Th.tons	
Quarry products and products used in the making of pottery.	441.5	522
	..	93
	Th.cwt.	
Non-ferrous metals and alloys	133.4	1,334
New construction work - factories, workshops and other industrial premises	..	352
Other products	..	18,582
Total		39,744

Total make of intermediate products: Larger establishments in the United Kingdom

TABLE 8

	Returned in this industry			Returned in all industries		
	1951		1954	1951		1954
	Quantity	Quantity	Entries	Quantity	Quantity	Entries
		Th.lb.	Number		Th.lb.	Number
Salicylic acid	(a)	8,797.3	..	(a)	8,797.3	..
	Th.tons	Th.tons		Th.tons	Th.tons	
Sulphuric acid (in terms of 100 per cent. acid)	1,196.1	1,494.4	55	1,495.5	1,842.9	82
	Th.cwt.	Th.cwt.		Th.cwt.	Th.cwt.	
Higher fatty alcohols (b)	10.9	72.7	6	10.9	72.7	6
	Th.tons			Th.tons	Th.tons	
Hydrated aluminium oxide	177.4	(a)	..	177.4	186.2	7
Ammoniacal liquor (in terms of 100 per cent. ammonia)	(a)	(a)	..	(a)	84.8	18
				Th.cwt.	Th.cwt.	
Chloroform	(a)	(a)	..	44.9	40.8	6
				Th.tons	Th.tons	
Carbon dioxide	(a)	(a)	..	(a)	59.4	16

(a) Owing to the risk of disclosure of information relating to individual firms, separate particulars cannot be given.
(b) Excluding higher fatty alcohols from sperm oil.

(92759)

Purchases of materials and fuel, 1954
Larger establishments in the United Kingdom

TABLE 9

	Quantity	Cost
	Th.tons	£'000
Materials	Th.tons	£'000
Acetone	11.2	916
Acetic acid and acetic anhydride	..	931
Alcohol		
Ethyl alcohol	Th.proof gal.	
Duty paid	76.9	815
Duty free other than methylated spirits	23,449.6	3,132
Methyl alcohol	11,097.7	842
	..	1,895
	Th.tons	
Butyl alcohol	6.6	961
Aluminium (a)	1.2	99
Ammoniacal liquor (in terms of 100 per cent. ammonia)	54.5	1,446
	Th.lb.	
Ammonia (anhydrous)	33,262.1	565
	Th.tons	
Aniline and aniline oil	4.1	428
Barytes	85.1	578
	Th.gal.	
Benzoles and toluoles, refined	10,699.1	1,854
	Th.tons	
Bitumen (a)	25.8	292
Cadmium compounds (a)	0.2	237
Calcium carbide	131.1	4,404
	Th.cwt.	
Chlorine	1,776.9	2,214
	Th.tons	
Coal (other than for use as fuel)	365.3	1,597
Coke (other than for use as fuel)	478.8	2,658
	Th.gal.	
Creosote oils (including anthracene oil)	42,127.7	2,017
Tar acids		
	Th.tons	
Cresylic acids, refined, all grades	8.5	662
Phenol and phenol mixtures containing not less than 80 per cent. of phenol (equivalent crystal phenol content)	4.8	777
Other tar acids	5.5	517
	Th.cwt.	
Synthetic organic dyestuffs intermediates	42.5	1,205
	Th.lb.	
Essential oils	1,865.2	1,625
	..	212
	Th.tons	
Fluorspar	10.9	160
	..	143
Hydrochloric acid (a)	7.3	66
Metallic lead	48.2	4,620
Limestone and lime	1,869.1	1,371
	..	473
	Th.lb.	
Mercury	1,141.7	1,259
	Th.tons	
Molasses	102.3	194
	..	810
Nitric acid (on the basis of 100 per cent. acid)	20.3	592
	Th.gal.	
Petroleum hydrocarbons (other than lubricating oil and fuel oils)	90,033.0	3,820
	..	3,201

(92759)

TABLE 9 (contd.)

	Quantity	Cost
	Th. tons	£'000
Materials (contd.)		
Phosphate rock (mineral phosphates of lime)	265.7	1,592
Phthalic anhydride	9.7	1,254
Potassium compounds	16.6	545
Pyrites	321.4	2,180
Salt and brine (in terms of salt content)	3,654.9	1,559
Sodium compounds		
Carbonate, including soda crystals and soda ash (on the basis of 58°)	210.6	2,152
Caustic soda (on the basis of 76°E)	110.2	1,825
Other sodium compounds (a)	26.3	602
Spent oxide	207.1	857
Sulphur, crude	..	95
Sulphuric acid (on the basis of 100 per cent. acid)	313.4	4,332
Tin	0.6	420
Zinc (spelter)	29.1	2,309
Zinc dust	7.1	719
Water charges	..	939
Cotton piece goods (including filter cloth but not cloth used for packing)	Th. sq. yd. 264.8	64
Raw cotton linters and cotton waste	..	22
Replacement parts for firms' own machinery, plant, and vehicles	Th. lb. 6,140.3	259
Consumable tools bought as replacements	..	6,955
Packing materials	..	1,030
Timber and containers made of timber	..	552
Cardboard boxes, cartons and fibre-board packing cases	..	1,045
Glass containers	..	826
Metal containers	..	3,294
Other	..	3,964
All other purchased materials	..	64,361
Fuel and electricity		
Coal (b)	Th. tons 3,369.4	10,708
Coke	279.6	1,349
Liquid fuels (including creosote/pitch mixtures)		
For use in internal combustion engines	Th. gal.	
Motor spirit (petrol) for use in road vehicles and deriv. fuel	5,265.2	986
Other	901.8	48
For burning in furnaces, boilers, kilns, etc.	..	17
Gas purchased (c)	52,444.8	1,992
From Gas Boards	..	215
From other sources including other departments of the same firms	Th. therms 8,114.7	408
Electricity purchased (d)	9,046.0	444
From Electricity Boards	Mn. cu. ft. 4,210.3	
From other sources including other departments of the same firms	Th. kWh. 2,427,989	8,005
All other purchased fuel	997,944	3,025
Total cost	..	580
Less Customs and Excise rebates and drawbacks receivable in respect of alcohol		184,203
Total cost (exclusive of Customs and Excise rebates and drawbacks receivable in respect of alcohol)		391
		183,812

(a) So far as recorded separately.

(b) Excluding coal used as a raw material for chemical re-manufacture, which is shown separately above.

(c) The total quantity of gas produced amounted to 15,487 Th. therms of which 11,213 Th. therms were consumed in the same works.

(d) The total quantity of electricity generated in firms' own establishments in this industry in 1954 was 1,663,016 Th. kWh.

(92759)

Average number of employees and wages, salaries and superannuation payments (a)

Larger establishments in the United Kingdom

TABLE 10

	1951	1954
	Number	Number
Average number of employees		
Operatives	62,904	62,732
Administrative, technical and clerical employees	24,365	26,375
Total	87,269	89,107
Wages and salaries paid to	£'000	£'000
Operatives	26,064	31,861
Administrative, technical and clerical employees	14,161	18,965
Total	40,225	50,825
Wages and salaries per head	£	£
Operatives	414	508
Administrative, technical and clerical employees	581	719
Superannuation and other pension funds for employees and dependents (b)		
Employers' contributions	..	£'000 2,258
Employees covered	..	Number 63,871
Pension, etc. payments to former employees and dependents (b)	..	£'000 458

(a) The following persons, not included in the table, were also employed by larger establishments in this industry ('other workers' includes, for example, employees engaged in merchanting):

	1951	1954
	Number	Number
Canteen workers		
Males	103	100
Females	1,146	1,115
Total	1,249	1,215
Other workers		
Males	921	1,098
Females	389	312
Total	1,310	1,410
Total excluded employees	2,559	2,625

(b) The figures given relate to larger establishments in Great Britain only.

Employment in a specified week (a)

Larger establishments in the United Kingdom

TABLE 11

	1951			1954		
	Males	Females	Total	Males	Females	Total
	Number					
Working proprietors	13	-	13	8	-	8
Operatives	58,792	4,943	63,735	59,506	4,243	63,749
Administrative, technical and clerical employees	16,469	8,084	24,553	18,270	8,364	26,634
Total employees	75,261	13,027	88,288	77,776	12,607	90,383

(a) Week ended September 22, 1951, or October 30, 1954.

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