

## 25 Mineral oil refining

This Report on the Mineral Oil Refining Industry relates to establishments engaged wholly or mainly in refining petroleum or shale oil, and producing bitumen, medicinal paraffin, paraffin wax, petroleum jelly, etc. The blending of mineral, animal or vegetable lubricating oils, and greases carried out at refineries is also included but the sales are shown in the report on the Lubricating Oils and Greases Industry (Part 26).

This industry corresponds to minimum list heading 262 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 definition of this industry however is unchanged from the last detailed Census of Production for 1963 in which it was reported (Part 23), except that butane and propane for use as fuel was included in the report on the General Chemicals Industry (Part 27).

The figures have been compiled from returns made to the Ministry of Power. Sales are generally valued at open market prices f.o.b. in the Gulf of Mexico plus current rates of freight and insurance to the United Kingdom, and purchases of feedstock are valued at open market prices f.o.b. at the port of origin plus current rates of freight and insurance to the United Kingdom. The size of the net output is largely determined by methods of valuation.

Returns in full detail were received from all establishments in this industry, there being no establishment employing less than 25 persons in 1963 or 1968 for which a separate return could be made; all the tables in this report therefore relate to the industry as a whole.

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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- (a) Some establishments employing fewer than 25 persons were included in returns for larger establishments. For both 1968 and 1963 these amounted to 2 establishments.
- (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 of 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.
- (f) Acquisitions less disposals.

TABLE 1 Industry summary, 1963 and 1968

Analysis of returns received, United Kingdom (a)

	Unit	All establishments	
		1963	1968
Number of enterprises	No.	8	13
Number of establishments	"	19	26
Gross output	£'000	506,834	890,927
Net output	"	63,938	108,958
Net output per head	£	3,114	6,353
Sales and work done	£'000	504,999	880,109
		{ goods produced and work done (b)	
	"	{ merchanted goods and canteen takings	3,139
Index of specialisation (c)	per cent.	91	94
Customs and Excise duties paid	£'000	4,048	13,234
Purchases	"	435,572	768,880
		{ materials for use in production and packaging and fuel	
	"	{ goods for merchenting and canteen purchases	2,845
Payments to other organisations	"	67	101
		{ for work done on materials given out for transport	
	"	{ by road	1,960
	"	{ by rail and other means excluding postal services	903
Stocks and work in progress	"	- 550	+ 13,631
Total stocks and work in progress	"	74,231	112,566
		{ change during year	
	"	{ at end of year	
Goods on hand for sale	"	- 1,815	+ 4,809
	"	{ change during year	
	"	{ at end of year	41,970
Work in progress	"	- 681	+ 2,871
	"	{ change during year	
	"	{ at end of year	23,351
Materials, stores and fuel	"	+ 1,946	+ 5,952
	"	{ change during year	
	"	{ at end of year	47,245
Number employed on average during the year	No.	20,533	17,150
	"	{ total	
	"	{ operatives	11,777
	"	{ other employees (d)	5,362
Wages and salaries	£'000	14,419	14,859
	"	{ of operatives	
	"	{ of other employees (d)	9,085
Wages and salaries per head	£	962	1,262
	"	{ operatives	
	"	{ other employees (d)	1,694
Capital expenditure (e)	£'000	11,913	86,209
Total (f)	"	1,490	7,359
New building work	"	29	402
	"	{ acquisitions	
	"	{ disposals	42
Land and existing buildings	"	10,628	78,291
	"	{ acquisitions	
	"	{ disposals	70
Plant and machinery	"	205	304
	"	{ acquisitions	
	"	{ disposals	34
Vehicles	"	58	

For notes to this table - see page 25/2.

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	£
1-99	4	3	215	9,789	1,949	9,065
100-199	8	6	1,150	87,084	11,282	9,810
200-999	8	7	3,541	155,067	27,077	7,647
1,000 and over	6	3	12,244	638,987	68,650	5,607
Total	26	13	17,150	890,927	108,958	6,353

(ii) Employees, wages and salaries

All establishments: United Kingdom

Number employed on average during the year by the establishments (a)	Employees		Wages and salaries		Wages and salaries per head	
	Oper-atives	Others (c)	Oper-atives	Others (c)	Oper-atives	Others (c)
	Number	Number	£'000	£'000	£	£
1-99	155	60	169	89	1,093	1,488
100-199	757	387	995	753	1,314	1,946
200-999	2,377	1,159	3,080	1,875	1,296	1,618
1,000 and over	8,488	3,756	10,616	6,367	1,251	1,695
Total	11,777	5,362	14,859	9,085	1,262	1,694

(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) 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	86	12	98
All ages	87	13	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).

TABLE 4 Analysis of larger establishments, 1963 and 1968

This table is not applicable to this industry.

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

	1963		1968			
	Quantity	Value	Quantity	Value	Enter-prises	Entries
		£'000	Mn.cu.ft.	£'000	Number	Number
Finished petroleum products (c)						
Butane for use as fuel	}	5,208	37,366	9,056	7	11
Propane for use as fuel			20,706	4,823	7	11
Aviation spirit	} 8,325(d)	127,226	154	3,922	*	*
Motor spirit			11,082	163,762	9	15
Industrial spirit	61	2,071	73	2,830	*	5
White spirit	147	2,364	131	2,590	5	6
Wide-cut gasoline (Avtag)	731	5,862	395	5,139	5	6
Kerosene						
Aviation turbine fuel (Avtur)	1,698	16,961	3,192	36,716	6	10
Burning oil	} 1,565	22,288	1,804	17,741	9	13
Vaporising oil			80	1,013	6	8
Gas/diesel oils (other than marine diesel oil)	9,641	95,478	16,506	195,891	13	19
Marine diesel oil	1,863	15,939	1,203	11,684	7	13
Fuel oil	21,842	109,040	35,896	224,358	13	20
Refined hydrocarbon products for use as fuel, unclassified	..	2,225	..	27,093	13	16
Bitumen	1,304	13,544	1,743	18,897	7	9
Paraffin wax, including scale and slack wax	54	2,310	47	2,474	*	5
Petroleum feedstocks for chemical plants and public gas supply	3,737	32,042	8,073	85,791	8	12
Other finished petroleum products	110	3,257 (e)	1,046	12,804	9	13
Unfinished materials sent out (for further treatment)	1,134	8,662	1,366	18,120	8	13
Other products obtained from refinery processes	..	87	..	48	*	*
Waste products	..	1,794	..	2,350	6	8
Work done		900		9,370	11	16
Total		467,261		856,469	..	..
Sales in other industries (see Table 6)		8,351		27,486	..	..
Principal products of this industry sold by establishments in the industry		458,909		828,983	13	20(f)

For notes to this table - see page 25/7.

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: United Kingdom

Sales of principal products by larger establishments classified to other industries amounted to £27,486,000 in 1968 and £8,351,000 in 1963. Owing to the risk of disclosure of information relating to individual firms, separate particulars cannot be given.

Footnotes to Table 5.

- (a) This analysis is equivalent to an all-establishments analysis (see introduction at the beginning of the report).
- (b) The selling values shown in the table are inclusive of duty if the products are sold in bond or exported. The total amount of duty included in the selling value is £4,048,000 in 1963 and £13,234,000 in 1968.
- (c) For sales of lubricating oils see Table 7 - Sales of other than principal products.
- (d) Revised figure.
- (e) Including petroleum coke.
- (f) 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 1 on account of combined returns covering more than one establishment.

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
Finished petroleum products				
Lubricating oils and greases	Th.tons 988	25,691	Th.tons 980	30,146
Hydrocarbons (not for use as fuel) and other products obtained from refinery processes	..	12,681	..	1,824
Electricity	..	788	Th.kWh. 608,138	2,775
Services rendered to other organisations (b)		6,928		16,382
Total value of goods sold without having been subjected to any manufacturing process (merchanted or factored)	..	4,061	..	2,953
Canteen takings		271		186
<b>Total</b>		<b>50,421</b>		<b>54,265</b>

(a) This analysis is equivalent to an all-establishments analysis (see introduction at the beginning of the 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

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

	1963		1968	
	Quantity	Cost	Quantity	Cost
Materials for use in production	Th.tons	£'000	Th.tons	£'000
Feedstocks				
Indigenous crude oil and natural gas liquids (b)	121	2,311	85	746
Imported (c)	52,378	362,536	82,891	622,520
Petroleum and coal tar products purchased for blending if blending is regarded as part of the refinery operations	..	46,232	9,132	106,179
	Th.gal.		Th.gal.	
Tetra-ethyl lead fluid purchased for blending	2,021	3,637	2,518	4,914
			Th.tons	
Catalysts	..	1,586	5.7	2,868
Other general chemicals				
Inorganic (including inorganic gases)			..	1,959
Organic (including organic gases)	..	4,698	..	1,267
Other (eg mixtures of inorganic and organic chemicals)			..	1,078
Water	..	748	..	1,098
			Th.gal.	
Lubricating oils and greases	..	137	680	166
			Th.cwt.	
			0.6	13
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	..	2,747	..	114
Other			..	3,571
All other purchased materials	..	4,529	..	13,688
Packaging materials				
Metal	Thousands		Thousands	
Cans and boxes	803	1,063	..	291
Barrels, kegs and drums	..	340	451	646
			..	73
Large moulded and fabricated containers of plastics (with a capacity exceeding 1 gallon) including closures and inserts (d)	..	69	..	73
All other packaging materials				
Fuel and electricity (e)	Th.tons		Th.tons	
Coal	0.5	3	0.6	4
Coke (including screenings) and manufactured fuel	0.6	5	0.2	2
	Th.gal.		Th.gal.	
Derv fuel and motor spirit for use in road vehicles	952	85	723	158
Other liquid fuels (including creosote/pitch mixtures, etc and liquefied petroleum gases)	13,115	345	13,488	419

Continued on next page

TABLE 10 (continued)

	1963		1968	
	Quantity	Cost	Quantity	Cost
Fuel and electricity (e) (continued)	Th.therms	£'000	Th.therms	£'000
Gas	66	5	175	9
	Th.kWh		Th.kWh	
Electricity	955,918	4,281	1,337,515	6,673
All other fuels	..	213	..	352
Total cost of materials and fuel		435,572		768,880
Goods purchased for merchanting		3,947		2,558
Canteen purchases		431		287
Total cost of purchases		439,950		771,725

(a) This analysis is equivalent to an all-establishments analysis (see introduction at the beginning of the report).

(b) For 1963 described as indigenous crude oil only.

(c) Including unfinished materials of foreign origin received from establishments in this or other industries for further processing.

(d) For 1963 described as 'Moulded and fabricated packs and containers': sub-divided between those 'Wholly or mainly of polyethylene' and 'Other (including polystyrene)'. .

(e) The total quantity of electricity generated in establishments in this industry was 566,211 Th.kWh in 1963 and 958,625 Th.kWh in 1968.

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.	339	724
Transport costs			
Wages and salaries	£'000	317	898
Derv fuel and motor spirit	"	85	158
Tyres and other spare parts for road goods vehicles	"	..	114
Payments to other organisations for transport	{ by road by rail and other means excluding postal services	{ 777	{ 1,960 903
Costs of operating road goods vehicles			
Insurance	"	10	23
Vehicle licences	"	19	56
Depreciation	"	91	179
Payments to other organisations for repairs and maintenance	"	45	52
Total	"	1,344(b)	4,343

(a) This analysis is equivalent to an all-establishments analysis (see introduction at the beginning of the report).

(b) 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) (b)

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

	Amounts payable	
	1963	1968
Repairs and maintenance to	£'000	£'000
Buildings	149	246
Road goods vehicles	45	52
Plant, machinery and other capital equipment	2,033	3,805
Insurance, licensing and depreciation of road goods vehicles (c)	120	258
Rates, excluding water rates	2,834	4,923
Hire of plant and machinery	1,871	2,316
Postage, telephone, telegrams, cables and telex (d)	279	329
Total	7,330	11,929

(a) This analysis is equivalent to an all-establishments analysis (see introduction at the beginning of the 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 (a)

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 (b)	0.0	0.0
May	0.0	0.0
June	0.0	0.0
July	0.0	0.0
August	0.0	0.0
September	5.0	0.4
October	0.0	0.0
November	0.0	0.0
December	95.0	99.6
1969		
January	0.0	0.0
February	0.0	0.0
March	0.0	0.0
April (c)	0.0	0.0
	100	100

(a) This analysis is equivalent to an all-establishments analysis (see introduction at the beginning of the report).

(b) From 6 April

(c) To 5 April

TABLE 12. Payments for certain services, etc. by State establishments, 1967 and 1968 (in \$1,000)

Establishment	1967		1968	
	Payments	Number of employees	Payments	Number of employees
Total	1,000	100	1,200	120
State government	500	50	600	60
Federal government	300	30	400	40
Local government	200	20	200	20
Nonprofit	100	10	100	10
Private	100	10	100	10

For details on the classification of establishments, see the text on page 10. For details on the classification of services, see the text on page 11. For details on the classification of payments, see the text on page 12.

TABLE 13. Percentage analysis of services by State establishments, 1967 and 1968

Establishment	1967		1968	
	Percentage of total services	Percentage of total employees	Percentage of total services	Percentage of total employees
Total	100	100	100	100
State government	50	50	60	60
Federal government	30	30	40	40
Local government	20	20	20	20
Nonprofit	10	10	10	10
Private	10	10	10	10

For details on the classification of establishments, see the text on page 10. For details on the classification of services, see the text on page 11. For details on the classification of payments, see the text on page 12.