

43 Photographic chemical materials

This Report on the Photographic Chemical Materials relates to establishments engaged wholly or mainly in manufacturing sensitized photographic film and plate and photographic processing chemicals. Unsensitized photographic film is excluded.

This industry corresponds to minimum list heading 279(7) 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 partly in the Scientific, Surgical and Photographic Instruments Industry (Part 53) and partly in the General Chemicals Industry (Part 27) in the Reports on the last detailed Census of Production for 1963.

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 the 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.

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) 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) Administrative, technical and clerical employees.

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

(f) Acquisitions less disposals.

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

	Unit	All establishments		
		1963	1968	
Number of enterprises	No.	28	14	
Number of establishments	"	40	24	
Gross output	£'000	55,522	80,095	
Net output	"	27,308	32,286	
Net output per head	£	1,557	2,109	
Sales and work done	{ goods produced and work done (c)	£'000	49,939	73,114
	{ merchanted goods and canteen takings	"	5,537	5,888
Purchases	{ materials for use in production and packaging and fuel	"	23,654	43,447
	{ goods for merchenting and canteen purchases	"	4,487	4,169
Payments to other organisations	{ for work done on materials given out	"	527	389
	{ for transport	"	109	70
	{ by road	"		
	{ by rail and other means excluding postal services	"		41
Stocks and work in progress				
Total stocks and work in progress	{ change during year	"	+ 608	+ 1,400
	{ at end of year	"	13,980	17,610
Goods on hand for sale	{ change during year	"	- 275	+ 354
	{ at end of year	"	3,020	2,939
Work in progress	{ change during year	"	+ 321	+ 738
	{ at end of year	"	3,995	6,230
Materials, stores and fuel	{ change during year	"	+ 563	+ 308
	{ at end of year	"	6,966	8,441
Number employed on average during the year	{ total, including working proprietors	Th.	17.5	15.3
	{ operatives	"	10.7	9.0
	{ other employees (d)	"	6.8	6.3
Wages and salaries	{ of operatives	£'000	8,371	9,558
	{ of other employees (d)	"	6,635	8,066
Capital expenditure (e)				
Total	"	2,954	5,338	
New building work	"	644	1,471	
Land and existing buildings (f)	"	105	- 45	
Plant and machinery (f)	"	2,044	3,676	
Vehicles (f)	"	162	237	

(a) For 1968 estimates for small establishments from which only employment data were collected accounted for less than 1 per cent. of the total figures in which they were incorporated. There were no unsatisfactory returns recorded. For 1963 estimates for small establishments and unsatisfactory returns accounted for 2 per cent: of this unsatisfactory returns accounted for 1 per cent.

(b) 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 in 1963 only.

	1963	1968
Number of establishments	15	6
Average number employed:		
Working proprietors	11	3
Other persons employed	102	59

Footnotes continued on page 43/2.

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	3	3	11	..	..	..
6-24	3	3	51	..	..	..
25-99	4	3	253	1,701	806	3,185
100-299	5	5	1,038	7,476	3,302	3,181
300-999	4	4	2,120	10,747	4,148	1,956
1,000 and over	5	3	11,837	59,846	23,900	2,019
Total	24	14	15,310	80,095(c)	32,286(c)	2,109(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	..	..	..	..	..	..
6-24	..	..	..	..	..	..
25-99	213	40	166	49	780	1,226
100-299	737	301	728	361	988	1,198
300-999	1,390	730	1,235	812	888	1,112
1,000 and over	6,604	5,233	7,392	6,814	1,119	1,302
Total	8,979(c)	6,328(c)	9,558(c)	8,066(c)	1,065(c)	1,275(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.

(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	3	4
18 and over	59	37	96
All ages	60	40	100

Source: Department of Employment

(a) The percentages relate to the numbers employed (excluding working proprietors) in the chemical industries not elsewhere specified - minimum list heading 279 - at June 1969, the earliest date for which the information is available on the basis of the Standard Industrial Classification (Revised 1968).

TABLE 4 Analysis of larger establishments, 1963 and 1968

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

	Unit	1963	1968	
Number of enterprises	No.	12	9	
Number of establishments	"	24	18	
Gross output	£'000	54,569	79,770	
Net output	"	26,839	32,155	
Net output per head	£	1,557	2,109	
Sales and work done	{ goods produced and work done (b)	£'000	49,082	72,818
	{ merchanted goods and canteen takings	"	5,442	5,864
Index of specialisation (c)	Per cent.	91	99	
Purchases	{ materials for processing and packaging, and fuel	£'000	23,248	43,271
	{ goods for merchenting and canteen purchases	"	4,410	4,152
Payments to other organisations	{ for work done on materials given out	"	518	387
	{ for transport	"	107	70
	{ by road	"		41
Stocks and work in progress				
Goods on hand for sale	{ change during year	"	- 271	+ 353
	{ at end of year	"	2,968	2,927
Work in progress	{ change during year	"	+ 315	+ 735
	{ at end of year	"	3,926	6,205
Materials, stores and fuel	{ change during year	"	+ 553	+ 306
	{ at end of year	"	6,846	8,407
Number employed on average during the year	{ total, including working proprietors	No.	17,238	15,248
	{ operatives	"	10,514	8,944
	{ other employees (d)	"	6,720	6,304
Wages and salaries	{ of operatives	£'000	8,234	9,521
	{ of other employees (d)	"	6,526	8,035
Wages and salaries per head	{ operatives	£	783	1,065
	{ other employees (d)	"	971	1,275
Capital expenditure (e)				
New building work	£'000	632	1,465	
Land and existing buildings	{ acquisitions	"	178	24
	{ disposals	"	75	69
Plant and machinery	{ acquisitions	"	2,030	3,874
	{ disposals	"	21	213
Vehicles	{ acquisitions	"	250	402
	{ disposals	"	91	167

For notes to this table - see page 43/7.

TABLE 5 Sales of principal products of the industry by larger establishments, including sales by establishments classified to other industries, 1963 and 1968

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

	1963		1968			
	Quantity	Value	Quantity	Value	Enterprises	Entries
		£'000		£'000	Number	Number
Photographic developers and other compounded preparations for photographic purposes	..	3,667	..	7,344	11	11
Sensitized photographic plates and films other than photographic paper and cloth (not exposed nor developed)	..	24,225	..	41,221	9	11
Photographic paper and cloth (not exposed nor developed)						
Paper sensitized with silver salts	Th. sq. ft.		Th. sq. ft.			
Document-copying paper	{ 119,092	1,862	219,465	3,342	}	*
	..	611	..	822		
Other paper sensitized with silver salts	186,089	4,124	289,390	8,529	*	*
Other sensitized paper (including dye-line) and sensitized cloth	{ 1,049,275	7,112	1,380,327	10,912	}	9
	..	793	..	4,895		
Other products		85		123	*	*
Waste products		628		545	*	*
Work done		2,990		481	*	*
Total		46,096		78,214	..	..
Sales in other industries (see Table 6)		1,506		6,079	..	..
Principal products of this industry sold by establishments in the industry		44,590		72,135	9	15(a)

(a) 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.

Footnotes to Table 4.

- (a) For 1963 two establishments employing fewer than 25 persons were included in returns for larger establishments. None were included for 1968.
- (b) 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).
- (c) This is the ratio of total sales of principal products by the industry to total sales of goods produced and work done.
- (d) Administrative, technical and clerical employees.
- (e) Excluding expenditure for establishments not yet in production.

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

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

	1963	1968		
	Value	Value	Entries	Principal industries in which produced (a)
	£'000	£'000	Number	
Photographic developers and other compounded preparations for photographic purposes	1,373	4,481	6	27, 29, 30, 70
Sensitized photographic plates, films, paper and cloth (not exposed nor developed) excluding document copying paper sensitized with silver salts	133(b)	1,598	7	34, 68, 70, 149
Total	1,506	6,079	..	

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

(b) For 1963 also excluding paper, other than document copying paper, sensitized with silver salts.

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

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

	1963	1968
	Value	Value
	£'000	£'000
Miscellaneous products and services rendered to other organisations (a)	4,493	683
Total value of goods sold without having been subjected to any manufacturing process (merchanted or factored)	5,171	5,513
Canteen takings	271	351
Total	9,935	6,548

(a) Services rendered to other organisations comprises 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

This table is not applicable to this industry.

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

This table is not applicable to this industry.

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

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

	1963		1968	
	Quantity	Cost	Quantity	Cost
Materials for use in production		£'000		£'000
Gelatine	..	(a)	..	432
Osseine	..	(a)	..	556
Synthetic organic pigment dyestuffs, pure or reduced (including pigment dyestuffs, lakes and toners)	..	(a)	..	253
Photographic developers and other products compounded or put up for photographic purposes (such as developers, fixers, intensifiers, reducers, toners, clearing agents and emulsions)			..	295
General chemicals (excluding pesticide chemicals and chemicals used for photographic purposes)				
Inorganic chemicals (including inorganic gases)				
Ammonium compounds			..	85
Potassium compounds	..	3,491	..	88
Silver compounds			..	11,490
Sodium compounds (excluding sodium hypochlorite)			..	170
Other inorganic chemicals and gases			..	692
Organic chemicals (including organic gases)				
Alcohols			..	163
Cellulose derivatives			..	80
Other organic chemicals and gases			..	1,785
Cellulose ester and ether sheet, film, foil, rod, tube, profile shapes and photographic film base (b)	..	5,662	..	8,959
Paper and board, other than for packaging				
Photographic paper (not sensitized) including baryta coated	..	3,492	..	6,094
Other	..	(a)	..	946
Lubricating oils and greases	Th.gal. 2.8	2	Th.gal. 2.6	3
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	..	227	..	56
Other			..	434
All other materials for use in production	..	7,585	..	5,050
Packaging materials				
Paper and board				
Boxes, cartons, drums and canisters (with or without metal ends) of paper and cardboard, and fibreboard packing cases	..	757	..	1,214
Wrapping and packing paper (including paper coated with plastics and any laminates incorporating paper but not metal)			..	336
Other packaging materials of paper and paperboard (including bags and multiwall paper sacks, moulded pulp units and labels but excluding paper and board for converting into packaging materials)	..	647(c)	..	573

TABLE 10 (continued)

	1963		1968	
	Quantity	Cost	Quantity	Cost
Packaging materials (continued)		£'000		£'000
Metal				
Cans and boxes	..	17	..	412
Aluminium collapsible tubes, aluminium foil, and any laminates incorporating aluminium foil and aluminium foil labels and closures	..	1	..	38
Timber	..	7	..	52
Plastics (other than transparent regenerated cellulose film)				
Film (up to 0.01 inches thick) of polyethylene and other plastics materials	..	(a)	..	33
Bags and sacks, sheets and sheeting (thicker than 0.01 inches)	..	(a)	..	93
Moulded and fabricated containers including closures and inserts	..	40	..	141
All other packaging materials	..	579	..	1,592
Fuel and electricity (d)				
Coke (including screenings) and manufactured fuel	Th.tons 0.5	4	-	-
Derv fuel and motor spirit for use in road vehicles	Th.gal. 359	81	Th.gal. ..	202
Other liquid fuels (including creosote/pitch mixtures, etc and liquefied petroleum gases)	9,411	348	14,134	574
Gas	Th.therms 465	39	Th.therms 367	31
	..	12	..	42
Electricity	Th.kWh 37,536	256	Th.kWh 31,507	215
			..	97
Total cost of materials and fuel		23,248		43,271
Goods purchased for merchanting		4,231		3,877
Canteen purchases		180		275
Total cost of purchases		27,659		47,423

(a) Not recorded separately for 1963.

(b) For 1963 described as 'Photographic and cinematographic film base (not sensitized)'.

(c) For 1963 excluding multiwall paper sacks.

(d) Owing to the risk of disclosure of information relating to individual firms, total quantities of electricity generated in firms' own establishments in 1963 and 1968 cannot be given.

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

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

	Unit	1963	1968
Average number mainly employed on transport	No.	300	266
Transport costs			
Wages and salaries	£'000	296	289
Derv fuel and motor spirit	"	81	202
Tyres and other spare parts for road goods vehicles	"	..	56
Payments to other organisations for transport	{ by road { by rail and other means excluding postal services	107	70
			41
Costs of operating road goods vehicles			
Insurance	"	18	24
Vehicle licences	"	18	39
Depreciation	"	89	249
Payments to other organisations for repairs and maintenance	"	31	71
Total	"	639(a)	1,041

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

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

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

	Amounts payable	
	1963	1968
Repairs and maintenance to	£'000	£'000
Buildings	91	94
Road goods vehicles	31	71
Plant, machinery and other capital equipment	152	264
Insurance, licensing and depreciation of road goods vehicles (b)	125	312
Rates, excluding water rates	370	513
Hire of plant and machinery	12	19
Postage, telephone, telegrams, cables and telex (c)	387	213
Total	1,169	1,487

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

(b) For details see Table 11.

(c) 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)	0.0	0.0
May	0.0	0.0
June	13.3	1.9
July	0.0	0.0
August	0.0	0.0
September	0.0	0.0
October	26.7	35.6
November	6.7	35.2
December	33.3	19.4
1969		
January	0.0	0.0
February	0.0	0.0
March	20.0	7.9
April (b)	0.0	0.0
	100	100

(a) From 6 April.

(b) To 5 April.

TABLE 1. Physiological records of subject No. 1111, during the course of the experiment, 1932-1933. The subject was a male, aged 25 years, height 175 cm, weight 70 kg. The experiment was conducted in the laboratory of the Department of Physiology, University of California, Berkeley, California, U.S.A.

Date	Time of day	State of mind	Heart rate (beats per minute)		Blood pressure (mm Hg)	Respiration rate (liters per minute)	Temperature (°C)
			Rest	Exercise			
1932	8:00 AM	Awake	72	120	120/80	20.0	20.0
	12:00 PM	Awake	75	115	120/80	20.0	20.0
	4:00 PM	Awake	78	110	120/80	20.0	20.0
	8:00 PM	Asleep	60	80	120/80	20.0	20.0
1933	8:00 AM	Awake	70	115	120/80	20.0	20.0
	12:00 PM	Awake	75	110	120/80	20.0	20.0
	4:00 PM	Awake	78	110	120/80	20.0	20.0
	8:00 PM	Asleep	60	80	120/80	20.0	20.0

The following table shows the results of the experiment. The subject was a male, aged 25 years, height 175 cm, weight 70 kg. The experiment was conducted in the laboratory of the Department of Physiology, University of California, Berkeley, California, U.S.A.

Date	Time of day	State of mind	Heart rate (beats per minute)		Blood pressure (mm Hg)	Respiration rate (liters per minute)	Temperature (°C)
			Rest	Exercise			
1932	8:00 AM	Awake	72	120	120/80	20.0	20.0
	12:00 PM	Awake	75	115	120/80	20.0	20.0
	4:00 PM	Awake	78	110	120/80	20.0	20.0
	8:00 PM	Asleep	60	80	120/80	20.0	20.0
1933	8:00 AM	Awake	70	115	120/80	20.0	20.0
	12:00 PM	Awake	75	110	120/80	20.0	20.0
	4:00 PM	Awake	78	110	120/80	20.0	20.0
	8:00 PM	Asleep	60	80	120/80	20.0	20.0

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