



MESOTHELIOMA OCCUPATION STATISTICS:
MALE AND FEMALE DEATHS AGED 16-74 IN
GREAT BRITAIN

1980 – 2000 (excluding 1981)



Mesothelioma deaths by occupation and sex in Great Britain

Introduction

Numbers of deaths from mesothelioma and asbestosis are published annually by HSE's Epidemiology & Medical statistics Unit. This fact sheet has been produced to provide more detailed mesothelioma statistics by occupation and sex within Great Britain. Statistics are presented for deaths occurring in the 20-year period 1980-2000 (excluding 1981). The fact sheet supersedes a previous version published in 1999 containing mesothelioma statistics by occupation for the period 1979-1995 (excluding 1981). Further information on how the mesothelioma register is compiled is available on the [HSE statistics web pages](#).

Coverage of the analysis is as follows:

- Both males and females are included.
- Deaths at ages 16-74 only are included. Occupation coding is not appropriate for deaths at younger ages and unreliable for deaths at older ages [1, section 2.2].
- Deaths in 1981 are excluded due to unreliable coding of occupation in that year [1, section 4.1].
- Deaths where the occupation given on the death certificate is not that of the deceased are excluded.

Classification and coding of occupation

Death certificates record a description and code for the most recent full-time occupation of the deceased – ie the occupation at retirement or death for those still employed at the time of death. Only deaths from 1991 onwards are available coded to the Standard Occupational Classification 1990 (SOC90)[2]. Such deaths were recoded to the Classification of Occupations 1980 (CO80)[3] via a bridging code in order to produce a consistent set of occupation groups for the 20-year analysis period. The Southampton Classification of Occupations[4, appendix 3] amalgamates groups within the CO80 framework with similar occupational hazards likely to affect

mortality, and was used for the main analysis. However, to maintain consistency with occupational analyses reported elsewhere results using SOC90 for the period 1991-2000 are also given.

Only those deaths where the occupation given on the death certificate was that of the deceased were included in the analysis. This resulted in a substantial proportion of female deaths being excluded since the occupation given on the death certificate may often – particularly for deaths in the earlier part of the period – be those of the woman’s husband.

Measuring mortality

Proportional Mortality Ratios (PMRs) have been produced to allow comparison of mesothelioma mortality among different occupational groups within four five-year periods and for the 20-year period as a whole. PMRs summarise the relative mortality among groups – they do not provide an indication of the overall mortality. Measures which do provide an indication of overall mortality – for example, the Standardised Mortality Ratio (SMR) – could not be produced here, because the annual population data required to calculate the necessary death rates are not available by occupation. More information about the calculation of PMRs is given in [Appendix 1](#).

Tables

Tables 1 & 2: Proportional mortality ratios (PMRs) with 95% confidence intervals and number of mesothelioma deaths, for males (Table 1) and females (Table 2), for the period 1980-2000 (excluding 1981) by Southampton Classification group and residual Classification of Occupations 1980 group - ie those occupations not covered by the Southampton Classification.

Tables 3 & 4: Proportional mortality ratios (PMRs) and number of mesothelioma deaths, for males (Table 3) and females (Table 4) by 5-year time period (1980-85 (excluding 1981), 1986-90, 1991-95 and 1996-2000) and Southampton Classification

occupation group. The results of the test for trend in PMRs for each occupation across the time periods are also presented.

Tables 5 & 6: Numbers of mesothelioma deaths for the period 1980-2000 (excluding 1981) by occupation (Southampton Classification or residual groups from Classification of occupations 1980) showing the cumulative proportion of the total number of mesothelioma deaths. The proportion of all mesothelioma deaths and the PMR are also included.

Tables 7 & 8: Proportional mortality ratios (PMRs) with 95% confidence intervals and number of mesothelioma deaths, for males (Table 7) and females (Table 8), for the period 1991-2000 by Standard Occupational Classification 1990 unit group.

Interpretative issues

Due to the long latency period for mesothelioma, deaths during 1980-2000 will generally relate to exposures during the 1970s and earlier decades. Ideally, analyses of mesothelioma by occupation should therefore be carried out according to the occupation in which asbestos exposure occurred. However, this is not possible in practice. Death certificates only record the most recent full-time occupation of the deceased, and this may not have been the occupation followed for the greater portion of their life, or that associated with exposure to asbestos.

Asbestos exposure before the age of 40 determines the risk of mesothelioma. An analysis of PMRs based on last full-time job will therefore dilute the observed difference between those jobs entailing asbestos dust exposure and other jobs. The potential for such dilution is considerable: a case of mesothelioma caused by work in, say, the construction industry will only be assigned to the construction work category in this analysis if the individual is still in that kind of work when they retired (or died). The dilution will be even stronger for those kinds of work where there have been substantial reductions in the relevant workforce (e.g. shipyards, railway rolling stock). The occupations with the highest PMRs will be those which are genuine

sources of risk, but the value of the PMR will understate their true relative risk level. Conversely, the PMRs of other occupations will overstate the level of risk (if any) associated with these occupations. The occupations recording the lowest PMRs will be those which do not entail asbestos exposure and which are unlikely to be the final full-time occupation for individuals with asbestos exposure.

A PMR of 100 does not represent the “background” risk for mesothelioma (the level that would be expected in the absence of all asbestos exposure). A hypothetical group of men with zero exposure to asbestos would record a PMR of approximately 6. At the same time it must be remembered that a male PMR of (say) 30 does not necessarily represent a 5-fold background risk arising in that occupation, since the relevant occupation may not be the last one held. A hypothetical group of women with zero exposure to asbestos would record a PMR of approximately 36. This does not mean that women have a higher background risk of mesothelioma than men, rather, because the total number of mesotheliomas is much lower for women, the small number of background cases represent a larger proportion of the total.

An occupation group with a PMR greater than 100 indicates that the level of mesothelioma mortality is higher than the average for all occupations. However, there may be substantial statistical uncertainty associated with the PMR – particularly for groups with only a small number of deaths. [95% Confidence Intervals](#) give an indication of this uncertainty. PMRs for occupation groups which have a lower confidence limit greater than 100 are judged to be statistically significant. A list of the occupation groups sorted in descending order of the lower confidence limit will therefore identify those which can most reliably said to be of highest risk at the top.

Conversely, occupation groups with low PMRs and which have the lowest values for the upper confidence limit can most reliably said to be of lowest risk. A list of the occupation groups sorted in descending order of the upper confidence limit will therefore identify those which can most reliably said to be of lowest risk at the bottom.

Results and disussion of results

Overall PMRs for males and females, 1980-2000 (excluding 1981)

Occupations with the highest risks can generally be associated with three broad areas of asbestos use: shipbuilding, railway carriage and locomotive building, and the installation and maintenance of lagging or other insulation materials in buildings or industrial plant. Workers in asbestos manufacturing are not brought together under a single occupational code, and do not emerge as an identifiable high-risk group in this analysis.

Males

The following table gives the 20 occupations with highest risk for males (sorted in descending order of the lower confidence limit) and the 20 occupations with lowest risk (sorted in descending order of the upper confidence limit) for the whole period 1980-2000 (excluding 1981).

Highest and lowest risk occupations for males

Southampton Occupation Code	Occupation description	Deaths	Expected Deaths	PMR	95% Confidence Interval	
					Lower	Upper
Top 20 occupations with PMRs greater than 100 and statistically significant						
146	Metal Plate Workers	265	52.7	502.5	444	565
153	Vehicle Body Builders	83	15.8	525.6	419	652
144	Plumbers And Gas Fitters	619	149.9	413.0	381	446
104	Carpenters	887	228.9	387.5	362	413
137	Electricians	496	177.8	279.0	255	304
145	Sheet Metal Workers	144	61.3	234.8	198	275
138	Electrical Plant Operators	54	20.6	262.6	197	343
132	Production Fitters	850	405.9	209.4	196	224
174	Construction Workers nec	486	228.1	213.1	195	232
143	Electrical Engineers (so described)	140	64.9	215.7	181	253
194	Boiler Operators	83	37.9	219.2	175	272
136	Electrical And Electronic Production Fitters	27	10.4	259.9	171	378
39	Managers In Construction	123	61.4	200.2	166	237
27	Chemical Engineers And Scientists	52	23.5	221.2	165	290
149	Welders	204	108.3	188.4	163	215
169	Builders etc.	338	194.5	173.8	156	193
30	Professional Engineers nec	276	159.5	173.0	153	194
160	Painters And Decorators nec	361	224.2	161.0	145	178
111(O)	Managers nec	212	137.8	153.9	134	175
148	Scaffolders	36	19.2	188.0	132	260
Bottom 20 occupations with PMRs less than 100 and statistically significant						
178	Railway Signal Workers	3	15.1	19.9	4	58
185	Bus Conductors And Drivers Mates	5	20.3	24.7	8	58
55	Petrol Pump Attendants	0	6.5	0.0	0	57
94	Compositors	2	12.8	15.6	2	56
74	Other Textile Workers	22	60.4	36.4	23	55
78	Food Processors	24	68.8	34.9	22	52
15	Doctors	10	35.6	28.1	13	52
163	Assemblers (Vehicles And Other Metal Goods)	15	48.2	31.1	17	51
82	Glass And Ceramics Furnace Workers	0	7.3	0.0	0	50
68	Leather And Shoe Workers	9	34.3	26.2	12	50
42	Butchers	23	70.7	32.5	21	49
18	Pharmacists	1	11.9	8.4	0	47
8	Government Administrators	10	39.5	25.4	12	47
76	Bakers	9	40.0	22.5	10	43
1	Lawyers	4	25.9	15.5	4	40
175	Face Trained Coalminers	17	72.4	23.5	14	38
127	Fettlers And Dressers (Metal)	0	10.5	0.0	0	35
59	Cooks And Kitchen Porters	15	71.0	21.1	12	35
47	Farmers	114	441.4	25.8	21	31
88	Other Coal Miners	64	265.7	24.1	19	31

*1980 Occupation Codes not accounted for by Southampton codes are identified by (O) after the code number.

*nec denotes not elsewhere classified

Females

PMRs for females will be especially sensitive to errors in the coding of occupation on mesothelioma death certificates for groups where the expected number of cases is very small. In particular, high PMRs would result for occupation groups with very few female workers if a husband's occupation was incorrectly stated as being a woman's own occupation on the death certificate.

Occupation groups with PMRs statistically significantly higher or lower than 100 are shown in the following table.

Highest and lowest risk occupations for females

Southampton Occupation Code	Occupation description	Deaths	Expected Deaths	PMR	95% Confidence Interval	
					Lower	Upper
Occupations with PMRs greater than 100 and statistically significant						
146	Metal Plate Workers	2	0.1	2745.8	346	10321
75	Chemical Workers	15	2.7	554.5	310	913
346(O)	(Foremen/Labourers Etc) Other	40	12.8	312.3	223	425
86	Plastics Workers	3	0.3	1079.9	221	3131
204(O)	Other Material Processing - All Other (Excluding Metal) nec	2	0.2	1169.1	142	4250
98	Tailors And Dressmakers	18	8.1	222.4	132	352
54	Postal Workers	9	3.6	249.2	114	473
57	Sales Representatives	8	3.3	242.2	105	478
74	Other Textile Workers	20	12.2	164.6	101	254
Occupations with PMRs less than 100 and statistically significant						
46	Caterers	29	46.3	62.6	42	90
124	Machine Tool Operators	1	7.2	13.9	0	77
17	Nurses	32	63.4	50.5	35	71

*1980 Occupation Codes not accounted for by Southampton codes are identified by (O) after the code number.

*nec denotes not elsewhere classified

Analysis of trends in the PMR over time

In order to avoid unreliable results based on small number of cases, the [trend analysis](#) (Tables 3 and 4) is only presented for occupations which would be expected to have at least 20 mesothelioma deaths over the 20-year period, or where 20 or more deaths were actually observed. This criterion reduces the number of groups substantially – especially for females where the numbers of cases are generally much lower.

The number of deaths due to mesothelioma has increased almost threefold over the 20-year period from 2317 in 1980-85 (excluding 1981) to 6475 in 1996-2000. A constant PMR for an occupation in each 5-year time period would indicate that the number of mesotheliomas recorded for this occupation was increasing in line with the total. The trend test identifies those occupations where the number of mesotheliomas is increasing significantly more or less rapidly than the all occupations total (after allowing for changes in occupational and age structure over time).

For males (see Table 3):

- The PMRs for most occupational groups have remained stable over time. Of the 115 occupation groups for which the trend test was carried out, only 9 (8%) showed a statistically significant trend. This is only three more than the number expected to be identified by chance alone due to the large number of statistical tests carried out (one for each occupation).
- Three occupations were identified as having a statistically significant increasing trend in the PMR over the 4 time periods. That is, the number of mesothelioma deaths increased more rapidly over time than the all occupations total.
- Six occupations were identified as having a statistically significant decreasing trend in the PMR. That is, the number of mesothelioma deaths increased less rapidly over time than the all occupations total, or actually decreased.

It is likely that two different effects are occurring here:

First, the proportion of mesothelioma cases arising from some early high risk occupations: metal plate workers (shipyards) and upholsterers (insulation mattresses) has fallen, as other sources of exposure developed.

Second, for occupations where the risk is dominated by heavy exposures to asbestos within certain industries in the past, but where the industries have now largely died out – for example, metal plate workers in shipbuilding – the effect mentioned earlier of risks being ‘diluted’ will occur increasingly strongly over the period observed. Substantial proportions of those exposed to asbestos in these industries will have

moved into other occupations before death. For example, a metal plate worker employed in the shipbuilding industry during, say, the 1960s will most likely have been employed in some other occupation since then, and this more recent occupation will be the one recorded on the death certificate. Other examples of occupations showing a negative trend in the PMR and where high asbestos exposures in the past are well known include dockers and goods porters, and upholsterers. A consequence of this is that PMRs will tend to increase over time for lower risk occupations since the PMRs in each time period must average 100 – an effect that is evident in these data.

Table 1: Mesothelioma proportional mortality ratios (PMRs) for males aged 16-74 in Great Britain by Southampton occupation group, 1980-2000 (excluding 1981)

Southampton Occupation Code	Occupation description	Deaths	Expected Deaths	PMR	95% Confidence Interval	
					Lower	Upper
1	Lawyers	4	25.9	15.5	4	40
2	Accountants	68	108.5	62.7	49	79
3	Personnel Managers etc.	35	35.0	99.9	70	139
4	Economists And Statisticians	1	3.9	25.7	1	143
5	Computer Programmers	13	14.6	89.3	48	153
6	Sales Managers etc	114	131.5	86.7	72	103
7	Government Inspectors	42	30.0	139.9	101	189
8	Government Administrators	10	39.5	25.4	12	47
9	Other Administrators	55	68.4	80.4	61	105
10	Teachers In Higher Education	66	54.4	121.3	94	154
11	Teachers nec	72	125.6	57.3	45	72
12	Vocational Trainers, Social Scientists etc	35	35.8	97.7	68	136
13	Welfare Workers	51	47.9	106.6	79	140
14	Clergy	12	29.5	40.7	21	71
15	Doctors	10	35.6	28.1	13	52
16	Dentists	5	8.0	62.3	20	145
17	Nurses	17	38.7	44.0	26	70
18	Pharmacists	1	11.9	8.4	0	47
19	Medical Radiographers	2	1.3	159.6	19	578
20	Physiotherapists	0	1.5	0.0	0	243
21	Health Professions nec	3	13.3	22.5	5	66
22	Veterinarians	2	3.2	62.4	8	225
23	Driving Instructors	8	19.1	42.0	18	83
24	Literary And Artistic Occupations	63	103.3	61.0	47	78
25	Persons Involved In Sport	2	4.5	44.4	5	161
26	Biological Scientists	8	9.7	82.8	36	163
27	Chemical Engineers And Scientists	52	23.5	221.2	165	290
28	Physical Scientists And Mathematicians	25	21.4	117.1	76	173
29	Electrical And Electronic Engineers (Professional)	25	25.9	96.5	62	142
30	Professional Engineers nec	276	159.5	173.0	153	194
31	Draughtspersons	85	54.0	157.4	126	195
32	Laboratory Technicians	76	48.1	158.1	125	198
33	Architects And Surveyors	76	63.7	119.4	94	149
34	Aircraft Flight Deck Officers	2	6.7	29.7	4	107
35	Air Traffic Controllers	1	2.1	48.2	1	268
36	Seafarers	70	81.9	85.5	67	108
37	Technicians nec	72	43.2	166.5	130	210
38	Production And Maintenance Managers	204	220.8	92.4	80	106
39	Managers In Construction	123	61.4	200.2	166	237
40	Managers in Transport, Utilities And Mining	96	136.9	70.1	57	86
41	Office Managers	72	140.4	51.3	40	65
42	Butchers	23	70.7	32.5	21	49
43	Fishmongers And Poultry Dressers	7	12.2	57.2	23	118
44	Retailers And Dealers	255	486.6	52.4	46	59
45	Publicans And Bar Staff	88	155.5	56.6	45	70
46	Caterers	36	72.1	50.0	35	69
47	Farmers	114	441.4	25.8	21	31
48	Armed Forces	60	75.3	79.7	61	103
49	Police	32	70.3	45.5	31	64
50	Fire Service Personnel	27	25.3	106.7	70	155
51	Launderers And Dry Cleaners	12	13.1	91.3	47	160
52	Hairdressers	7	20.1	34.9	14	72
53	Office Workers And Cashiers	401	717.1	55.9	51	62
54	Postal Workers	132	159.7	82.7	69	97
55	Petrol Pump Attendants	0	6.5	0.0	0	57

Table 1: Continued

Southampton Occupation Code	Occupation description	Deaths	Expected Deaths	PMR	95% Confidence Interval	
					Lower	Upper
56	Van Sales Persons	15	35.7	42.0	23	69
57	Sales Representatives	130	185.5	70.1	59	83
58	Security Workers	147	210.8	69.8	59	81
59	Cooks And Kitchen Porters	15	71.0	21.1	12	35
60	Other Service Occupations	200	298.5	67.0	58	77
61	Hospital Porters And Ward Orderlies	26	58.5	44.5	29	65
62	Ambulance Workers	17	17.3	98.0	57	157
63	Railway Station Workers	34	59.0	57.6	40	81
64	Undertakers	3	6.7	44.9	9	131
65	Foresters	4	14.6	27.3	7	70
66	Fishing And Related Workers	8	19.9	40.2	17	79
67	Tannery Workers	1	4.7	21.5	1	120
68	Leather And Shoe Workers	9	34.3	26.2	12	50
69	Preparatory Fibre Processors	2	5.3	37.7	5	136
70	Spinners And Winders	8	8.3	96.8	42	191
71	Warp Preparers And Weavers	5	15.8	31.8	10	74
72	Knitters	2	9.3	21.5	3	78
73	Bleachers, Dyers And Finishers	8	13.2	60.8	26	120
74	Other Textile Workers	22	60.4	36.4	23	55
75	Chemical Workers	84	105.5	79.6	63	99
76	Bakers	9	40.0	22.5	10	43
77	Brewery Workers	8	17.7	45.1	19	89
78	Food Processors	24	68.8	34.9	22	52
79	Paper Manufacturers	9	7.2	125.4	57	238
80	Bookbinders	2	5.5	36.2	4	131
81	Paper Cutters	1	3.5	28.8	1	161
82	Glass And Ceramics Furnace Workers	0	7.3	0.0	0	50
83	Glass Formers And Decorators	5	9.5	52.7	17	123
84	Ceramics Casters	1	4.7	21.1	1	118
85	Rubber Manufacturers	7	13.1	53.5	21	110
86	Plastics Workers	7	8.1	86.0	35	177
87	Man-Made Fibre Makers	3	2.7	112.6	23	330
88	Other Coal Miners	64	265.7	24.1	19	31
89	Tobacco Workers	4	3.6	111.0	30	284
90	Other Wood And Paper Processors	8	13.7	58.3	25	115
91	Other Occupations-Glass And Ceramics	15	34.7	43.3	24	71
92	Rubber Goods Makers	6	11.5	52.1	19	113
93	Plastic Goods Makers	11	15.5	71.2	36	127
94	Compositors	2	12.8	15.6	2	56
95	Printing Plate Repairers	0	4.0	0.0	0	92
96	Printing Machine Minders	14	19.8	70.8	39	119
97	Printers (so described)	31	62.6	49.5	34	70
98	Tailors And Dressmakers	4	15.5	25.9	7	66
99	Clothing Cutters	4	7.4	53.8	15	138
100	Sewers And Embroiderers	2	5.8	34.7	4	125
101	Upholsterers	34	18.5	184.2	128	257
102	Carpet Fitters	7	5.5	126.3	51	260
103	Other Workers With Fabrics	9	6.3	142.9	65	271
104	Carpenters	887	228.9	387.5	362	413
105	Cabinet Makers	35	20.8	168.5	117	234
106	Case And Box Makers	8	6.1	130.6	56	258
107	Pattern Makers	5	8.8	56.9	18	133
108	Woodworking Machinists	40	30.0	133.2	95	181
109	Other Woodworkers	11	8.5	129.1	64	231
110	Dental Technicians	0	4.9	0.0	0	76

Table 1: Continued

Southampton Occupation Code	Occupation description	Deaths	Expected Deaths	PMR	95% Confidence Interval	
					Lower	Upper
111	Other Makers Of Paper Goods	6	12.1	49.5	18	108
112	Furnace Operatives (Metal)	9	19.5	46.2	21	88
113	Rollers (Metal)	0	3.5	0.0	0	107
114	Smiths And Forge Workers	17	20.2	84.1	49	135
115	Metal Drawers	2	5.3	38.0	5	137
116	Moulders And Coremakers (Metal)	13	31.8	40.9	22	70
117	Electroplaters	4	5.5	72.5	20	186
118	Annealers, Hardeners, Temperers (Metal)	0	4.6	0.0	0	81
119	Galvanisers And Tin Platers	0	3.6	0.0	0	104
120	Other Metal Manufacturers	21	53.3	39.4	24	60
121	Press And Machine Tool Setters	17	40.4	42.1	25	67
122	Centre Lathe Turners	22	39.3	56.0	35	85
123	Machine Tool Setter Operators	5	9.4	53.4	17	125
124	Machine Tool Operators	505	371.5	135.9	124	148
125	Press And Automatic Machine Operators	10	15.3	65.5	31	120
126	Metal Polishers	3	13.2	22.8	5	67
127	Fettlers And Dressers (Metal)	0	10.5	0.0	0	35
128	Shot Blasters	3	4.6	65.9	14	193
129	Toolmakers	48	67.9	70.8	52	94
130	Precision Instrument Makers	33	23.8	138.5	95	194
131	Watch And Clock Makers	1	8.2	12.3	0	68
132	Production Fitters	850	405.9	209.4	196	224
133	Motor Mechanics	60	124.1	48.4	37	62
134	Aircraft Engine Fitters	1	2.6	37.9	1	211
135	Office Machinery Mechanics	1	2.1	46.9	1	262
136	Electrical And Electronic Production Fitters	27	10.4	259.9	171	378
137	Electricians	496	177.8	279.0	255	304
138	Electrical Plant Operators	54	20.6	262.6	197	343
139	Telephone Fitters	53	47.5	111.6	84	146
140	Electric Cable And Line Workers	9	15.4	58.3	27	111
141	Radio And TV Mechanics	9	17.8	50.7	23	96
142	Other Electronic Maintenance Engineers	38	43.0	88.4	63	121
143	Electrical Engineers (so described)	140	64.9	215.7	181	253
144	Plumbers And Gas Fitters	619	149.9	413.0	381	446
145	Sheet Metal Workers	144	61.3	234.8	198	275
146	Metal Plate Workers	265	52.7	502.5	444	565
147	Steel Erectors	62	36.9	168.0	129	215
148	Scaffolders	36	19.2	188.0	132	260
149	Welders	204	108.3	188.4	163	215
150	Riggers	22	14.5	151.8	95	230
151	Jewellery Workers	1	4.0	24.8	1	138
152	Engravers And Etchers (Printing)	2	2.0	99.8	12	361
153	Vehicle Body Builders	83	15.8	525.6	419	652
154	Oilers And Greasers	3	3.3	90.5	19	264
155	Electronics Wiremen	6	3.0	198.5	73	432
156	Coil Winders	6	2.6	227.5	83	495
157	Pottery Decorators	0	1.2	0.0	0	297
158	Coach Painters	3	4.2	72.0	15	210
159	Other Spray Painters	22	27.0	81.4	51	123
160	Painters And Decorators nec	361	224.2	161.0	145	178
161	Electrical Electronic Assemblers	8	11.9	67.2	29	132
162	Instrument Assemblers	2	0.6	340.8	41	1225
163	Assemblers (Vehicles And Other Metal Goods)	15	48.2	31.1	17	51
164	Packers And Sorters	25	51.5	48.6	31	72
165	Bricklayers And Tile Setters	129	114.4	112.8	94	133

Table 1: Continued

Southampton Occupation Code	Occupation description	Deaths	Expected Deaths	PMR	95% Confidence Interval	
					Lower	Upper
166	Mason And Stonecutters	5	18.7	26.7	9	62
167	Plasterers	65	42.6	152.5	118	194
168	Roofers And Glaziers	56	37.7	148.6	112	193
169	Builders etc.	338	194.5	173.8	156	193
170	Rail Track Workers	10	20.2	49.5	24	91
171	Road Construction Workers And Paviours	22	41.6	52.9	33	80
172	Sewage Plant Attendants	6	13.7	44.0	16	96
173	Mains And Service Layers	11	18.1	60.9	30	109
174	Construction Workers nec	486	228.1	213.1	195	232
175	Face Trained Coalminers	17	72.4	23.5	14	38
176	Mines (Not Coal) And Quarry Workers	8	19.6	40.8	18	80
177	Railway Guards	6	14.5	41.5	15	90
178	Railway Signal Workers	3	15.1	19.9	4	58
179	Shunters And Points Operators	1	6.6	15.2	0	85
180	Railway Engine Drivers	44	39.4	111.7	81	150
181	Road Transport Inspectors	7	17.8	39.2	16	81
182	Bus And Coach Drivers	48	106.2	45.2	33	60
183	Lorry Drivers	291	559.3	52.0	46	58
184	Other Motor Drivers	67	99.5	67.4	52	86
185	Bus Conductors And Drivers Mates	5	20.3	24.7	8	58
186	Mechanical Plant Drivers	17	34.8	48.8	28	78
187	Crane Drivers	51	64.0	79.6	59	105
188	Fork Lift Truck Drivers	51	63.5	80.3	60	106
189	Slings	7	9.7	72.5	29	149
190	Storekeepers	232	341.3	68.0	60	77
191	Dockers And Good Porters	151	100.2	150.7	128	176
192	Refuse Collectors	18	38.8	46.4	28	73
193	Labourers In Coke Ovens	3	5.8	51.9	11	152
194	Boiler Operators	83	37.9	219.2	175	272
53(O)	Professional And Related Education, Welfare, Health Nec	3	6.7	44.6	9	130
64(O)	Literary, Artistic And Sports Workers Nec	3	4.0	75.0	15	219
106(O)	Entertainment And Sports Managers	19	21.6	88.1	53	138
111(O)	Managers Nec	212	137.8	153.9	134	175
165(O)	Service Workers Nec	18	40.0	45.0	27	71
204(O)	Other Material Processing - All Other (Excluding Metal) Nec	5	10.7	46.7	15	109
222(O)	Musical Instrument Makers, Piano Tuners	1	2.5	39.9	1	223
230(O)	Other Making & Repairing - All Other (Excluding Metal And Electrical) Nec	14	18.6	75.1	41	126
276(O)	Other Metal, Jewellery, Electrical Production Workers	166	113.3	146.6	125	170
277(O)	(Foremen) Engineering And Allied Trades	9	16.5	54.4	25	103
278(O)	Trainee Craftsmen (Engineering And Allied Trades)	0	0.0	0.0	0	36889
286(O)	(Foremen) Inspectors Etc Metal, Electrical Goods	63	90.1	69.9	54	89
299(O)	Painting, Assembling And Related Occupations Nec	33	23.3	141.4	97	199
338(O)	Workers Transport Ops, Materials Moving, Storage & Related	25	24.8	100.7	65	149
344(O)	(Foremen/Labourers Etc) Engineering And Allied Trades	98	188.1	52.1	42	63
346(O)	(Foremen/Labourers Etc) Other	388	533.3	72.8	66	80
348(O)	All Other In Miscellaneous Operations Nec	15	7.1	211.6	118	349

1980 Occupation Codes not accounted for by Southampton codes are identified by (O) after the code number. nec denotes not elsewhere classified.

Table 2: Mesothelioma proportional mortality ratios (PMRs) for females aged 16-74 in Great Britain by Southampton occupation group, 1980-2000 (excluding 1981)

Southampton Occupation Code	Occupation description	Deaths	Expected Deaths	PMR	95% Confidence Interval	
					Lower	Upper
1	Lawyers	0	0.6	0.0	0	576
2	Accountants	1	2.1	47.5	1	265
3	Personnel Managers etc.	0	2.4	0.0	0	156
4	Economists And Statisticians	0	0.3	0.0	0	1419
5	Computer Programmers	0	0.7	0.0	0	520
6	Sales Managers etc	3	4.2	71.2	15	208
7	Government Inspectors	1	0.4	277.9	7	1548
8	Government Administrators	2	2.4	82.6	10	299
9	Other Administrators	14	9.7	144.8	79	243
10	Teachers In Higher Education	2	3.5	56.5	7	204
11	Teachers nec	42	42.0	100.0	72	135
12	Vocational Trainers, Social Scientists etc	4	2.1	195.5	53	500
13	Welfare Workers	13	15.9	82.0	44	140
14	Clergy	0	1.7	0.0	0	212
15	Doctors	1	2.0	50.1	1	279
16	Dentists	0	0.2	0.0	0	1537
17	Nurses	32	63.4	50.5	35	71
18	Pharmacists	2	0.9	236.6	28	850
19	Medical Radiographers	2	0.7	300.0	36	1078
20	Physiotherapists	1	1.3	75.8	2	422
21	Health Professions nec	4	3.1	130.2	36	334
22	Veterinarians	0	0.1	0.0	0	4611
23	Driving Instructors	1	0.3	369.8	9	2064
24	Literary And Artistic Occupations	4	7.3	55.1	15	141
25	Persons Involved In Sport	1	0.3	324.7	8	1797
26	Biological Scientists	1	0.6	155.9	4	871
27	Chemical Engineers And Scientists	0	0.2	0.0	0	1537
28	Physical Scientists And Mathematicians	0	0.4	0.0	0	878
29	Electrical And Electronic Engineers (Professional)	0	0.1	0.0	0	3074
30	Professional Engineers nec	1	0.3	326.9	8	1797
31	Draughtspersons	1	0.8	126.4	3	705
32	Laboratory Technicians	8	3.6	224.7	97	443
33	Architects And Surveyors	0	0.3	0.0	0	1118
34	Aircraft Flight Deck Officers	0	0.0	0.0	0	36889
35	Air Traffic Controllers	0	0.0	0.0	0	12296
36	Seafarers	1	0.0	2243.1	63	13929
37	Technicians nec	3	0.9	353.4	73	1031
38	Production And Maintenance Managers	0	3.4	0.0	0	110
39	Managers In Construction	0	0.4	0.0	0	878
40	Managers in Transport, Utilities And Mining	1	1.6	62.0	2	346
41	Office Managers	8	9.4	84.8	37	167
42	Butchers	0	0.8	0.0	0	479
43	Fishmongers And Poultry Dressers	0	0.5	0.0	0	683
44	Retailers And Dealers	86	90.8	94.7	76	117
45	Publicans And Bar Staff	14	18.2	76.8	42	129
46	Caterers	29	46.3	62.6	42	90
47	Farmers	7	7.9	88.8	36	183
48	Armed Forces	1	0.6	173.8	4	961
49	Police	0	0.5	0.0	0	753
50	Fire Service Personnel	0	0.1	0.0	0	5270
51	Launderers And Dry Cleaners	10	8.6	116.3	56	214
52	Hairdressers	5	6.7	74.2	24	173
53	Office Workers And Cashiers	241	240.6	100.2	88	113
54	Postal Workers	9	3.6	249.2	114	473
55	Petrol Pump Attendants	0	0.5	0.0	0	696

Table 2: Continued

Southampton Occupation Code	Occupation description	Deaths	Expected Deaths	PMR	95% Confidence Interval	
					Lower	Upper
56	Van Sales Persons	0	0.4	0.0	0	946
57	Sales Representatives	8	3.3	242.2	105	478
58	Security Workers	3	3.0	100.0	21	292
59	Cooks And Kitchen Porters	23	30.4	75.7	48	114
60	Other Service Occupations	120	120.7	99.4	82	118
61	Hospital Porters And Ward Orderlies	21	23.5	89.3	55	136
62	Ambulance Workers	1	0.2	464.4	12	2533
63	Railway Station Workers	0	0.4	0.0	0	922
64	Undertakers	0	0.1	0.0	0	3354
65	Foresters	0	0.0	0.0	0	9222
66	Fishing And Related Workers	0	0.0	0.0	0	18445
67	Tannery Workers	0	0.2	0.0	0	2049
68	Leather And Shoe Workers	4	5.4	74.1	20	190
69	Preparatory Fibre Processors	1	0.8	130.8	3	733
70	Spinners And Winders	6	4.6	130.4	48	284
71	Warp Preparers And Weavers	9	5.4	166.2	76	316
72	Knitters	0	2.7	0.0	0	138
73	Bleachers, Dyers And Finishers	1	0.6	183.2	5	1013
74	Other Textile Workers	20	12.2	164.6	101	254
75	Chemical Workers	15	2.7	554.5	310	913
76	Bakers	4	1.8	224.2	61	575
77	Brewery Workers	2	0.5	415.0	50	1505
78	Food Processors	7	10.2	69.0	28	142
79	Paper Manufacturers	0	0.2	0.0	0	2049
80	Bookbinders	0	2.0	0.0	0	189
81	Paper Cutters	0	0.1	0.0	0	5270
82	Glass And Ceramics Furnace Workers	0	0.1	0.0	0	7378
83	Glass Formers And Decorators	0	0.4	0.0	0	971
84	Ceramics Casters	0	0.6	0.0	0	647
85	Rubber Manufacturers	0	0.3	0.0	0	1272
86	Plastics Workers	3	0.3	1079.9	221	3131
87	Man-Made Fibre Makers	0	0.1	0.0	0	6148
88	Other Coal Miners	0	0.0	0.0	0	12296
89	Tobacco Workers	1	0.9	106.0	3	593
90	Other Wood And Paper Processors	1	1.2	81.3	2	453
91	Other Occupations-Glass And Ceramics	0	2.6	0.0	0	144
92	Rubber Goods Makers	0	0.7	0.0	0	551
93	Plastic Goods Makers	2	1.5	133.1	16	482
94	Compositors	0	0.1	0.0	0	2635
95	Printing Plate Repairers	0	0.1	0.0	0	7378
96	Printing Machine Minders	1	1.4	70.0	2	390
97	Printers (so described)	1	1.3	79.7	2	442
98	Tailors And Dressmakers	18	8.1	222.4	132	352
99	Clothing Cutters	1	1.1	92.7	2	516
100	Sewers And Embroiderers	34	23.9	142.5	99	199
101	Upholsterers	1	0.9	107.1	3	599
102	Carpet Fitters	0	0.0	0.0	0	12296
103	Other Workers With Fabrics	0	1.7	0.0	0	216
104	Carpenters	0	0.1	0.0	0	2838
105	Cabinet Makers	0	0.1	0.0	0	2838
106	Case And Box Makers	0	0.1	0.0	0	5270
107	Pattern Makers	0	0.0	0.0	0	18445
108	Woodworking Machinists	0	0.3	0.0	0	1272
109	Other Woodworkers	1	0.2	619.6	16	3482
110	Dental Technicians	0	0.1	0.0	0	5270

Table 2: Continued

Southampton Occupation Code	Occupation description	Deaths	Expected Deaths	PMR	95% Confidence Interval	
					Lower	Upper
111	Other Makers Of Paper Goods	1	2.6	39.1	1	218
112	Furnace Operatives (Metal)	0	0.0	0.0	0	18445
113	Rollers (Metal)	0	0.0	0.0	0	36889
114	Smiths And Forge Workers	0	0.0	0.0	0	18445
115	Metal Drawers	0	0.1	0.0	0	3354
116	Moulders And Coremakers (Metal)	0	0.4	0.0	0	900
117	Electroplaters	0	0.1	0.0	0	6148
118	Annealers, Hardeners, Temperers (Metal)	0	0.0	0.0	0	18445
119	Galvanisers And Tin Platers	0	0.1	0.0	0	7378
120	Other Metal Manufacturers	0	0.3	0.0	0	1153
121	Press And Machine Tool Setters	0	0.1	0.0	0	3689
122	Centre Lathe Turners	0	0.1	0.0	0	4099
123	Machine Tool Setter Operators	0	0.0	0.0	0	12296
124	Machine Tool Operators	1	7.2	13.9	0	77
125	Press And Automatic Machine Operators	4	2.8	141.2	39	362
126	Metal Polishers	1	0.4	239.7	6	1327
127	Fettlers And Dressers (Metal)	0	0.2	0.0	0	1844
128	Shot Blasters	0	0.0	0.0	0	36889
129	Toolmakers	0	0.1	0.0	0	4611
130	Precision Instrument Makers	0	0.2	0.0	0	2170
131	Watch And Clock Makers	0	0.1	0.0	0	7378
132	Production Fitters	2	0.4	465.9	56	1680
133	Motor Mechanics	0	0.2	0.0	0	1942
134	Aircraft Engine Fitters	0	0.0	0.0	0	36889
135	Office Machinery Mechanics	0	0.0	0.0	-	-
136	Electrical And Electronic Production Fitters	0	0.2	0.0	0	2306
137	Electricians	0	0.5	0.0	0	802
138	Electrical Plant Operators	0	0.0	0.0	0	12296
139	Telephone Fitters	0	0.2	0.0	0	1942
140	Electric Cable And Line Workers	0	0.1	0.0	0	6148
141	Radio And TV Mechanics	0	0.0	0.0	0	12296
142	Other Electronic Maintenance Engineers	0	0.3	0.0	0	1419
143	Electrical Engineers (so described)	0	0.1	0.0	0	5270
144	Plumbers And Gas Fitters	0	0.1	0.0	0	7378
145	Sheet Metal Workers	0	0.1	0.0	0	3354
146	Metal Plate Workers	2	0.1	2745.8	346	10321
147	Steel Erectors	0	0.0	0.0	0	36889
148	Scaffolders	0	0.0	0.0	0	36889
149	Welders	2	0.9	218.0	26	785
150	Riggers	0	0.0	0.0	0	36889
151	Jewellery Workers	1	0.2	440.2	11	2422
152	Engravers And Etchers (Printing)	0	0.1	0.0	0	4611
153	Vehicle Body Builders	0	0.0	0.0	0	36889
154	Oilers And Greasers	0	0.0	0.0	0	36889
155	Electronics Wiremen	1	0.4	243.3	6	1359
156	Coil Winders	0	0.8	0.0	0	479
157	Pottery Decorators	1	1.0	99.0	3	552
158	Coach Painters	0	0.0	0.0	0	36889
159	Other Spray Painters	0	0.3	0.0	0	1317
160	Painters And Decorators nec	1	0.4	247.7	6	1393
161	Electrical Electronic Assemblers	3	6.4	46.9	10	137
162	Instrument Assemblers	0	0.3	0.0	0	1419
163	Assemblers (Vehicles And Other Metal Goods)	3	3.0	98.6	20	288
164	Packers And Sorters	18	16.0	112.2	67	177
165	Bricklayers And Tile Setters	0	0.0	0.0	0	36889

Table 2: Continued

Southampton Occupation Code	Occupation description	Deaths	Expected Deaths	PMR	95% Confidence Interval	
					Lower	Upper
166	Mason And Stonecutters	0	0.0	0.0	0	36889
167	Plasterers	0	0.0	0.0	0	36889
168	Roofers And Glaziers	0	0.0	0.0	0	18445
169	Builders etc.	0	0.1	0.0	0	2635
170	Rail Track Workers	0	0.0	0.0	-	-
171	Road Construction Workers And Paviers	0	0.0	0.0	0	36889
172	Sewage Plant Attendants	0	0.0	0.0	0	36889
173	Mains And Service Layers	0	0.0	0.0	0	36889
174	Construction Workers nec	1	0.1	1101.1	28	6191
175	Face Trained Coalminers	0	0.0	0.0	0	18445
176	Mines (Not Coal) And Quarry Workers	0	0.0	0.0	-	-
177	Railway Guards	0	0.0	0.0	0	18445
178	Railway Signal Workers	0	0.1	0.0	0	3354
179	Shunters And Points Operators	0	0.0	0.0	0	36889
180	Railway Engine Drivers	0	0.0	0.0	-	-
181	Road Transport Inspectors	0	0.1	0.0	0	6148
182	Bus And Coach Drivers	0	0.4	0.0	0	1025
183	Lorry Drivers	3	1.2	242.0	50	707
184	Other Motor Drivers	0	0.6	0.0	0	647
185	Bus Conductors And Drivers Mates	3	2.4	124.4	26	364
186	Mechanical Plant Drivers	0	0.0	0.0	0	36889
187	Crane Drivers	0	0.2	0.0	0	2459
188	Fork Lift Truck Drivers	0	0.1	0.0	0	3689
189	Slings	0	0.0	0.0	-	-
190	Storekeepers	10	5.4	183.8	88	338
191	Dockers And Good Porters	1	0.1	859.7	21	4643
192	Refuse Collectors	1	0.1	1316.5	32	6965
193	Labourers In Coke Ovens	0	0.0	0.0	0	36889
194	Boiler Operators	0	0.0	0.0	0	36889
53(O)	Professional And Related Education, Welfare, Health Nec	2	2.7	74.3	9	269
64(O)	Literary, Artistic And Sports Workers Nec	2	1.9	108.3	13	391
106(O)	Entertainment And Sports Managers	0	1.2	0.0	0	321
111(O)	Managers Nec	10	8.5	117.9	57	217
165(O)	Service Workers Nec	4	3.7	109.6	30	281
204(O)	Other Material Processing - All Other (Excluding Metal) Nec	2	0.2	1169.1	142	4250
222(O)	Musical Instrument Makers, Piano Tuners	0	0.0	0.0	0	12296
230(O)	Other Making & Repairing - All Other (Excluding Metal And Electrical) Nec	0	1.5	0.0	0	243
276(O)	Other Metal, Jewellery, Electrical Production Workers	5	6.1	82.2	27	192
277(O)	(Foremen) Engineering And Allied Trades	0	0.3	0.0	0	1317
278(O)	Trainee Craftsmen (Engineering And Allied Trades)	0	0.0	0.0	-	-
286(O)	(Foremen) Inspectors Etc Metal, Electrical Goods	2	4.9	40.8	5	147
299(O)	Painting, Assembling And Related Occupations Nec	7	5.4	129.0	52	266
338(O)	Workers Transport Ops, Materials Moving, Storage & Related	0	0.2	0.0	0	1537
344(O)	(Foremen/Labourers Etc) Engineering And Allied Trades	4	2.4	165.4	45	423
346(O)	(Foremen/Labourers Etc) Other	40	12.8	312.3	223	425
348(O)	All Other In Miscellaneous Operations Nec	1	0.1	1266.6	32	6965

1980 Occupation Codes not accounted for by Southampton codes are identified by (O) after the code number.
nec denotes not elsewhere classified

Table 3: Mesothelioma proportional mortality ratios (PMRs) for males aged 16-74 in Great Britain by Southampton occupation group and 5-year time period, 1980-2000 (excluding 1981)



Southampton Occupation Code	Occupation description	Total Deaths	Total Expected Deaths	1980 - 1985 (excl 81)		1986 - 1990		1991 - 1995		1996 - 2000		Increasing (+) or decreasing (-) trend	Signif.
				Deaths	PMR	Deaths	PMR	Deaths	PMR	Deaths	PMR		
1	Lawyers	4	25.9	0	0.0	0	0.0	3	39.7	1	10.0		
2	Accountants	68	108.5	11	85.0	12	50.4	21	60.7	24	55.7		
3	Personnel Managers etc.	35	35.0	5	108.1	11	138.8	7	63.9	12	96.8		
6	Sales Managers etc	114	131.5	7	43.1	24	84.6	37	87.4	46	89.4		
7	Government Inspectors	42	30.0	6	140.9	8	121.8	16	174.1	12	122.2		
8	Government Administrators	10	39.5	0	0.0	2	23.7	6	52.3	2	16.5		
9	Other Administrators	55	68.4	9	96.1	15	104.7	11	52.7	20	80.6		
10	Teachers In Higher Education	66	54.4	6	110.1	12	117.6	22	114.6	26	95.4		
11	Teachers nec	72	125.6	11	64.8	16	54.7	18	49.9	27	59.7		
12	Vocational Trainers, Social Scientists etc	35	35.8	5	110.9	8	95.6	9	77.9	13	101.3		
13	Welfare Workers	51	47.9	1	19.0	10	104.6	18	116.0	22	101.9		
14	Clergy	12	29.5	2	46.0	3	47.6	5	60.3	2	20.0		
15	Doctors	10	35.6	0	0.0	2	25.4	4	37.1	4	31.7		
17	Nurses	17	38.7	2	39.3	2	24.8	7	60.2	6	40.9		
24	Literary And Artistic Occupations	63	103.3	4	33.6	9	41.7	14	41.9	36	82.5	+	*
27	Chemical Engineers And Scientists	52	23.5	4	142.3	17	335.0	12	163.2	19	191.0		
28	Physical Scientists And Mathematicians	25	21.4	5	204.1	4	81.1	7	101.1	9	105.2		
29	Electrical And Electronic Engineers (Professional)	25	25.9	3	79.4	8	108.1	8	136.9	6	70.6		
30	Professional Engineers nec	276	159.5	38	199.2	71	205.1	76	140.4	91	147.3	-	*
31	Draughtspersons	85	54.0	10	142.9	22	186.8	30	170.5	23	114.5		
32	Laboratory Technicians	76	48.1	15	220.9	20	184.7	22	142.8	19	127.9		
33	Architects And Surveyors	76	63.7	9	115.0	18	129.5	15	75.9	34	132.1		
36	Seafarers	70	81.9	4	35.8	16	87.8	23	93.7	27	89.4		
37	Technicians nec	72	43.2	10	181.8	11	124.2	24	170.1	27	158.3		
38	Production And Maintenance Managers	204	220.8	25	80.4	44	83.9	56	88.5	79	106.9		
39	Managers In Construction	123	61.4	15	179.7	31	225.8	34	185.5	43	195.4		
40	Managers in Transport, Utilities And Mining	96	136.9	15	81.5	20	64.8	34	80.8	27	57.1		
41	Office Managers	72	140.4	12	70.2	15	50.5	17	38.7	28	49.0		
42	Butchers	23	70.7	4	36.5	8	51.6	6	31.3	5	23.1		
44	Retailers And Dealers	255	486.6	35	48.3	60	56.1	75	53.7	85	53.9		
45	Publicans And Bar Staff	88	155.5	12	57.1	21	62.6	26	53.9	29	50.9		
46	Caterers	36	72.1	4	41.2	6	40.0	12	52.6	14	51.4		

Table 3: Continued

Southampton Occupation Code	Occupation description	Total Deaths	Total Expected Deaths	1980 - 1985 (excl 81)		1986 - 1990		1991 - 1995		1996 - 2000		Increasing (+) or decreasing (-) trend	Signif.
				Deaths	PMR	Deaths	PMR	Deaths	PMR	Deaths	PMR		
47	Farmers	114	441.4	10	15.2	27	28.4	31	24.7	46	32.2		
48	Armed Forces	60	75.3	7	71.1	13	80.9	21	90.1	19	66.9		
49	Police	32	70.3	3	36.5	10	67.4	8	35.3	11	36.6		
50	Fire Service Personnel	27	25.3	0	0.0	6	119.6	12	148.7	9	86.7		
52	Hairdressers	7	20.1	1	30.1	4	93.1	1	19.1	1	18.4		
53	Office Workers And Cashiers	401	717.1	57	49.1	88	54.3	131	67.6	125	62.3		
54	Postal Workers	132	159.7	15	67.1	31	86.0	44	90.7	42	83.0		
56	Van Sales Persons	15	35.7	3	60.7	4	48.9	1	9.5	7	54.6		
57	Sales Representatives	130	185.5	22	75.4	26	62.3	42	79.5	40	70.7		
58	Security Workers	147	210.8	29	105.4	29	64.6	33	50.0	56	71.2		
59	Cooks And Kitchen Porters	15	71.0	2	22.2	2	13.6	5	22.7	6	21.4		
60	Other Service Occupations	200	298.5	28	65.4	59	89.5	52	60.1	61	60.6		
61	Hospital Porters And Ward Orderlies	26	58.5	3	39.2	4	34.4	9	52.4	10	42.8		
63	Railway Station Workers	34	59.0	4	44.1	6	46.5	12	75.1	12	63.8		
68	Leather And Shoe Workers	9	34.3	2	34.2	3	39.2	3	34.0	1	11.2		
74	Other Textile Workers	22	60.4	7	75.7	4	30.1	5	29.6	6	31.2		
75	Chemical Workers	84	105.5	19	113.0	33	121.5	14	53.3	18	61.0	-	**
76	Bakers	9	40.0	1	15.5	1	11.1	3	29.4	4	34.9		
78	Food Processors	24	68.8	3	31.8	8	53.0	7	34.0	6	24.4		
88	Other Coal Miners	64	265.7	12	32.1	15	25.0	20	25.1	17	20.6		
91	Other Occupations-Glass And Ceramics	15	34.7	1	19.5	4	50.0	7	74.4	3	26.5		
97	Printers (so described)	31	62.6	3	38.2	5	36.3	9	47.0	14	58.2		
101	Upholsterers	34	18.5	10	338.9	9	225.5	9	183.9	6	107.4	-	*
104	Carpenters	887	228.9	108	360.5	181	372.8	251	361.0	347	395.4		
105	Cabinet Makers	35	20.8	4	140.5	2	46.8	10	169.8	19	248.3		
108	Woodworking Machinists	40	30.0	2	43.9	9	135.3	16	191.6	13	136.5		
114	Smiths And Forge Workers	17	20.2	4	121.8	4	91.5	8	141.3	1	17.8		
116	Moulders And Coremakers (Metal)	13	31.8	3	54.9	5	62.4	4	50.5	1	14.3		
120	Other Metal Manufacturers	21	53.3	1	13.0	6	50.0	8	50.4	6	35.3		
121	Press And Machine Tool Setters	17	40.4	3	48.9	5	50.6	4	36.7	5	41.5		
122	Centre Lathe Turners	22	39.3	5	75.3	6	64.6	1	9.3	10	101.5		
124	Machine Tool Operators	505	371.5	87	160.3	107	120.7	134	126.5	177	154.0		
129	Toolmakers	48	67.9	2	21.0	10	64.8	19	90.8	17	79.8		

Table 3: Continued

Southampton Occupation Code	Occupation description	Total Deaths	Total Expected Deaths	1980 - 1985 (excl 81)		1986 - 1990		1991 - 1995		1996 - 2000		Increasing (+) or decreasing (-) trend	Signif. trend
				Deaths	PMR	Deaths	PMR	Deaths	PMR	Deaths	PMR		
130	Precision Instrument Makers	33	23.8	3	96.3	9	168.9	13	175.8	8	93.0		
132	Production Fitters	850	405.9	129	221.2	183	200.6	264	220.1	274	201.4		
133	Motor Mechanics	60	124.1	7	42.1	10	38.1	20	52.5	23	49.4		
136	Electrical And Electronic Production Fitters	27	10.4	2	115.4	7	310.0	7	222.6	11	395.7		
137	Electricians	496	177.8	70	314.9	101	258.7	140	252.0	185	262.0		
138	Electrical Plant Operators	54	20.6	13	405.1	7	163.1	17	254.6	17	294.8		
139	Telephone Fitters	53	47.5	4	48.5	13	107.7	25	212.8	11	97.6		
142	Other Electronic Maintenance Engineers	38	43.0	0	0.0	1	16.9	11	58.2	26	99.1	+	**
143	Electrical Engineers (so described)	140	64.9	16	197.8	36	245.3	44	217.4	44	182.8		
144	Plumbers And Gas Fitters	619	149.9	90	468.0	117	374.7	193	416.6	219	360.8		
145	Sheet Metal Workers	144	61.3	28	326.3	31	226.0	37	204.6	48	228.7		
146	Metal Plate Workers	265	52.7	56	723.3	71	608.5	88	556.2	50	292.4	-	**
147	Steel Erectors	62	36.9	3	66.0	13	162.2	26	210.6	20	137.5		
148	Scaffolders	36	19.2	3	153.3	7	176.1	7	103.8	19	212.0		
149	Welders	204	108.3	36	249.0	42	170.6	59	179.3	67	169.8		
150	Riggers	22	14.5	5	233.1	6	174.5	7	163.9	4	87.6		
153	Vehicle Body Builders	83	15.8	12	503.9	23	613.7	27	605.6	21	461.9		
159	Other Spray Painters	22	27.0	3	76.8	5	83.8	7	88.1	7	76.0		
160	Painters And Decorators nec	361	224.2	43	137.4	72	145.8	110	167.7	136	172.8		
163	Assemblers (Vehicles And Other Metal Goods)	15	48.2	4	71.9	3	30.1	3	19.7	5	22.8		
164	Packers And Sorters	25	51.5	4	45.1	8	68.2	7	50.6	6	46.8		
165	Bricklayers And Tile Setters	129	114.4	17	98.2	28	112.3	41	125.9	43	117.5		
167	Plasterers	65	42.6	9	160.5	18	203.4	23	175.8	15	92.3		
168	Roofers And Glaziers	56	37.7	6	140.1	13	170.2	13	104.7	24	143.6		
169	Builders etc.	338	194.5	31	141.4	64	161.6	94	149.7	149	172.7		
170	Rail Track Workers	10	20.2	2	56.8	1	22.9	3	53.5	4	82.0		
171	Road Construction Workers And Paviers	22	41.6	3	48.3	7	79.1	6	50.6	6	43.0		
174	Construction Workers nec	486	228.1	84	268.4	112	228.1	144	203.6	146	173.6	-	**
175	Face Trained Coalminers	17	72.4	5	30.5	5	29.9	2	15.8	5	43.5		
180	Railway Engine Drivers	44	39.4	4	75.6	10	110.4	15	120.7	15	112.1		
182	Bus And Coach Drivers	48	106.2	2	15.1	9	40.2	13	39.4	24	54.8		
183	Lorry Drivers	291	559.3	36	50.9	65	52.9	86	48.4	104	47.4		
184	Other Motor Drivers	67	99.5	4	37.3	14	70.7	24	72.3	25	53.8		

Table 3: Continued

Southampton Occupation Code	Occupation description	Total Deaths	Total Expected Deaths	1980 - 1985 (excl 81)		1986 - 1990		1991 - 1995		1996 - 2000		Increasing (+) or decreasing (-) trend	Signif.
				Deaths	PMR	Deaths	PMR	Deaths	PMR	Deaths	PMR		
185	Bus Conductors And Drivers Mates	5	20.3	2	51.5	2	44.9	0	0.0	1	22.9		
186	Mechanical Plant Drivers	17	34.8	1	27.1	3	46.5	7	60.7	6	34.1		
187	Crane Drivers	51	64.0	8	76.9	12	81.5	11	62.3	20	110.2		
188	Fork Lift Truck Drivers	51	63.5	8	106.9	8	58.6	16	78.0	19	71.2		
190	Storekeepers	232	341.3	36	65.0	58	74.9	60	64.8	78	81.8		
191	Dockers And Good Porters	151	100.2	25	163.7	42	196.5	44	151.2	40	122.5	-	*
192	Refuse Collectors	18	38.8	1	20.8	7	78.9	4	33.6	6	40.3		
194	Boiler Operators	83	37.9	19	270.1	23	255.5	21	241.4	20	250.3		
106(O)	Entertainment And Sports Managers	19	21.6	2	74.3	3	63.8	5	75.5	9	106.9		
111(O)	Managers Nec	212	137.8	34	189.9	37	141.9	61	136.5	80	140.8		
165(O)	Service Workers Nec	18	40.0	2	30.3	5	56.0	5	46.0	6	54.4		
276(O)	Other Metal, Jewellery, Electrical Production Workers	166	113.3	17	105.0	18	83.8	48	166.6	83	164.9	+	*
286(O)	(Foremen) Inspectors Etc Metal, Electrical Goods	63	90.1	11	71.6	12	55.9	25	105.5	15	68.2		
299(O)	Painting, Assembling And Related Occupations Nec	33	23.3	6	177.7	4	75.2	14	198.0	9	123.7		
338(O)	Workers Transport Ops, Materials Moving, Storage & Related	25	24.8	3	63.5	8	155.9	8	129.6	6	93.3		
344(O)	(Foremen/Labourers Etc) Engineering And Allied Trades	98	188.1	18	58.5	18	41.8	31	64.1	31	56.9		
346(O)	(Foremen/Labourers Etc) Other	388	533.3	63	75.4	101	82.8	110	71.9	114	72.5		

Only occupations with 20 or more observed or expected mesothelioma deaths over the period 1980-2000 (excluding 1981) are included.
1980 Occupation Codes not accounted for by Southampton codes are identified by (O) after the code number.
nec denotes not elsewhere classified.

* Trend statistic statistically significant at the 5% level.

** Trend statistic statistically significant at the 1% level.

Table 4: Mesothelioma proportional mortality ratios (PMRs) for females aged 16-74 in Great Britain by Southampton occupation group and 5-year time period, 1980-2000 (excluding 1981)

Southampton Occupation Code	Occupation description	Total Deaths	Total Expected Deaths	1980 - 1985 (excl 81)		1986 - 1990		1991 - 1995		1996 - 2000		Increasing (+) or decreasing (-) trend	
				Deaths	PMR	Deaths	PMR	Deaths	PMR	Deaths	PMR		Signif.
11	Teachers nec	42	42.0	4	79.6	9	117.3	13	109.3	16	90.7		
17	Nurses	32	63.4	4	55.7	6	52.0	9	47.5	13	49.1		
44	Retailers And Dealers	86	90.8	5	46.6	17	105.0	30	111.2	34	92.3		
46	Caterers	29	46.3	6	98.5	4	45.1	11	84.6	8	46.7		
53	Office Workers And Cashiers	241	240.6	24	82.5	38	85.9	72	100.6	107	110.0		
59	Cooks And Kitchen Porters	23	30.4	1	25.4	4	70.8	11	126.7	7	61.6		
60	Other Service Occupations	120	120.7	13	88.2	25	114.3	26	75.2	56	115.5		
61	Hospital Porters And Ward Orderlies	21	23.5	0	0.0	1	37.1	5	68.2	15	95.1		
74	Other Textile Workers	20	12.2	0	0.0	4	157.9	6	183.0	10	259.9	+	**
100	Sewers And Embroiderers	34	23.9	7	212.7	9	172.6	6	102.4	12	141.3		
346(O)	(Foremen/Labourers Etc) Other	40	12.8	6	427.3	11	479.2	11	275.7	12	230.5		

Only occupations with 20 or more observed or expected mesothelioma deaths over the period 1980-2000 (excluding 1981) are included. 1980 Occupation Codes not accounted for by Southampton codes are identified by (O) after the code number.

nec denotes not elsewhere classified.

* Trend statistic statistically significant at the 5% level.

** Trend statistic statistically significant at the 1% level.

Table 5: Mesothelioma proportional mortality ratios (PMRs), cumulative, and absolute proportions of deaths for males aged 16-74 in Great Britain by Southampton occupation group, 1980-2000 (excluding 1981)

Southampton Occupation Code	Occupation description	PMR	Deaths	Cumulative Percent of Total Deaths	Percent of Total Deaths
1	Lawyers	15	4	0.0%	0.0%
2	Accountants	63	68	0.6%	0.5%
3	Personnel Managers etc.	100	35	0.8%	0.3%
4	Economists And Statisticians	26	1	0.8%	0.0%
5	Computer Programmers	89	13	0.9%	0.1%
6	Sales Managers etc	87	114	1.8%	0.9%
7	Government Inspectors	140	42	2.2%	0.3%
8	Government Administrators	25	10	2.2%	0.1%
9	Other Administrators	80	55	2.7%	0.4%
10	Teachers In Higher Education	121	66	3.2%	0.5%
11	Teachers nec	57	72	3.7%	0.6%
12	Vocational Trainers, Social Scientists etc	98	35	4.0%	0.3%
13	Welfare Workers	107	51	4.4%	0.4%
14	Clergy	41	12	4.5%	0.1%
15	Doctors	28	10	4.6%	0.1%
16	Dentists	62	5	4.6%	0.0%
17	Nurses	44	17	4.8%	0.1%
18	Pharmacists	8	1	4.8%	0.0%
19	Medical Radiographers	160	2	4.8%	0.0%
20	Physiotherapists	0	0	4.8%	0.0%
21	Health Professions nec	23	3	4.8%	0.0%
22	Veterinarians	62	2	4.8%	0.0%
23	Driving Instructors	42	8	4.9%	0.1%
24	Literary And Artistic Occupations	61	63	5.4%	0.5%
25	Persons Involved In Sport	44	2	5.4%	0.0%
26	Biological Scientists	83	8	5.5%	0.1%
27	Chemical Engineers And Scientists	221	52	5.9%	0.4%
28	Physical Scientists And Mathematicians	117	25	6.1%	0.2%
29	Electrical And Electronic Engineers (Professional)	96	25	6.2%	0.2%
30	Professional Engineers nec	173	276	8.4%	2.2%
31	Draughtspersons	157	85	9.1%	0.7%
32	Laboratory Technicians	158	76	9.7%	0.6%
33	Architects And Surveyors	119	76	10.2%	0.6%
34	Aircraft Flight Deck Officers	30	2	10.3%	0.0%
35	Air Traffic Controllers	48	1	10.3%	0.0%
36	Seafarers	86	70	10.8%	0.5%
37	Technicians nec	167	72	11.4%	0.6%
38	Production And Maintenance Managers	92	204	13.0%	1.6%
39	Managers In Construction	200	123	13.9%	1.0%
40	Managers in Transport, Utilities And Mining	70	96	14.7%	0.7%
41	Office Managers	51	72	15.2%	0.6%
42	Butchers	33	23	15.4%	0.2%
43	Fishmongers And Poultry Dressers	57	7	15.5%	0.1%
44	Retailers And Dealers	52	255	17.5%	2.0%
45	Publicans And Bar Staff	57	88	18.1%	0.7%
46	Caterers	50	36	18.4%	0.3%
47	Farmers	26	114	19.3%	0.9%
48	Armed Forces	80	60	19.8%	0.5%
49	Police	46	32	20.0%	0.2%
50	Fire Service Personnel	107	27	20.2%	0.2%
51	Launderers And Dry Cleaners	91	12	20.3%	0.1%
52	Hairdressers	35	7	20.4%	0.1%
53	Office Workers And Cashiers	56	401	23.5%	3.1%
54	Postal Workers	83	132	24.6%	1.0%
55	Petrol Pump Attendants	0	0	24.6%	0.0%
56	Van Sales Persons	42	15	24.7%	0.1%

Table 5: Continued

Southampton Occupation Code	Occupation description	PMR	Deaths	Cumulative Percent of Total Deaths	Percent of Total Deaths
57	Sales Representatives	70	130	25.7%	1.0%
58	Security Workers	70	147	26.8%	1.1%
59	Cooks And Kitchen Porters	21	15	26.9%	0.1%
60	Other Service Occupations	67	200	28.5%	1.6%
61	Hospital Porters And Ward Orderlies	44	26	28.7%	0.2%
62	Ambulance Workers	98	17	28.8%	0.1%
63	Railway Station Workers	58	34	29.1%	0.3%
64	Undertakers	45	3	29.1%	0.0%
65	Foresters	27	4	29.2%	0.0%
66	Fishing And Related Workers	40	8	29.2%	0.1%
67	Tannery Workers	22	1	29.2%	0.0%
68	Leather And Shoe Workers	26	9	29.3%	0.1%
69	Preparatory Fibre Processors	38	2	29.3%	0.0%
70	Spinners And Winders	97	8	29.4%	0.1%
71	Warp Preparers And Weavers	32	5	29.4%	0.0%
72	Knitters	21	2	29.4%	0.0%
73	Bleachers, Dyers And Finishers	61	8	29.5%	0.1%
74	Other Textile Workers	36	22	29.7%	0.2%
75	Chemical Workers	80	84	30.3%	0.7%
76	Bakers	23	9	30.4%	0.1%
77	Brewery Workers	45	8	30.5%	0.1%
78	Food Processors	35	24	30.6%	0.2%
79	Paper Manufacturers	125	9	30.7%	0.1%
80	Bookbinders	36	2	30.7%	0.0%
81	Paper Cutters	29	1	30.7%	0.0%
82	Glass And Ceramics Furnace Workers	0	0	30.7%	0.0%
83	Glass Formers And Decorators	53	5	30.8%	0.0%
84	Ceramics Casters	21	1	30.8%	0.0%
85	Rubber Manufacturers	53	7	30.8%	0.1%
86	Plastics Workers	86	7	30.9%	0.1%
87	Man-Made Fibre Makers	113	3	30.9%	0.0%
88	Other Coal Miners	24	64	31.4%	0.5%
89	Tobacco Workers	111	4	31.4%	0.0%
90	Other Wood And Paper Processors	58	8	31.5%	0.1%
91	Other Occupations-Glass And Ceramics	43	15	31.6%	0.1%
92	Rubber Goods Makers	52	6	31.7%	0.0%
93	Plastic Goods Makers	71	11	31.8%	0.1%
94	Compositors	16	2	31.8%	0.0%
95	Printing Plate Repairers	0	0	31.8%	0.0%
96	Printing Machine Minders	71	14	31.9%	0.1%
97	Printers (so described)	50	31	32.1%	0.2%
98	Tailors And Dressmakers	26	4	32.2%	0.0%
99	Clothing Cutters	54	4	32.2%	0.0%
100	Sewers And Embroiderers	35	2	32.2%	0.0%
101	Upholsterers	184	34	32.5%	0.3%
102	Carpet Fitters	126	7	32.5%	0.1%
103	Other Workers With Fabrics	143	9	32.6%	0.1%
104	Carpenters	388	887	39.5%	6.9%
105	Cabinet Makers	169	35	39.8%	0.3%
106	Case And Box Makers	131	8	39.8%	0.1%
107	Pattern Makers	57	5	39.9%	0.0%
108	Woodworking Machinists	133	40	40.2%	0.3%
109	Other Woodworkers	129	11	40.3%	0.1%
110	Dental Technicians	0	0	40.3%	0.0%
111	Other Makers Of Paper Goods	49	6	40.3%	0.0%
112	Furnace Operatives (Metal)	46	9	40.4%	0.1%
113	Rollers (Metal)	0	0	40.4%	0.0%
114	Smiths And Forge Workers	84	17	40.5%	0.1%

Table 5: Continued

Southampton Occupation Code	Occupation description	PMR	Deaths	Cumulative Percent of Total Deaths	Percent of Total Deaths
115	Metal Drawers	38	2	40.6%	0.0%
116	Moulders And Coremakers (Metal)	41	13	40.7%	0.1%
117	Electroplaters	73	4	40.7%	0.0%
118	Annealers, Hardeners, Temperers (Metal)	0	0	40.7%	0.0%
119	Galvanisers And Tin Platers	0	0	40.7%	0.0%
120	Other Metal Manufacturers	39	21	40.8%	0.2%
121	Press And Machine Tool Setters	42	17	41.0%	0.1%
122	Centre Lathe Turners	56	22	41.2%	0.2%
123	Machine Tool Setter Operators	53	5	41.2%	0.0%
124	Machine Tool Operators	136	505	45.1%	3.9%
125	Press And Automatic Machine Operators	66	10	45.2%	0.1%
126	Metal Polishers	23	3	45.2%	0.0%
127	Fettlers And Dressers (Metal)	0	0	45.2%	0.0%
128	Shot Blasters	66	3	45.3%	0.0%
129	Toolmakers	71	48	45.6%	0.4%
130	Precision Instrument Makers	138	33	45.9%	0.3%
131	Watch And Clock Makers	12	1	45.9%	0.0%
132	Production Fitters	209	850	52.5%	6.6%
133	Motor Mechanics	48	60	53.0%	0.5%
134	Aircraft Engine Fitters	38	1	53.0%	0.0%
135	Office Machinery Mechanics	47	1	53.0%	0.0%
136	Electrical And Electronic Production Fitters	260	27	53.2%	0.2%
137	Electricians	279	496	57.1%	3.9%
138	Electrical Plant Operators	263	54	57.5%	0.4%
139	Telephone Fitters	112	53	57.9%	0.4%
140	Electric Cable And Line Workers	58	9	58.0%	0.1%
141	Radio And TV Mechanics	51	9	58.1%	0.1%
142	Other Electronic Maintenance Engineers	88	38	58.4%	0.3%
143	Electrical Engineers (so described)	216	140	59.4%	1.1%
144	Plumbers And Gas Fitters	413	619	64.3%	4.8%
145	Sheet Metal Workers	235	144	65.4%	1.1%
146	Metal Plate Workers	502	265	67.5%	2.1%
147	Steel Erectors	168	62	68.0%	0.5%
148	Scaffolders	188	36	68.2%	0.3%
149	Welders	188	204	69.8%	1.6%
150	Riggers	152	22	70.0%	0.2%
151	Jewellery Workers	25	1	70.0%	0.0%
152	Engravers And Etchers (Printing)	100	2	70.0%	0.0%
153	Vehicle Body Builders	526	83	70.7%	0.6%
154	Oilers And Greasers	90	3	70.7%	0.0%
155	Electronics Wiremen	198	6	70.7%	0.0%
156	Coil Winders	227	6	70.8%	0.0%
157	Pottery Decorators	0	0	70.8%	0.0%
158	Coach Painters	72	3	70.8%	0.0%
159	Other Spray Painters	81	22	71.0%	0.2%
160	Painters And Decorators nec	161	361	73.8%	2.8%
161	Electrical Electronic Assemblers	67	8	73.9%	0.1%
162	Instrument Assemblers	341	2	73.9%	0.0%
163	Assemblers (Vehicles And Other Metal Goods)	31	15	74.0%	0.1%
164	Packers And Sorters	49	25	74.2%	0.2%
165	Bricklayers And Tile Setters	113	129	75.2%	1.0%
166	Mason And Stonecutters	27	5	75.2%	0.0%
167	Plasterers	152	65	75.7%	0.5%
168	Roofers And Glaziers	149	56	76.2%	0.4%
169	Builders etc.	174	338	78.8%	2.6%
170	Rail Track Workers	49	10	78.9%	0.1%
171	Road Construction Workers And Paviers	53	22	79.1%	0.2%
172	Sewage Plant Attendants	44	6	79.1%	0.0%
173	Mains And Service Layers	61	11	79.2%	0.1%

Table 5: Continued

Southampton Occupation Code	Occupation description	PMR	Deaths	Cumulative Percent of Total Deaths	Percent of Total Deaths
174	Construction Workers nec	213	486	83.0%	3.8%
175	Face Trained Coalminers	23	17	83.1%	0.1%
176	Mines (Not Coal) And Quarry Workers	41	8	83.2%	0.1%
177	Railway Guards	42	6	83.2%	0.0%
178	Railway Signal Workers	20	3	83.2%	0.0%
179	Shunters And Points Operators	15	1	83.3%	0.0%
180	Railway Engine Drivers	112	44	83.6%	0.3%
181	Road Transport Inspectors	39	7	83.7%	0.1%
182	Bus And Coach Drivers	45	48	84.0%	0.4%
183	Lorry Drivers	52	291	86.3%	2.3%
184	Other Motor Drivers	67	67	86.8%	0.5%
185	Bus Conductors And Drivers Mates	25	5	86.9%	0.0%
186	Mechanical Plant Drivers	49	17	87.0%	0.1%
187	Crane Drivers	80	51	87.4%	0.4%
188	Fork Lift Truck Drivers	80	51	87.8%	0.4%
189	Slingers	72	7	87.8%	0.1%
190	Storekeepers	68	232	89.6%	1.8%
191	Dockers And Good Porters	151	151	90.8%	1.2%
192	Refuse Collectors	46	18	91.0%	0.1%
193	Labourers In Coke Ovens	52	3	91.0%	0.0%
194	Boiler Operators	219	83	91.6%	0.6%
53(O)	Professional And Related Education, Welfare, Health Nec	45	3	91.7%	0.0%
64(O)	Literary, Artistic And Sports Workers Nec	75	3	91.7%	0.0%
106(O)	Entertainment And Sports Managers	88	19	91.8%	0.1%
111(O)	Managers Nec	154	212	93.5%	1.7%
165(O)	Service Workers Nec	45	18	93.6%	0.1%
204(O)	Other Material Processing - All Other (Excluding Metal) Nec	47	5	93.7%	0.0%
222(O)	Musical Instrument Makers, Piano Tuners	40	1	93.7%	0.0%
230(O)	Other Making & Repairing - All Other (Excluding Metal And Electrical) Nec	75	14	93.8%	0.1%
276(O)	Other Metal, Jewellery, Electrical Production Workers	147	166	95.1%	1.3%
277(O)	(Foremen) Engineering And Allied Trades	54	9	95.1%	0.1%
278(O)	Trainee Craftsmen (Engineering And Allied Trades)	0	0	95.1%	0.0%
286(O)	(Foremen) Inspectors Etc Metal, Electrical Goods	70	63	95.6%	0.5%
299(O)	Painting, Assembling And Related Occupations Nec	141	33	95.9%	0.3%
338(O)	Workers Transport Ops, Materials Moving, Storage & Related	101	25	96.1%	0.2%
344(O)	(Foremen/Labourers Etc) Engineering And Allied Trades	52	98	96.9%	0.8%
346(O)	(Foremen/Labourers Etc) Other	73	388	99.9%	3.0%
348(O)	All Other In Miscellaneous Operations Nec	212	15	100.0%	0.1%

1980 Occupation Codes not accounted for by Southampton codes are identified by (O) after the code number. nec denotes not elsewhere classified.

Table 6: Mesothelioma proportional mortality ratios (PMRs), cumulative, and absolute proportions of deaths for females aged 16-74 in Great Britain by Southampton occupation group, 1980-2000 (excluding 1981)

Southampton Occupation Code	Occupation description	PMR	Deaths	Cumulative Percent of Total Deaths	Percent of Total Deaths
1	Lawyers	0	0	0.0%	0.0%
2	Accountants	48	1	0.1%	0.1%
3	Personnel Managers etc.	0	0	0.1%	0.0%
4	Economists And Statisticians	0	0	0.1%	0.0%
5	Computer Programmers	0	0	0.1%	0.0%
6	Sales Managers etc	71	3	0.4%	0.3%
7	Government Inspectors	278	1	0.5%	0.1%
8	Government Administrators	83	2	0.7%	0.2%
9	Other Administrators	145	14	2.1%	1.4%
10	Teachers In Higher Education	56	2	2.3%	0.2%
11	Teachers nec	100	42	6.5%	4.2%
12	Vocational Trainers, Social Scientists etc	195	4	6.9%	0.4%
13	Welfare Workers	82	13	8.2%	1.3%
14	Clergy	0	0	8.2%	0.0%
15	Doctors	50	1	8.3%	0.1%
16	Dentists	0	0	8.3%	0.0%
17	Nurses	50	32	11.5%	3.2%
18	Pharmacists	237	2	11.7%	0.2%
19	Medical Radiographers	300	2	11.9%	0.2%
20	Physiotherapists	76	1	12.0%	0.1%
21	Health Professions nec	130	4	12.4%	0.4%
22	Veterinarians	0	0	12.4%	0.0%
23	Driving Instructors	370	1	12.5%	0.1%
24	Literary And Artistic Occupations	55	4	12.8%	0.4%
25	Persons Involved In Sport	325	1	12.9%	0.1%
26	Biological Scientists	156	1	13.0%	0.1%
27	Chemical Engineers And Scientists	0	0	13.0%	0.0%
28	Physical Scientists And Mathematicians	0	0	13.0%	0.0%
29	Electrical And Electronic Engineers (Professional)	0	0	13.0%	0.0%
30	Professional Engineers nec	327	1	13.1%	0.1%
31	Draughtspersons	126	1	13.2%	0.1%
32	Laboratory Technicians	225	8	14.0%	0.8%
33	Architects And Surveyors	0	0	14.0%	0.0%
34	Aircraft Flight Deck Officers	0	0	14.0%	0.0%
35	Air Traffic Controllers	0	0	14.0%	0.0%
36	Seafarers	2243	1	14.1%	0.1%
37	Technicians nec	353	3	14.4%	0.3%
38	Production And Maintenance Managers	0	0	14.4%	0.0%
39	Managers In Construction	0	0	14.4%	0.0%
40	Managers in Transport, Utilities And Mining	62	1	14.5%	0.1%
41	Office Managers	85	8	15.3%	0.8%
42	Butchers	0	0	15.3%	0.0%
43	Fishmongers And Poultry Dressers	0	0	15.3%	0.0%
44	Retailers And Dealers	95	86	23.9%	8.6%
45	Publicans And Bar Staff	77	14	25.3%	1.4%
46	Caterers	63	29	28.2%	2.9%
47	Farmers	89	7	28.9%	0.7%
48	Armed Forces	174	1	29.0%	0.1%
49	Police	0	0	29.0%	0.0%
50	Fire Service Personnel	0	0	29.0%	0.0%
51	Launderers And Dry Cleaners	116	10	30.0%	1.0%
52	Hairdressers	74	5	30.5%	0.5%
53	Office Workers And Cashiers	100	241	54.5%	24.0%
54	Postal Workers	249	9	55.4%	0.9%
55	Petrol Pump Attendants	0	0	55.4%	0.0%
56	Van Sales Persons	0	0	55.4%	0.0%

Table 6: Continued

Southampton Occupation Code	Occupation description	PMR	Deaths	Cumulative Percent of Total Deaths	Percent of Total Deaths
57	Sales Representatives	242	8	56.2%	0.8%
58	Security Workers	100	3	56.5%	0.3%
59	Cooks And Kitchen Porters	76	23	58.8%	2.3%
60	Other Service Occupations	99	120	70.7%	12.0%
61	Hospital Porters And Ward Orderlies	89	21	72.8%	2.1%
62	Ambulance Workers	464	1	72.9%	0.1%
63	Railway Station Workers	0	0	72.9%	0.0%
64	Undertakers	0	0	72.9%	0.0%
65	Foresters	0	0	72.9%	0.0%
66	Fishing And Related Workers	0	0	72.9%	0.0%
67	Tannery Workers	0	0	72.9%	0.0%
68	Leather And Shoe Workers	74	4	73.3%	0.4%
69	Preparatory Fibre Processors	131	1	73.4%	0.1%
70	Spinners And Winders	130	6	74.0%	0.6%
71	Warp Preparers And Weavers	166	9	74.9%	0.9%
72	Knitters	0	0	74.9%	0.0%
73	Bleachers, Dyers And Finishers	183	1	75.0%	0.1%
74	Other Textile Workers	165	20	77.0%	2.0%
75	Chemical Workers	554	15	78.5%	1.5%
76	Bakers	224	4	78.9%	0.4%
77	Brewery Workers	415	2	79.1%	0.2%
78	Food Processors	69	7	79.8%	0.7%
79	Paper Manufacturers	0	0	79.8%	0.0%
80	Bookbinders	0	0	79.8%	0.0%
81	Paper Cutters	0	0	79.8%	0.0%
82	Glass And Ceramics Furnace Workers	0	0	79.8%	0.0%
83	Glass Formers And Decorators	0	0	79.8%	0.0%
84	Ceramics Casters	0	0	79.8%	0.0%
85	Rubber Manufacturers	0	0	79.8%	0.0%
86	Plastics Workers	1080	3	80.1%	0.3%
87	Man-Made Fibre Makers	0	0	80.1%	0.0%
88	Other Coal Miners	0	0	80.1%	0.0%
89	Tobacco Workers	106	1	80.2%	0.1%
90	Other Wood And Paper Processors	81	1	80.3%	0.1%
91	Other Occupations-Glass And Ceramics	0	0	80.3%	0.0%
92	Rubber Goods Makers	0	0	80.3%	0.0%
93	Plastic Goods Makers	133	2	80.5%	0.2%
94	Compositors	0	0	80.5%	0.0%
95	Printing Plate Repairers	0	0	80.5%	0.0%
96	Printing Machine Minders	70	1	80.6%	0.1%
97	Printers (so described)	80	1	80.7%	0.1%
98	Tailors And Dressmakers	222	18	82.5%	1.8%
99	Clothing Cutters	93	1	82.6%	0.1%
100	Sewers And Embroiderers	143	34	86.0%	3.4%
101	Upholsterers	107	1	86.1%	0.1%
102	Carpet Fitters	0	0	86.1%	0.0%
103	Other Workers With Fabrics	0	0	86.1%	0.0%
104	Carpenters	0	0	86.1%	0.0%
105	Cabinet Makers	0	0	86.1%	0.0%
106	Case And Box Makers	0	0	86.1%	0.0%
107	Pattern Makers	0	0	86.1%	0.0%
108	Woodworking Machinists	0	0	86.1%	0.0%
109	Other Woodworkers	620	1	86.2%	0.1%
110	Dental Technicians	0	0	86.2%	0.0%
111	Other Makers Of Paper Goods	39	1	86.3%	0.1%
112	Furnace Operatives (Metal)	0	0	86.3%	0.0%
113	Rollers (Metal)	0	0	86.3%	0.0%
114	Smiths And Forge Workers	0	0	86.3%	0.0%

Table 6: Continued

Southampton Occupation Code	Occupation description	PMR	Deaths	Cumulative Percent of Total Deaths	Percent of Total Deaths
115	Metal Drawers	0	0	86.3%	0.0%
116	Moulders And Coremakers (Metal)	0	0	86.3%	0.0%
117	Electroplaters	0	0	86.3%	0.0%
118	Annealers, Hardeners, Temperers (Metal)	0	0	86.3%	0.0%
119	Galvanisers And Tin Platers	0	0	86.3%	0.0%
120	Other Metal Manufacturers	0	0	86.3%	0.0%
121	Press And Machine Tool Setters	0	0	86.3%	0.0%
122	Centre Lathe Turners	0	0	86.3%	0.0%
123	Machine Tool Setter Operators	0	0	86.3%	0.0%
124	Machine Tool Operators	14	1	86.4%	0.1%
125	Press And Automatic Machine Operators	141	4	86.8%	0.4%
126	Metal Polishers	240	1	86.9%	0.1%
127	Fettlers And Dressers (Metal)	0	0	86.9%	0.0%
128	Shot Blasters	0	0	86.9%	0.0%
129	Toolmakers	0	0	86.9%	0.0%
130	Precision Instrument Makers	0	0	86.9%	0.0%
131	Watch And Clock Makers	0	0	86.9%	0.0%
132	Production Fitters	466	2	87.1%	0.2%
133	Motor Mechanics	0	0	87.1%	0.0%
134	Aircraft Engine Fitters	0	0	87.1%	0.0%
135	Office Machinery Mechanics	0	0	87.1%	0.0%
136	Electrical And Electronic Production Fitters	0	0	87.1%	0.0%
137	Electricians	0	0	87.1%	0.0%
138	Electrical Plant Operators	0	0	87.1%	0.0%
139	Telephone Fitters	0	0	87.1%	0.0%
140	Electric Cable And Line Workers	0	0	87.1%	0.0%
141	Radio And TV Mechanics	0	0	87.1%	0.0%
142	Other Electronic Maintenance Engineers	0	0	87.1%	0.0%
143	Electrical Engineers (so described)	0	0	87.1%	0.0%
144	Plumbers And Gas Fitters	0	0	87.1%	0.0%
145	Sheet Metal Workers	0	0	87.1%	0.0%
146	Metal Plate Workers	2746	2	87.3%	0.2%
147	Steel Erectors	0	0	87.3%	0.0%
148	Scaffolders	0	0	87.3%	0.0%
149	Welders	218	2	87.5%	0.2%
150	Riggers	0	0	87.5%	0.0%
151	Jewellery Workers	440	1	87.5%	0.1%
152	Engravers And Etchers (Printing)	0	0	87.5%	0.0%
153	Vehicle Body Builders	0	0	87.5%	0.0%
154	Oilers And Greasers	0	0	87.5%	0.0%
155	Electronics Wiremen	243	1	87.6%	0.1%
156	Coil Winders	0	0	87.6%	0.0%
157	Pottery Decorators	99	1	87.7%	0.1%
158	Coach Painters	0	0	87.7%	0.0%
159	Other Spray Painters	0	0	87.7%	0.0%
160	Painters And Decorators nec	248	1	87.8%	0.1%
161	Electrical Electronic Assemblers	47	3	88.1%	0.3%
162	Instrument Assemblers	0	0	88.1%	0.0%
163	Assemblers (Vehicles And Other Metal Goods)	99	3	88.4%	0.3%
164	Packers And Sorters	112	18	90.2%	1.8%
165	Bricklayers And Tile Setters	0	0	90.2%	0.0%
166	Mason And Stonecutters	0	0	90.2%	0.0%
167	Plasterers	0	0	90.2%	0.0%
168	Roofers And Glaziers	0	0	90.2%	0.0%
169	Builders etc.	0	0	90.2%	0.0%
170	Rail Track Workers	0	0	90.2%	0.0%
171	Road Construction Workers And Paviers	0	0	90.2%	0.0%
172	Sewage Plant Attendants	0	0	90.2%	0.0%
173	Mains And Service Layers	0	0	90.2%	0.0%

Table 6: Continued

Southampton Occupation Code	Occupation description	PMR	Deaths	Cumulative Percent of Total Deaths	Percent of Total Deaths
174	Construction Workers nec	1101	1	90.3%	0.1%
175	Face Trained Coalminers	0	0	90.3%	0.0%
176	Mines (Not Coal) And Quarry Workers	0	0	90.3%	0.0%
177	Railway Guards	0	0	90.3%	0.0%
178	Railway Signal Workers	0	0	90.3%	0.0%
179	Shunters And Points Operators	0	0	90.3%	0.0%
180	Railway Engine Drivers	0	0	90.3%	0.0%
181	Road Transport Inspectors	0	0	90.3%	0.0%
182	Bus And Coach Drivers	0	0	90.3%	0.0%
183	Lorry Drivers	242	3	90.6%	0.3%
184	Other Motor Drivers	0	0	90.6%	0.0%
185	Bus Conductors And Drivers Mates	124	3	90.9%	0.3%
186	Mechanical Plant Drivers	0	0	90.9%	0.0%
187	Crane Drivers	0	0	90.9%	0.0%
188	Fork Lift Truck Drivers	0	0	90.9%	0.0%
189	Slingers	0	0	90.9%	0.0%
190	Storekeepers	184	10	91.9%	1.0%
191	Dockers And Good Porters	860	1	92.0%	0.1%
192	Refuse Collectors	1317	1	92.1%	0.1%
193	Labourers In Coke Ovens	0	0	92.1%	0.0%
194	Boiler Operators	0	0	92.1%	0.0%
53(O)	Professional And Related Education, Welfare, Health Nec	74	2	92.3%	0.2%
64(O)	Literary, Artistic And Sports Workers Nec	108	2	92.5%	0.2%
106(O)	Entertainment And Sports Managers	0	0	92.5%	0.0%
111(O)	Managers Nec	118	10	93.5%	1.0%
165(O)	Service Workers Nec	110	4	93.9%	0.4%
204(O)	Other Material Processing - All Other (Excluding Metal) Nec	1169	2	94.1%	0.2%
222(O)	Musical Instrument Makers, Piano Tuners	0	0	94.1%	0.0%
230(O)	Other Making & Repairing - All Other (Excluding Metal And Electrical) Nec	0	0	94.1%	0.0%
276(O)	Other Metal, Jewellery, Electrical Production Workers	82	5	94.6%	0.5%
277(O)	(Foremen) Engineering And Allied Trades	0	0	94.6%	0.0%
278(O)	Trainee Craftsmen (Engineering And Allied Trades)	0	0	94.6%	0.0%
286(O)	(Foremen) Inspectors Etc Metal, Electrical Goods	41	2	94.8%	0.2%
299(O)	Painting, Assembling And Related Occupations Nec	129	7	95.5%	0.7%
338(O)	Workers Transport Ops, Materials Moving, Storage & Related	0	0	95.5%	0.0%
344(O)	(Foremen/Labourers Etc) Engineering And Allied Trades	165	4	95.9%	0.4%
346(O)	(Foremen/Labourers Etc) Other	312	40	99.9%	4.0%
348(O)	All Other In Miscellaneous Operations Nec	1267	1	100.0%	0.1%

1980 Occupation Codes not accounted for by Southampton codes are identified by (O) after the code number. nec denotes not elsewhere classified.

Table 7: Mesothelioma proportional mortality ratios (PMRs) for males aged 16-74 in Great Britain by Standard Occupational Classification (1990) unit group, 1991-2000

SOC Occupation Code	Occupation description	Deaths	Expected Deaths	PMR	95% Confidence Interval	
					Lower	Upper
100	General administrators: national government (assistant secretary/grade 5 & above)	0	3.1	0.0	0	119
101	General managers; large companies and organisations	0	2.6	0.0	0	141
102	Local government officers (administrative & executive functions)	6	10.1	59.5	22	129
103	General administrators; national government (HEO to senior principal/grade 6)	6	12.5	48.1	18	105
110	Production, works & maintenance managers	144	141.4	101.9	86	119
111	Managers in building & contracting	58	30.4	191.1	145	247
112	Clerks of work	19	9.9	191.7	115	299
113	Managers in mining & energy industries	14	8.7	161.1	88	270
120	Treasurers & company financial managers	3	9.4	32.1	7	94
121	Marketing & sales managers	56	62.7	89.3	67	116
122	Purchasing managers	6	4.7	127.9	47	278
123	Advertising & public relations managers	3	7.7	38.9	8	114
124	Personnel, training & industrial relations managers	9	11.7	77.1	35	146
125	Organisation & methods & work study managers	2	0.5	404.6	49	1474
126	Computer systems & data processing managers	6	7.8	77.3	28	168
127	Company secretaries	3	7.5	39.8	8	116
130	Credit controllers	1	4.0	25.1	1	140
131	Bank, building society & post office; managers (except self-employed)	12	37.5	32.0	17	56
132	Civil service executive officers	2	8.8	22.7	3	82
139	Other financial institution & office managers nes	25	48.3	51.7	33	76
140	Transport managers	15	36.8	40.7	23	67
141	Store controllers	12	21.6	55.6	29	97
142	Managers in warehousing & other materials handling	20	22.6	88.7	54	137
150	Officers in UK armed forces	19	17.7	107.3	65	168
151	Officers in foreign & commonwealth armed forces	1	0.8	121.3	3	679
152	Police officers - inspectors & above	3	6.8	44.2	9	129
153	Fire service officers - station officer & above	4	5.2	77.0	21	197
154	Prison officers - principal officer & above	1	1.3	79.5	2	442
155	Customs & excise, immigration service officer (customs: chief preventative officer & above; excise: surveyor & above)	0	0.4	0.0	0	971
160	Farm owners & managers, horticulturists	29	111.3	26.1	17	37
169	Other managers in farming, horticulture, forestry & fishing nes	2	4.6	43.2	5	156
170	Property & estate managers	11	11.8	93.6	47	168
171	Garage managers & proprietors	6	17.7	33.9	12	74
172	Hairdressers' & barbers' managers & proprietors	1	5.9	16.9	0	94
173	Hotel & accommodation managers	16	22.8	70.3	40	114
174	Restaurant & catering managers	21	34.7	60.5	37	93
175	Publicans, innkeepers & club stewards	39	68.4	57.0	41	78
176	Entertainment & sports managers	14	15.0	93.6	51	157
177	Travel agency managers	2	4.2	48.0	6	173
178	Managers & proprietors of butchers & fishmongers	7	15.2	46.0	19	95
179	Managers & proprietors in service industries nes	114	203.6	56.0	46	67
190	Officials of trade associations, trade unions, professional bodies & charities	3	7.3	41.1	8	120
191	Registrars & administrators of educational establishments	0	2.6	0.0	0	141
199	Other managers & administrators nes	138	90.9	151.8	128	178
200	Chemists	24	12.4	193.5	124	288
201	Biological scientists & biochemists	3	7.7	39.0	8	114
202	Physicists geologists & meteorologists	3	5.0	60.3	12	176
209	Other natural scientists nes	8	6.6	122.2	53	241
210	Civil, structural, municipal, mining & quarry engineers	36	41.4	87.0	61	120

Table 7: Continued

SOC Occupation Code	Occupation description	Deaths	Expected Deaths	PMR	95% Confidence Interval	
					Lower	Upper
211	Mechanical engineers	52	23.9	217.4	162	285
212	Electrical engineers	12	6.1	197.8	102	345
213	Electronic engineers	1	2.6	38.7	1	215
214	Software engineers	1	4.7	21.1	1	118
215	Chemical engineers	7	4.7	149.4	60	308
216	Design & development engineers	17	15.7	108.5	63	174
217	Process & production engineers	6	5.1	118.7	44	259
218	Planning & quality control engineers	23	14.3	160.8	102	241
219	Other engineers & technologists nes	30	16.8	178.9	121	255
220	Medical practitioners	8	23.4	34.2	15	67
221	Pharmacists/pharmacologists	2	6.7	30.0	4	108
222	Ophthalmic opticians	0	1.7	0.0	0	217
223	Dental practitioners	4	5.2	77.6	21	198
224	Veterinarians	1	2.0	49.5	1	276
230	University & polytechnic teaching professionals	31	23.5	132.2	90	188
231	Higher & further education teaching professionals	17	22.2	76.6	45	123
232	Education officers, school inspectors	0	3.2	0.0	0	116
233	Secondary (& middle school deemed secondary) education teaching professionals	43	72.2	59.6	43	80
234	Primary (& middle school deemed primary) & nursery teaching professionals	2	8.2	24.5	3	89
235	Special education teaching professionals	0	0.7	0.0	0	520
239	Other teaching professionals nes	3	3.8	79.8	16	233
240	Judges & officers of the court	0	1.6	0.0	0	229
241	Barristers & advocates	0	2.6	0.0	0	142
242	Solicitors	4	13.3	30.1	8	77
250	Chartered & certified accountants	10	28.7	34.8	17	64
251	Management accountants	0	0.9	0.0	0	434
252	Actuaries, economists & statisticians	0	2.8	0.0	0	130
253	Management consultants, business analysts	3	5.9	50.5	10	148
260	Architects	11	13.9	79.1	39	141
261	Town planners	1	1.9	52.4	1	292
262	Building, land, mining & general practice surveyors	31	19.1	162.3	110	230
270	Librarians	0	0.2	0.0	0	1604
271	Archivists & curators	3	1.7	174.0	36	510
290	Psychologists	0	0.9	0.0	0	392
291	Other social and behavioural scientists	0	0.8	0.0	0	492
292	Clergy	7	18.2	38.4	15	79
293	Social workers, probation officers	11	10.6	103.8	52	186
300	Laboratory technicians	11	14.5	76.1	38	136
301	Engineering technicians	18	7.8	232.2	138	367
302	Electrical/electronic technicians	7	5.5	127.0	51	262
303	Architectural & town planning technicians	2	2.0	102.4	12	370
304	Building & civil engineering technicians	2	0.6	324.1	39	1165
309	Other scientific technicians nes	44	25.2	174.6	127	234
310	Draughtspersons	52	34.6	150.4	112	197
311	Building inspectors	8	2.5	317.8	137	626
312	Quantity surveyors	6	10.2	59.1	22	129
313	Marine, insurance & other surveyors	0	1.4	0.0	0	271
320	Computer analyst/programmers	7	11.0	63.4	25	131
330	Air traffic planners & controllers	1	1.7	58.6	1	326
331	Aircraft flight deck officers	0	5.3	0.0	0	70
332	Ship & hovercraft officers	20	16.6	120.5	74	186
340	Nurses	12	22.8	52.6	27	92
341	Midwives	0	0.0	0.0	0	12296
342	Medical radiographers	1	0.8	120.1	3	671
343	Physiotherapists	0	0.9	0.0	0	424

Table 7: Continued

SOC Occupation Code	Occupation description	Deaths	Expected Deaths	PMR	95% Confidence Interval	
					Lower	Upper
344	Chiropractors	0	1.7	0.0	0	216
345	Dispensing opticians	0	0.4	0.0	0	858
346	Medical technicians, dental auxiliaries	1	2.9	34.9	1	194
347	Occupational & speech therapists, psychotherapists, therapists nes	0	1.7	0.0	0	217
348	Environmental health officers	5	4.1	121.1	39	283
349	Other health associate professionals nes	0	0.3	0.0	0	1118
350	Legal service & related occupations	2	4.8	41.7	5	151
360	Estimators, valuers	16	11.3	141.4	81	230
361	Underwriters, claims assessors, brokers, investment analysts	15	23.6	63.6	36	105
362	Taxation experts	1	3.2	31.8	1	177
363	Personnel & industrial relations officers	2	5.5	36.7	4	133
364	Organisation & methods & work study officers	8	9.6	83.8	36	165
370	Matrons, houseparents	3	5.2	58.3	12	170
371	Welfare, community & youth workers	12	10.9	110.2	57	192
380	Authors, writers, journalists	15	22.0	68.1	38	112
381	Artists, commercial artists, graphic designers	11	16.8	65.5	33	117
382	Industrial designers	2	2.1	95.5	12	346
383	Clothing designers	2	0.6	320.5	39	1165
384	Actors, entertainers, stage managers, producers & directors	7	12.9	54.5	22	112
385	Musicians	7	10.2	68.8	28	142
386	Photographers, camera, sound & video operators	6	13.6	44.2	16	96
387	Professional athletes, sports officials	2	3.7	53.7	7	194
390	Information officers	5	4.0	124.9	41	292
391	Vocational & industrial trainers	20	15.5	129.2	79	199
392	Careers advisers & vocational guidance specialists	0	1.2	0.0	0	313
393	Driving instructors (excluding HGV)	6	14.2	42.3	16	92
394	Inspectors of factories, utilities & trading standards	4	3.0	135.4	37	346
395	Other statutory & similar inspectors nes	7	3.7	189.4	76	390
396	Occupational hygienists & safety officers (health & safety)	10	8.3	121.2	58	223
399	Other associate professional & technical occupations nes	4	2.6	152.5	42	391
400	Civil Service administrative officers & assistants	62	63.9	97.0	74	124
401	Local government clerical officers & assistants	16	32.3	49.6	28	81
410	Accounts & wages clerks, book-keepers, other financial clerks	43	91.9	46.8	34	63
411	Counter clerks & cashiers	14	29.6	47.3	26	79
412	Debt, rent & other cash collectors	8	8.9	90.3	39	178
420	Filing, computer & other record clerks (including legal conveyancing)	21	31.0	67.8	42	104
421	Library assistants/clerks	1	0.8	119.5	3	663
430	Clerks nes	71	95.7	74.2	58	94
440	Stores, despatch & production control clerks	4	6.1	65.9	18	169
441	Storekeepers & warehousemen/women	138	190.1	72.6	61	85
450	Medical secretaries	0	0.1	0.0	0	4611
451	Legal secretaries	0	0.1	0.0	0	6148
452	Typists & word processor operators	1	0.3	381.7	10	2143
459	Other secretaries, personal assistants, typists, word processor operators nes	2	2.4	84.8	10	306
460	Receptionists	0	1.7	0.0	0	216
461	Receptionist/telephonists	0	0.1	0.0	0	3074
462	Telephone operators	4	10.3	38.7	11	99
463	Radio & telegraph operators, other office communication system operators	5	7.5	66.6	22	156
490	Computer operators, data processing operators, other office machine operators	2	5.8	34.7	4	125
491	Tracers, drawing office assistants	0	0.1	0.0	0	4099

Table 7: Continued

SOC Occupation Code	Occupation description	Deaths	Expected Deaths	PMR	95% Confidence Interval	
					Lower	Upper
500	Bricklayers, masons	76	77.7	97.8	77	122
501	Roofers, slaters, tilers, sheeters, cladders	28	23.1	121.0	80	175
502	Plasterers	38	29.2	130.1	92	179
503	Glaziers	9	5.7	157.6	72	299
504	Builders, building contractors	213	118.2	180.2	157	205
505	Scaffolders, staggers, steeplejacks, riggers	37	25.2	146.6	103	202
506	Floorers, floor coverers, carpet fitters & planners, floor & wall tilers	28	12.1	232.1	154	335
507	Painters & decorators	246	144.0	170.9	150	193
509	Other construction trades nes	20	18.3	109.1	67	168
510	Centre, capstan, turret & other lather setters & setter-operators	13	23.0	56.7	30	97
511	Boring & drilling machine setters & setter-operators	9	5.1	178.1	81	338
512	Grinding machine setters & setter-operators	6	10.3	58.3	21	127
513	Milling machine setters & setter-operators	4	5.8	68.7	19	176
514	Press setters & setter-operators	0	1.7	0.0	0	216
515	Tool makers, tool fitters & markers-out	36	42.7	84.3	59	117
516	Metal working production & maintenance fitters	539	259.3	207.9	191	226
517	Precision instrument makers & repairers	21	20.8	100.9	62	154
518	Goldsmiths, silversmiths, precious stone workers	1	3.0	33.7	1	188
519	Other machine tool setters & setter operators nes (inc. CNC setter-operators)	10	24.6	40.7	20	75
520	Production fitters (electrical/electronic)	18	6.0	300.2	178	474
521	Electricians, electrical maintenance fitters	323	122.3	264.1	236	294
522	Electrical engineers (not professional)	88	44.3	198.8	159	245
523	Telephone fitters	36	23.3	154.6	108	214
524	Cable jointers, lines repairers	6	10.0	60.1	22	131
525	Radio, TV & video engineers	5	12.0	41.7	14	97
526	Computer engineers, installation & maintenance	6	3.9	152.4	56	331
529	Other electrical/electronic trades nes	31	40.6	76.3	52	108
530	Smiths & forge workers	9	11.5	78.6	36	149
531	Moulders, core makers, die casters	5	15.3	32.7	11	76
532	Plumbers, heating & ventilating engineers & related trades	412	106.0	388.7	352	427
533	Sheet metal workers	80	32.6	245.7	195	306
534	Metal plate workers, shipwrights, riveters	138	33.1	416.6	350	489
535	Steel erectors	41	21.4	191.9	138	260
536	Barbenders, steel fixers	5	5.3	94.3	31	220
537	Welding trades	126	72.2	174.5	145	206
540	Motor mechanics, auto engineers (including road patrol engineers)	43	85.3	50.4	36	68
541	Coach & vehicle body builders	48	9.1	528.2	389	700
542	Vehicle body repairers, panel beaters	5	6.6	75.9	25	177
543	Auto electricians	2	2.9	68.0	8	246
544	Tyre & exhaust fitters	2	2.6	78.0	9	281
550	Weavers	1	7.6	13.2	0	73
551	Knitters	2	5.3	37.7	5	136
552	Warp preparers, bleachers, dyers & finishers	4	7.9	50.8	14	130
553	Sewing machinists, menders, darners & embroiderers	1	4.0	25.1	1	140
554	Coach trimmers, upholsterers & mattress makers	15	10.5	143.1	80	236
555	Shoe repairers, leather cutters & sewers, footwear lasters, makers & finishers, other leather making & repairing	4	18.0	22.2	6	57
556	Tailors & dressmakers	2	8.2	24.5	3	89
557	Clothing cutter, milliners, furriers	4	4.0	100.2	27	257
559	Other textiles, garments & related trades nes	4	3.7	108.1	29	277
560	Originators, compositors & print preparers	2	9.1	22.1	3	80
561	Printers	23	41.7	55.2	35	83

Table 7: Continued

SOC Occupation Code	Occupation description	Deaths	Expected Deaths	PMR	95% Confidence Interval	
					Lower	Upper
562	Bookbinders & print finishers	0	3.5	0.0	0	105
563	Screen printers	0	1.3	0.0	0	284
569	Other printing & related trades nes	3	9.0	33.4	7	98
570	Carpenters & joiners	598	156.4	382.3	352	414
571	Cabinet makers	29	13.5	215.4	144	309
572	Case & box makers	7	3.6	194.5	78	401
573	Pattern makers (moulds)	3	5.0	59.9	12	175
579	Other woodworking trades nes	4	3.7	109.7	30	281
580	Bakers, flour confectioners	7	21.8	32.1	13	66
581	Butchers, meat cutters	8	29.0	27.6	12	54
582	Fishmongers, poultry dressers	1	3.9	26.0	1	145
590	Glass product & ceramics makers	12	22.3	53.7	28	94
591	Glass product & ceramics finishers & decorators	0	2.7	0.0	0	137
592	Dental technicians	0	3.0	0.0	0	122
593	Musical instrument makers, piano tuners	1	1.5	68.2	2	379
594	Gardeners, groundsman/groundswomen	40	84.4	47.4	34	65
595	Horticultural trades	0	3.3	0.0	0	111
596	Coach painters, other spray painters	16	19.1	83.8	48	136
597	Face trained coalmining workers, shotfireres & deputies	7	24.7	28.4	11	59
598	Office machinery mechanics	1	1.1	87.5	2	489
599	Other craft & related occupations nes	14	8.4	167.1	91	280
600	NCOs & other ranks, UK armed forces	20	31.9	62.7	38	97
601	NCOs & other ranks, foreign & commonwealth armed forces	0	1.2	0.0	0	321
610	Police officers (sergeant & below)	16	45.3	35.4	20	57
611	Fire service officers (leading fire officer & below)	17	13.1	129.6	76	208
612	Prison service officers (below principal officer)	11	11.4	96.5	48	173
613	Customs & excise officers, immigration officers (customs: below chief preventative officer; excise: below surveyor)	4	5.5	73.3	20	188
614	Traffic wardens	3	2.9	102.2	21	298
615	Security guards & related occupations	69	121.1	57.0	44	72
619	Other security & protective service occupations nes	5	7.7	65.0	21	152
620	Chefs, cooks	11	40.5	27.2	14	49
621	Waiters, waitresses	4	8.9	44.9	12	115
622	Bar staff	2	17.3	11.6	1	42
630	Travel & flight attendants	3	4.9	61.5	13	180
631	Railway station staff	21	28.5	73.6	46	112
640	Assistant nurses, nursing auxiliaries	1	3.4	29.6	1	165
641	Hospital ward assistants	2	4.1	48.7	6	176
642	Ambulance staff	12	12.6	95.3	49	166
643	Dental nurses	0	0.1	0.0	0	2838
644	Care assistants & attendants	7	9.9	70.7	28	146
650	Nursery nurses	0	0.1	0.0	0	5270
651	Playgroup leaders	0	0.1	0.0	0	6148
652	Educational assistants	1	0.2	408.3	11	2322
659	Other childcare & related occupations nes	0	0.3	0.0	0	1118
660	Hairdressers, barbers	1	4.8	20.7	1	116
661	Beauticians & related occupations	0	0.2	0.0	0	2170
670	Domestic housekeepers & related occupations	2	1.7	120.3	15	435
671	Housekeepers (non-domestic)	0	0.2	0.0	0	2459
672	Caretakers	50	80.5	62.2	46	82
673	Launderers, dry cleaners, pressers	5	6.5	76.8	25	179
690	Undertakers	1	4.5	22.1	1	123
691	Bookmakers	4	5.2	76.5	21	196
699	Other personal & protective services nes	10	18.7	53.6	26	99

Table 7: Continued

SOC Occupation Code	Occupation description	Deaths	Expected Deaths	PMR	95% Confidence Interval	
					Lower	Upper
700	Buyers (retail trade)	0	1.4	0.0	0	263
701	Buyers & purchasing officers (not retail)	18	16.9	106.8	63	169
702	Importers & exporters	2	3.8	52.9	6	191
703	Air, commodity & ship brokers	3	2.1	141.6	29	414
710	Technical & wholesale sales representatives	55	68.1	80.7	61	105
719	Other sales representatives	22	34.6	63.5	40	96
720	Sales assistants	24	49.6	48.4	31	72
721	Retail cash desk & check out operators	0	1.4	0.0	0	265
722	Petrol pump forecourt attendants	0	3.1	0.0	0	121
730	Collector salespersons & credit agents	0	1.2	0.0	0	318
731	Roundsmen/women & van salespersons	8	23.2	34.5	15	68
732	Market & street traders & assistants	8	11.9	67.3	29	133
733	Scrap dealers, scrap metal merchants	8	12.1	66.0	28	130
790	Merchandisers	0	0.3	0.0	0	1153
791	Window dressers, floral arrangers	2	2.9	70.1	8	253
792	Telephone sales person	0	0.7	0.0	0	551
800	Bakery & confectionery process operatives	2	6.2	32.1	4	116
801	Brewery & winery process operatives	4	11.9	33.5	9	86
802	Tobacco process operatives	2	2.1	94.3	11	341
809	Other food, drink & tobacco process operatives nes	10	37.4	26.8	13	49
810	Tannery production operatives	0	2.4	0.0	0	154
811	Preparatory fibre processors	1	2.2	46.2	1	258
812	Spinners, doublers, twisters	3	3.3	91.7	19	268
813	Winders, reelers	0	0.6	0.0	0	595
814	Other textiles processing operatives	5	10.6	47.2	15	110
820	Chemical, gas & petroleum process plant operatives	31	50.7	61.2	42	87
821	Paper, wood & related process plant operatives	14	12.0	116.5	64	195
822	Cutting & slitting machine operatives (paper products etc)	1	2.4	42.3	1	235
823	Glass & ceramics furnace operatives, kilnsetters	0	3.9	0.0	0	95
824	Rubber process operatives, moulding machine operatives, tyre builders	7	13.4	52.1	21	107
825	Plastics process operatives, moulders & extruders	12	13.9	86.4	45	151
826	Synthetic fibre makers	3	1.3	238.8	49	696
829	Other chemicals, paper, plastics & related process operatives nes	3	6.3	47.4	10	139
830	Furnace operatives (metal)	3	9.0	33.2	7	97
831	Metal drawers	2	2.9	69.2	8	250
832	Rollers	0	1.7	0.0	0	220
833	Annealers, hardeners temperers (metal)	0	2.3	0.0	0	159
834	Electroplaters, galvanisers, colour coaters	3	5.5	55.0	11	161
839	Other metal making & treating process operatives nes	8	12.2	65.4	28	129
840	Machine tool operatives (including CNC machine tool operatives)	292	202.6	144.2	128	161
841	Press stamping & automatic machine operatives	4	8.4	47.5	13	122
842	Metal polishers	2	6.3	31.6	4	114
843	Metal dressing operatives	0	4.6	0.0	0	80
844	Shot blasters	2	2.8	70.9	9	256
850	Assemblers/lineworkers (electrical/electronic goods)	13	13.4	96.8	52	165
851	Assemblers/lineworkers (vehicles & other metal goods)	8	36.5	21.9	9	43
859	Other assemblers/lineworkers nes	13	6.1	212.7	113	364
860	Inspectors, viewers & tester (metal & electrical goods)	40	46.5	86.1	61	117
861	Inspectors viewers, testers & examiners (other manufactured goods)	8	6.2	129.1	56	254
862	Packers, bottlers, canners, fillers	11	20.8	53.0	26	95
863	Weighers, graders, sorters	2	6.3	31.6	4	114
864	Routine laboratory testers	5	3.0	165.2	54	385
869	Other routine process operatives nes	11	9.1	120.6	60	216

Table 7: Continued

SOC Occupation Code	Occupation description	Deaths	Expected Deaths	PMR	95% Confidence Interval	
					Lower	Upper
870	Bus inspectors	1	4.8	20.8	1	116
871	Road transport depot inspectors & related occupations	1	4.0	25.1	1	140
872	Drivers of road goods vehicles	190	393.8	48.3	42	55
873	Bus & coach drivers	37	75.7	48.9	34	67
874	Taxi, cab drivers & chauffeurs	49	77.3	63.4	47	84
875	Bus conductors	1	8.2	12.3	0	68
880	Seafarers (merchant navy); barge, lighter & boat operatives	30	37.9	79.2	53	113
881	Railway inspectors, supervisors & guards	7	14.6	48.0	19	99
882	Railway engine drivers & assistants	30	26.1	115.2	78	164
883	Railway signal operatives & crossing keepers	2	8.4	23.9	3	86
884	Shunters & points operatives	1	3.5	28.8	1	161
885	Mechanical plant drivers & operatives (earth moving & civil engineering)	13	28.5	45.6	24	78
886	Crane drivers	31	36.0	86.1	59	122
887	Fork lift & mechanical truck drivers	35	46.9	74.6	52	104
889	Other transport & machinery operatives nes	14	12.7	110.1	60	185
890	Washers, screeners & crushers in mines & quarries	0	1.3	0.0	0	279
891	Printing machine minders & assistants	9	11.5	78.0	36	148
892	Water & sewerage plant attendants	6	9.4	64.1	24	140
893	Electrical, energy, boiler & related plant operatives & attendants	75	29.8	252.1	198	316
894	Oilers, greasers lubricators	1	1.3	78.3	2	435
895	Mains & service pipe layers, pipe jointers	5	12.0	41.6	14	97
896	Construction & related operatives	154	42.9	359.2	305	418
897	Woodworking machine operatives	29	18.0	161.5	108	232
898	Mine (excluding coal) & quarry workers	6	11.8	51.0	19	111
899	Other plant & machine operatives nes	78	56.9	137.2	108	171
900	Farm workers	6	60.7	9.9	4	22
901	Agricultural machinery drivers & operatives	0	2.8	0.0	0	132
902	Other related farming occupations	2	6.7	29.9	4	108
903	Fishing & related workers	3	13.3	22.5	5	66
904	Forestry workers	3	9.2	32.6	7	95
910	Coal mine labourers	37	162.6	22.8	16	31
911	Labourers in foundries	6	20.9	28.7	11	62
912	Labourers in engineering & allied trades	62	103.3	60.0	46	77
913	Mates to metal/electrical & related fitters	50	21.7	230.9	171	304
919	Other labourers in making & processing industries nes	49	92.3	53.1	39	70
920	Mates to woodworking trades workers	2	1.1	183.2	22	663
921	Mates to building trades workers	4	6.4	62.1	17	159
922	Rail construction & maintenance workers	7	10.7	65.4	26	135
923	Road construction & maintenance workers	9	22.0	40.9	19	78
924	Paviours, kerb layers	3	3.8	79.0	16	231
929	Other building & civil engineering labourers nes	125	109.9	113.8	95	135
930	Stevedores, dockers	68	35.4	191.9	149	243
931	Goods porters	16	26.4	60.6	35	98
932	Slings	3	4.4	68.8	14	201
933	Refuse & salvage collectors	10	26.6	37.6	18	69
934	Driver's mates	0	1.4	0.0	0	273
940	Postal workers, mail sorters	70	84.0	83.4	65	105
941	Messengers, couriers	21	20.2	104.1	64	159
950	Hospital porters	10	26.3	38.0	18	70
951	Hotel porters	2	7.8	25.6	3	92
952	Kitchen porters	0	9.5	0.0	0	39
953	Counterhands, catering assistants	1	6.0	16.6	0	92
954	Shelf fillers	0	0.3	0.0	0	1366

Table 7: Continued

SOC Occupation Code	Occupation description	Deaths	Expected Deaths	PMR	95% Confidence Interval	
					Lower	Upper
955	Lift & car park attendants	5	8.9	56.1	18	131
956	Window cleaners	5	16.5	30.3	10	71
957	Road sweepers	0	9.4	0.0	0	39
958	Cleaners, domestics	39	50.7	77.0	55	105
959	Other occupations in sales & service nes	1	3.4	29.1	1	162
990	All other labourers & related workers	180	256.0	70.3	60	81
999	All others in miscellaneous occupations nes	8	3.5	226.5	98	447

nes denotes not elsewhere specified.

nec denotes not elsewhere classified.

This is a corrected version of Table 7 issued on 21/5/03. Some occupation codes in the original table had incorrect descriptions.

Table 8: Mesothelioma proportional mortality ratios (PMRs) for females aged 16-74 in Great Britain by Standard Occupational Classification (1990) unit group, 1991-2000

SOC Occupation Code	Occupation description	Deaths	Expected Deaths	PMR	95% Confidence Interval	
					Lower	Upper
100	General administrators: national government (assistant secretary/grade 5 & above)	0	0.1	0.0	0	5270
101	General managers; large companies and organisations	0	0.0	0.0	0	18445
102	Local government officers (administrative & executive functions)	2	1.2	163.4	20	592
103	General administrators; national government (HEO to senior principal/grade 6)	0	0.7	0.0	0	505
110	Production, works & maintenance managers	0	2.3	0.0	0	159
111	Managers in building & contracting	0	0.3	0.0	0	1230
112	Clerks of work	0	0.0	0.0	-	-
113	Managers in mining & energy industries	0	0.1	0.0	0	7378
120	Treasurers & company financial managers	0	0.4	0.0	0	900
121	Marketing & sales managers	2	1.7	118.7	14	430
122	Purchasing managers	0	0.1	0.0	0	6148
123	Advertising & public relations managers	0	0.5	0.0	0	785
124	Personnel, training & industrial relations managers	1	0.8	120.8	3	671
125	Organisation & methods & work study managers	0	0.0	0.0	-	-
126	Computer systems & data processing managers	0	0.2	0.0	0	1604
127	Company secretaries	9	3.0	296.5	136	564
130	Credit controllers	0	0.8	0.0	0	444
131	Bank, building society & post office; managers (except self-employed)	0	1.5	0.0	0	241
132	Civil service executive officers	0	1.5	0.0	0	243
139	Other financial institution & office managers nes	4	5.2	76.7	21	196
140	Transport managers	0	0.4	0.0	0	997
141	Store controllers	1	0.6	159.3	4	884
142	Managers in warehousing & other materials handling	0	0.2	0.0	0	1677
150	Officers in UK armed forces	0	0.1	0.0	0	4099
151	Officers in foreign & commonwealth armed forces	0	0.0	0.0	0	36889
152	Police officers - inspectors & above	0	0.1	0.0	0	7378
153	Fire service officers - station officer & above	0	0.0	0.0	0	12296
154	Prison officers - principal officer & above	0	0.0	0.0	0	36889
155	Customs & excise, immigration service officer (customs: chief preventative officer & above; excise: surveyor & above)	0	0.0	0.0	-	-
160	Farm owners & managers, horticulturists	2	2.8	70.9	9	256
169	Other managers in farming, horticulture, forestry & fishing nes	0	0.4	0.0	0	946
170	Property & estate managers	0	0.6	0.0	0	595
171	Garage managers & proprietors	0	0.4	0.0	0	858
172	Hairdressers' & barbers' managers & proprietors	1	2.1	48.5	1	270
173	Hotel & accommodation managers	2	3.5	58.0	7	209
174	Restaurant & catering managers	5	7.4	67.3	22	157
175	Publicans, innkeepers & club stewards	4	6.9	58.1	16	149
176	Entertainment & sports managers	0	1.0	0.0	0	384
177	Travel agency managers	0	0.5	0.0	0	820
178	Managers & proprietors of butchers & fishmongers	0	0.3	0.0	0	1118
179	Managers & proprietors in service industries nes	18	20.8	86.6	51	137
190	Officials of trade associations, trade unions, professional bodies & charities	1	0.6	168.6	4	944
191	Registrars & administrators of educational establishments	2	0.7	296.6	36	1078
199	Other managers & administrators nes	8	5.3	152.3	66	300
200	Chemists	0	0.2	0.0	0	2306
201	Biological scientists & biochemists	1	0.5	187.2	5	1051
202	Physicists geologists & meteorologists	0	0.1	0.0	0	4611
209	Other natural scientists nes	0	0.2	0.0	0	1677
210	Civil, structural, municipal, mining & quarry engineers	0	0.0	0.0	0	9222

Table 8: Continued

SOC Occupation Code	Occupation description	Deaths	Expected Deaths	PMR	95% Confidence Interval	
					Lower	Upper
211	Mechanical engineers	0	0.0	0.0	0	18445
212	Electrical engineers	0	0.0	0.0	0	36889
213	Electronic engineers	0	0.0	0.0	-	-
214	Software engineers	0	0.1	0.0	0	4611
215	Chemical engineers	0	0.0	0.0	0	36889
216	Design & development engineers	0	0.0	0.0	0	12296
217	Process & production engineers	0	0.0	0.0	0	36889
218	Planning & quality control engineers	0	0.1	0.0	0	4099
219	Other engineers & technologists nes	0	0.1	0.0	0	4611
220	Medical practitioners	1	1.3	77.1	2	429
221	Pharmacists/pharmacologists	2	0.6	334.4	40	1204
222	Ophthalmic opticians	0	0.1	0.0	0	5270
223	Dental practitioners	0	0.2	0.0	0	2170
224	Veterinarians	0	0.1	0.0	0	7378
230	University & polytechnic teaching professionals	1	1.3	78.5	2	439
231	Higher & further education teaching professionals	0	1.8	0.0	0	210
232	Education officers, school inspectors	0	0.3	0.0	0	1272
233	Secondary (& middle school deemed secondary) education teaching professionals	3	2.5	122.5	25	358
234	Primary (& middle school deemed primary) & nursery teaching professionals	25	26.6	94.1	61	139
235	Special education teaching professionals	1	0.4	286.3	7	1592
239	Other teaching professionals nes	1	1.6	63.7	2	355
240	Judges & officers of the court	0	0.1	0.0	0	4099
241	Barristers & advocates	0	0.1	0.0	0	4611
242	Solicitors	0	0.3	0.0	0	1118
250	Chartered & certified accountants	1	0.4	251.9	6	1393
251	Management accountants	0	0.0	0.0	0	36889
252	Actuaries, economists & statisticians	0	0.2	0.0	0	2459
253	Management consultants, business analysts	0	0.1	0.0	0	3689
260	Architects	0	0.2	0.0	0	2459
261	Town planners	0	0.0	0.0	0	12296
262	Building, land, mining & general practice surveyors	0	0.1	0.0	0	6148
270	Librarians	0	0.1	0.0	0	4611
271	Archivists & curators	0	0.2	0.0	0	2459
290	Psychologists	0	0.1	0.0	0	2838
291	Other social and behavioural scientists	0	0.1	0.0	0	3689
292	Clergy	0	1.0	0.0	0	384
293	Social workers, probation officers	3	4.5	66.9	14	196
300	Laboratory technicians	5	1.5	326.5	106	763
301	Engineering technicians	0	0.0	0.0	0	9222
302	Electrical/electronic technicians	0	0.1	0.0	0	4099
303	Architectural & town planning technicians	0	0.0	0.0	0	9222
304	Building & civil engineering technicians	0	0.0	0.0	0	36889
309	Other scientific technicians nes	3	0.6	510.8	105	1486
310	Draughtspersons	1	0.5	194.6	5	1092
311	Building inspectors	0	0.0	0.0	0	36889
312	Quantity surveyors	0	0.0	0.0	0	36889
313	Marine, insurance & other surveyors	0	0.0	0.0	-	-
320	Computer analyst/programmers	0	0.6	0.0	0	636
330	Air traffic planners & controllers	0	0.0	0.0	0	12296
331	Aircraft flight deck officers	0	0.0	0.0	-	-
332	Ship & hovercraft officers	0	0.0	0.0	0	18445
340	Nurses	17	31.5	53.9	31	86
341	Midwives	0	1.6	0.0	0	233
342	Medical radiographers	1	0.5	195.2	5	1092
343	Physiotherapists	1	0.9	106.0	3	593

Table 8: Continued

SOC Occupation Code	Occupation description	Deaths	Expected Deaths	PMR	95% Confidence Interval	
					Lower	Upper
344	Chiropodists	0	0.3	0.0	0	1190
345	Dispensing opticians	0	0.0	0.0	0	18445
346	Medical technicians, dental auxiliaries	2	0.7	272.0	33	976
347	Occupational & speech therapists, psychotherapists, therapists nes	1	1.5	67.3	2	374
348	Environmental health officers	0	0.1	0.0	0	7378
349	Other health associate professionals nes	0	0.2	0.0	0	2459
350	Legal service & related occupations	2	0.4	474.9	58	1720
360	Estimators, valuers	0	0.1	0.0	0	2838
361	Underwriters, claims assessors, brokers, investment analysts	0	0.6	0.0	0	605
362	Taxation experts	0	0.2	0.0	0	1757
363	Personnel & industrial relations officers	0	1.1	0.0	0	329
364	Organisation & methods & work study officers	0	0.1	0.0	0	3074
370	Matrons, houseparents	5	4.4	113.8	37	266
371	Welfare, community & youth workers	1	3.1	32.6	1	181
380	Authors, writers, journalists	1	1.7	57.4	1	320
381	Artists, commercial artists, graphic designers	0	1.4	0.0	0	271
382	Industrial designers	0	0.1	0.0	0	3074
383	Clothing designers	0	0.3	0.0	0	1272
384	Actors, entertainers, stage managers, producers & directors	1	1.3	77.8	2	432
385	Musicians	0	0.4	0.0	0	971
386	Photographers, camera, sound & video operators	0	0.3	0.0	0	1153
387	Professional athletes, sports officials	1	0.3	352.1	9	1990
390	Information officers	0	2.1	0.0	0	180
391	Vocational & industrial trainers	2	0.8	255.5	31	926
392	Careers advisers & vocational guidance specialists	0	0.2	0.0	0	1604
393	Driving instructors (excluding HGV)	0	0.2	0.0	0	1604
394	Inspectors of factories, utilities & trading standards	0	0.0	0.0	0	9222
395	Other statutory & similar inspectors nes	0	0.0	0.0	0	9222
396	Occupational hygienists & safety officers (health & safety)	1	0.1	1142.1	28	6191
399	Other associate professional & technical occupations nes	0	0.2	0.0	0	2459
400	Civil Service administrative officers & assistants	8	13.5	59.4	26	117
401	Local government clerical officers & assistants	5	7.4	68.0	22	159
410	Accounts & wages clerks, book-keepers, other financial clerks	20	21.3	94.0	57	145
411	Counter clerks & cashiers	9	10.3	87.6	40	166
412	Debt, rent & other cash collectors	1	0.5	196.9	5	1092
420	Filing, computer & other record clerks (including legal conveyancing)	11	6.4	173.1	86	310
421	Library assistants/clerks	0	0.8	0.0	0	492
430	Clerks nes	45	35.2	127.9	93	171
440	Stores, despatch & production control clerks	3	1.2	248.4	51	725
441	Storekeepers & warehousemen/women	8	3.4	237.8	103	469
450	Medical secretaries	2	2.1	95.1	12	344
451	Legal secretaries	0	2.3	0.0	0	158
452	Typists & word processor operators	6	5.9	102.5	38	223
459	Other secretaries, personal assistants, typists, word processor operators nes	42	37.4	112.4	81	152
460	Receptionists	8	7.6	105.8	46	209
461	Receptionist/telephonists	2	1.0	199.6	24	722
462	Telephone operators	6	6.5	91.7	34	200
463	Radio & telegraph operators, other office communication system operators	0	0.6	0.0	0	576
490	Computer operators, data processing operators, other office machine operators	4	3.7	107.0	29	274
491	Tracers, drawing office assistants	1	0.4	257.5	6	1429

Table 8: Continued

SOC Occupation Code	Occupation description	Deaths	Expected Deaths	PMR	95% Confidence Interval	
					Lower	Upper
500	Bricklayers, masons	0	0.0	0.0	0	36889
501	Roofers, slaters, tilers, sheeters, cladders	0	0.0	0.0	0	36889
502	Plasterers	0	0.0	0.0	0	36889
503	Glaziers	0	0.0	0.0	0	36889
504	Builders, building contractors	0	0.1	0.0	0	3354
505	Scaffolders, staggers, steeplejacks, riggers	0	0.0	0.0	0	36889
506	Floorers, floor coverers, carpet fitters & planners, floor & wall tilers	0	0.0	0.0	0	18445
507	Painters & decorators	1	0.3	364.0	9	2064
509	Other construction trades nes	0	0.0	0.0	0	36889
510	Centre, capstan, turret & other lather setters & setter-operators	0	0.1	0.0	0	6148
511	Boring & drilling machine setters & setter-operators	0	0.1	0.0	0	4611
512	Grinding machine setters & setter-operators	0	0.1	0.0	0	5270
513	Milling machine setters & setter-operators	0	0.0	0.0	0	18445
514	Press setters & setter-operators	0	0.0	0.0	0	6148
515	Tool makers, tool fitters & markers-out	0	0.1	0.0	0	2459
516	Metal working production & maintenance fitters	0	0.4	0.0	15	3277
517	Precision instrument makers & repairers	0	0.2	0.0	0	6148
518	Goldsmiths, silversmiths, precious stone workers	1	0.2	588.4	0	4611
519	Other machine tool setters & setter operators nes (inc. CNC setter-operators)	0	0.1	0.0	0	1419
520	Production fitters (electrical/electronic)	0	0.1	0.0	0	6148
521	Electricians, electrical maintenance fitters	0	0.3	0.0	0	2635
522	Electrical engineers (not professional)	0	0.1	0.0	0	7378
523	Telephone fitters	0	0.1	0.0	0	36889
524	Cable jointers, lines repairers	0	0.1	0.0	0	18445
525	Radio, TV & video engineers	0	0.0	0.0	0	1604
526	Computer engineers, installation & maintenance	0	0.0	0.0	0	18445
529	Other electrical/electronic trades nes	0	0.2	0.0	0	1604
530	Smiths & forge workers	0	0.0	0.0	0	18445
531	Moulders, core makers, die casters	0	0.2	0.0	0	1844
532	Plumbers, heating & ventilating engineers & related trades	0	0.0	0.0	0	9222
533	Sheet metal workers	0	0.1	0.0	0	5270
534	Metal plate workers, shipwrights, riveters	0	0.0	0.0	0	12296
535	Steel erectors	0	0.0	0.0	-	-
536	Barbenders, steel fixers	0	0.0	0.0	42	1267
537	Welding trades	2	0.6	349.3	0	2306
540	Motor mechanics, auto engineers (including road patrol engineers)	0	0.2	0.0	0	36889
541	Coach & vehicle body builders	0	0.0	0.0	-	-
542	Vehicle body repairers, panel beaters	0	0.0	0.0	-	-
543	Auto electricians	0	0.0	0.0	-	-
544	Tyre & exhaust fitters	0	0.0	0.0	-	-
550	Weavers	4	2.3	172.4	47	441
551	Knitters	0	1.8	0.0	0	211
552	Warp preparers, bleachers, dyers & finishers	0	0.5	0.0	0	723
553	Sewing machinists, menders, darners & embroiderers	19	15.2	124.8	75	195
554	Coach trimmers, upholsterers & mattress makers	0	0.6	0.0	0	615
555	Shoe repairers, leather cutters & sewers, footwear lasters, makers & finishers, other leather making & repairing	3	3.1	95.5	20	279
556	Tailors & dressmakers	8	4.7	171.8	74	338
557	Clothing cutter, milliners, furriers	1	0.6	174.6	4	977
559	Other textiles, garments & related trades nes	0	0.9	0.0	0	397
560	Originators, compositors & print preparers	0	0.1	0.0	0	3074
561	Printers	0	0.9	0.0	0	434

Table 8: Continued

SOC Occupation Code	Occupation description	Deaths	Expected Deaths	PMR	95% Confidence Interval	
					Lower	Upper
562	Bookbinders & print finishers	0	1.3	0.0	0	288
563	Screen printers	0	0.1	0.0	0	4099
569	Other printing & related trades nes	0	1.6	0.0	0	229
570	Carpenters & joiners	0	0.1	0.0	0	3689
571	Cabinet makers	0	0.1	0.0	0	4099
572	Case & box makers	0	0.0	0.0	0	12296
573	Pattern makers (moulds)	0	0.0	0.0	0	36889
579	Other woodworking trades nes	0	0.1	0.0	0	4099
580	Bakers, flour confectioners	1	1.1	89.8	2	502
581	Butchers, meat cutters	0	0.4	0.0	0	1054
582	Fishmongers, poultry dressers	0	0.2	0.0	0	1537
590	Glass product & ceramics makers	0	1.8	0.0	0	207
591	Glass product & ceramics finishers & decorators	1	0.9	116.9	3	648
592	Dental technicians	0	0.1	0.0	0	7378
593	Musical instrument makers, piano tuners	0	0.0	0.0	0	12296
594	Gardeners, groundsman/groundswomen	0	0.4	0.0	0	946
595	Horticultural trades	0	0.5	0.0	0	820
596	Coach painters, other spray painters	0	0.1	0.0	0	2635
597	Face trained coalmining workers, shotfireres & deputies	0	0.0	0.0	-	-
598	Office machinery mechanics	0	0.0	0.0	-	-
599	Other craft & related occupations nes	0	0.6	0.0	0	615
600	NCOs & other ranks, UK armed forces	1	0.3	387.3	10	2143
601	NCOs & other ranks, foreign & commonwealth armed forces	0	0.0	0.0	0	36889
610	Police officers (sergeant & below)	0	0.3	0.0	0	1190
611	Fire service officers (leading fire officer & below)	0	0.0	0.0	0	18445
612	Prison service officers (below principal officer)	0	0.2	0.0	0	2049
613	Customs & excise officers, immigration officers (customs: below chief preventative officer; excise: below surveyor)	0	0.1	0.0	0	2635
614	Traffic wardens	0	0.4	0.0	0	922
615	Security guards & related occupations	0	0.7	0.0	0	520
619	Other security & protective service occupations nes	2	1.2	165.2	20	597
620	Chefs, cooks	12	15.8	76.0	39	133
621	Waiters, waitresses	1	4.4	22.6	1	126
622	Bar staff	4	4.1	96.8	26	248
630	Travel & flight attendants	0	1.5	0.0	0	243
631	Railway station staff	0	0.2	0.0	0	1757
640	Assistant nurses, nursing auxiliaries	5	11.9	42.1	14	98
641	Hospital ward assistants	0	2.1	0.0	0	180
642	Ambulance staff	0	0.2	0.0	0	2049
643	Dental nurses	1	0.5	186.7	5	1032
644	Care assistants & attendants	19	20.3	93.5	56	146
650	Nursery nurses	5	1.9	262.2	85	611
651	Playgroup leaders	0	0.3	0.0	0	1230
652	Educational assistants	2	2.5	81.2	10	294
659	Other childcare & related occupations nes	10	7.3	137.4	66	253
660	Hairdressers, barbers	3	3.2	93.7	19	274
661	Beauticians & related occupations	1	0.5	185.1	5	1032
670	Domestic housekeepers & related occupations	5	4.0	126.5	41	295
671	Housekeepers (non-domestic)	1	0.9	110.2	3	612
672	Caretakers	4	2.8	142.3	39	364
673	Laundryers, dry cleaners, pressers	6	4.6	129.8	48	283
690	Undertakers	0	0.1	0.0	0	3689
691	Bookmakers	0	0.3	0.0	0	1366
699	Other personal & protective services nes	1	1.4	69.6	2	387

Table 8: Continued

SOC Occupation Code	Occupation description	Deaths	Expected Deaths	PMR	95% Confidence Interval	
					Lower	Upper
700	Buyers (retail trade)	0	0.3	0.0	0	1230
701	Buyers & purchasing officers (not retail)	0	0.8	0.0	0	473
702	Importers & exporters	0	0.1	0.0	0	4099
703	Air, commodity & ship brokers	0	0.0	0.0	0	36889
710	Technical & wholesale sales representatives	3	1.0	305.9	63	895
719	Other sales representatives	3	1.2	254.9	52	743
720	Sales assistants	46	41.9	109.9	80	147
721	Retail cash desk & check out operators	3	3.3	92.2	19	270
722	Petrol pump forecourt attendants	0	0.4	0.0	0	971
730	Collector salespersons & credit agents	0	0.1	0.0	0	3689
731	Roundsmen/women & van salespersons	0	0.3	0.0	0	1317
732	Market & street traders & assistants	0	1.0	0.0	0	376
733	Scrap dealers, scrap metal merchants	0	0.1	0.0	0	5270
790	Merchandisers	0	0.2	0.0	0	2306
791	Window dressers, floral arrangers	1	1.4	72.7	2	404
792	Telephone sales person	3	0.3	872.5	182	2579
800	Bakery & confectionery process operatives	1	1.5	67.0	2	374
801	Brewery & vinery process operatives	2	0.4	555.6	67	2007
802	Tobacco process operatives	0	0.6	0.0	0	605
809	Other food, drink & tobacco process operatives nes	5	5.7	88.3	29	206
810	Tannery production operatives	0	0.1	0.0	0	3074
811	Preparatory fibre processors	1	0.3	405.1	10	2229
812	Spinners, doublers, twisters	1	1.0	101.8	3	569
813	Winders, reelers	3	1.0	293.9	61	860
814	Other textiles processing operatives	4	1.5	263.5	72	674
820	Chemical, gas & petroleum process plant operatives	5	1.3	386.1	125	898
821	Paper, wood & related process plant operatives	0	0.4	0.0	0	900
822	Cutting & slitting machine operatives (paper products etc)	0	0.1	0.0	0	7378
823	Glass & ceramics furnace operatives, kilnsetters	0	0.0	0.0	0	18445
824	Rubber process operatives, moulding machine operatives, tyre builders	0	0.4	0.0	0	858
825	Plastics process operatives, moulders & extruders	4	0.9	425.4	116	1090
826	Synthetic fibre makers	0	0.1	0.0	0	6148
829	Other chemicals, paper, plastics & related process operatives nes	1	0.1	839.7	21	4643
830	Furnace operatives (metal)	0	0.0	0.0	0	36889
831	Metal drawers	0	0.1	0.0	0	4611
832	Rollers	0	0.0	0.0	0	36889
833	Annealers, hardeners temperers (metal)	0	0.0	0.0	0	36889
834	Electroplaters, galvanisers, colour coaters	0	0.1	0.0	0	6148
839	Other metal making & treating process operatives nes	0	0.1	0.0	0	3689
840	Machine tool operatives (including CNC machine tool operatives)	1	3.3	30.0	1	167
841	Press stamping & automatic machine operatives	3	1.4	209.3	43	613
842	Metal polishers	1	0.2	529.6	13	2932
843	Metal dressing operatives	0	0.1	0.0	0	4099
844	Shot blasters	0	0.0	0.0	0	36889
850	Assemblers/lineworkers (electrical/electronic goods)	1	5.2	19.1	0	106
851	Assemblers/lineworkers (vehicles & other metal goods)	3	2.0	152.5	31	445
859	Other assemblers/lineworkers nes	3	2.8	107.5	22	314
860	Inspectors, viewers & testers (metal & electrical goods)	2	2.5	80.3	10	290
861	Inspectors viewers, testers & examiners (other manufactured goods)	4	2.3	177.5	48	455
862	Packers, bottlers, canners, fillers	10	8.4	119.8	57	220
863	Weighers, graders, sorters	2	0.7	302.6	37	1095
864	Routine laboratory testers	1	0.9	107.3	3	599
869	Other routine process operatives nes	1	1.1	94.7	2	526

Table 8: Continued

SOC Occupation Code	Occupation description	Deaths	Expected Deaths	PMR	95% Confidence Interval	
					Lower	Upper
870	Bus inspectors	0	0.0	0.0	0	12296
871	Road transport depot inspectors & related occupations	0	0.0	0.0	0	18445
872	Drivers of road goods vehicles	2	0.9	213.6	26	769
873	Bus & coach drivers	0	0.3	0.0	0	1118
874	Taxi, cab drivers & chauffeurs	0	0.5	0.0	0	769
875	Bus conductors	2	1.4	144.6	18	524
880	Seafarers (merchant navy); barge, lighter & boat operatives	1	0.0	4395.6	127	27858
881	Railway inspectors, supervisors & guards	0	0.0	0.0	0	12296
882	Railway engine drivers & assistants	0	0.0	0.0	-	-
883	Railway signal operatives & crossing keepers	0	0.1	0.0	0	7378
884	Shunters & points operatives	0	0.0	0.0	0	36889
885	Mechanical plant drivers & operatives (earth moving & civil engineering)	0	0.0	0.0	0	36889
886	Crane drivers	0	0.1	0.0	0	4611
887	Fork lift & mechanical truck drivers	0	0.1	0.0	0	5270
889	Other transport & machinery operatives nes	0	0.2	0.0	0	2459
890	Washers, screeners & crushers in mines & quarries	0	0.0	0.0	-	-
891	Printing machine minders & assistants	1	0.9	109.2	3	606
892	Water & sewerage plant attendants	0	0.0	0.0	0	36889
893	Electrical, energy, boiler & related plant operatives & attendants	0	0.0	0.0	0	12296
894	Oilers, greasers lubricators	0	0.0	0.0	-	-
895	Mains & service pipe layers, pipe jointers	0	0.0	0.0	0	36889
896	Construction & related operatives	0	0.0	0.0	0	12296
897	Woodworking machine operatives	0	0.2	0.0	0	2049
898	Mine (excluding coal) & quarry workers	0	0.0	0.0	-	-
899	Other plant & machine operatives nes	3	6.0	49.9	10	146
900	Farm workers	2	1.8	109.1	13	395
901	Agricultural machinery drivers & operatives	0	0.0	0.0	0	36889
902	Other related farming occupations	0	0.4	0.0	0	946
903	Fishing & related workers	0	0.0	0.0	0	36889
904	Forestry workers	0	0.0	0.0	0	12296
910	Coal mine labourers	0	0.0	0.0	0	36889
911	Labourers in foundries	0	0.1	0.0	0	3689
912	Labourers in engineering & allied trades	3	1.6	191.2	39	558
913	Mates to metal/electrical & related fitters	1	0.1	1590.7	42	9286
919	Other labourers in making & processing industries nes	31	12.0	258.1	175	366
920	Mates to woodworking trades workers	0	0.0	0.0	-	-
921	Mates to building trades workers	0	0.0	0.0	-	-
922	Rail construction & maintenance workers	0	0.0	0.0	-	-
923	Road construction & maintenance workers	0	0.0	0.0	0	36889
924	Paviours, kerb layers	0	0.0	0.0	-	-
929	Other building & civil engineering labourers nes	0	0.0	0.0	0	9222
930	Stevedores, dockers	1	0.0	6929.6	253	55716
931	Goods porters	0	0.1	0.0	0	7378
932	Slings	0	0.0	0.0	-	-
933	Refuse & salvage collectors	1	0.1	1635.2	42	9286
934	Driver's mates	0	0.0	0.0	0	36889
940	Postal workers, mail sorters	3	1.9	159.2	33	466
941	Messengers, couriers	3	0.7	404.4	84	1185
950	Hospital porters	0	0.0	0.0	0	18445
951	Hotel porters	0	0.0	0.0	0	36889
952	Kitchen porters	6	4.4	137.0	50	298
953	Counterhands, catering assistants	13	18.4	70.5	38	121
954	Shelf fillers	0	0.1	0.0	0	3354

Table 8: Continued

SOC Occupation Code	Occupation description	Deaths	Expected Deaths	PMR	95% Confidence Interval	
					Lower	Upper
955	Lift & car park attendants	0	0.1	0.0	0	4099
956	Window cleaners	0	0.0	0.0	0	18445
957	Road sweepers	0	0.0	0.0	0	18445
958	Cleaners, domestics	55	62.2	88.5	67	115
959	Other occupations in sales & service nes	0	0.3	0.0	0	1190
990	All other labourers & related workers	2	1.0	202.9	24	730
999	All others in miscellaneous occupations nes	1	0.1	1962.4	51	11143

nes denotes not elsewhere specified.

nec denotes not elsewhere classified.

This is a corrected version of Table 8 issued on 21/5/03. Some occupation codes in the original table had incorrect descriptions.

References

- 1) *Occupational Health Decennial Supplement* HMSO 1995
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- 2) *Standard Occupational Classification 1990* London: HMSO 1991
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- 3) *Classification of occupations 1980* London: HMSO 1980
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- 5) Breslow NE and Day NE (1980) *Statistical Methods in Cancer Research, Vol 1, The Analysis of Case-Control Studies (IARC Scientific Publications No. 32)*, Lyon, International Agency for Research on Cancer. ISBN 92 832 11324

APPENDIX 1

Calculation of PMRs

To calculate the PMR for a given time period, the total number of deaths from all causes and the total number from mesothelioma in Great Britain for that period are required, broken down by age and occupation group. For each occupation the number of deaths from all causes, is divided by the total number of deaths from all causes for all occupations to give the proportion of all deaths that were amongst workers with that occupation. This proportion is multiplied by the total number of mesothelioma deaths to give the number of deaths from mesothelioma that would be expected in that occupation, under the assumption that occupation is not related to mesothelioma risk. The PMR is then the ratio of the actual number of mesothelioma cases that occurred, to this expected number, in a given occupation, expressed as a percentage. If the observed number of deaths is greater or less than the expected, then the PMR will be respectively, greater or less than 100 indicating that the observed number of mesotheliomas is greater or less than the average for all occupations.

Table A illustrates the calculation of a PMR for men in “occupation A”. Column 3 gives the proportion of all mesothelioma deaths by age; column 2 divided by column 1. This proportion is applied to the number of deaths from all causes by age in occupation A, given in column 4, to give expected number of deaths from mesothelioma in this occupation in column 5. The total observed number of deaths (500 - not shown in table), divided by the total expected number of deaths (230 - shown in column 5) expressed as a percentage gives a PMR of 217.

Table A

Age group	Deaths			Men in occupation A	
	All men				
	All causes	Mesothelioma deaths	Proportion from mesothelioma	All cause deaths	Expected deaths
	(1)	(2)	(3) = (2) / (1)	(4)	(6)=(3)*(4)
16-24	16500	1	0.000061	6400	0.388
20-24	21,732	1	0.000046	7,833	0.360
25-29	18,072	5	0.000277	7,907	2.188
30-34	20,544	16	0.000779	7,770	6.051
35-39	27,300	76	0.002784	6,443	17.937
40-44	42,576	199	0.004674	6,222	29.082
45-49	61,236	402	0.006565	6,243	40.984
50-54	102,900	705	0.006851	6,391	43.787
55-59	187,416	1,145	0.006109	6,269	38.300
60-64	308,988	1,436	0.004647	5,367	24.943
65-69	433,956	1,499	0.003454	4,997	17.261
70-74	550,296	1,315	0.002390	3,729	8.911
All ages 16-74	1,775,016	8,347		106,334	230

Confidence intervals and statistical significance

A PMR calculated for an occupation group may be greater or less than 100 by chance. Confidence intervals are used to give an indication of the uncertainty associated with each PMR due to this random variation. A 95% confidence interval is such that, if the calculation could be repeated many times with different samples of the events, then 95% of the time, the confidence interval will contain the true value of the PMR. If the lower confidence limit for a PMR is greater than 100 then the PMR is said to be statistically significantly elevated at the 2.5% level. Likewise, if the upper confidence interval that is presented is lower than 100 then the PMR is said to be statistically significantly lower at the 2.5% level.

Methodology for trend tests

The PMRs for each time period (given in Tables 3 and 4) for a given occupation will fluctuate simply by chance, especially when occupations have a small number of cases. To take account of such variation and determine whether there is evidence that PMRs for occupation groups have increased or decreased over time, a statistical test based on case-control study methodology was carried out (adjusted test of trend based on the statistic given by Armitage and Mantel)[[5](#) chapter 4, pp 146-150]. Two levels of statistical significance were assessed and indicated where appropriate on tables 3 and 4. A single star denotes occupations where a trend was found to be significant at the 5% level - ie there is a 5% chance that the apparent trend is a result of chance alone. Two stars denote occupations where a trend was found to be significant at the 1% level - i.e. there is a 1% chance that the apparent trend is a result of chance alone.

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HSE publications:

Latest mesothelioma statistics summary:

www.hse.gov.uk/statistics/causdis/meso.htm

The following leaflets are also available - free from HSE Books at:

HSE Books
PO BOX 1999
Sudbury
Suffolk
CO10 2WA
(Tel: 01787 881165).

“Asbestos Dust: The Hidden Killer. Are you at risk? Essential advice for building maintenance, repair and refurbishment workers”, INDG 187L

“Asbestos alert for building maintenance, repair and refurbishment workers”, INDG 188P- a pocket card for workers.

“Asbestos dust kills. Keep your mask on.” INDG 255

“Working with asbestos in buildings” INDG 289

“A short guide to managing asbestos in premises” INDG 223 (rev 3)