

SUPPORTING INFORMATION

Length of employment in workplaces handling hazardous chemicals and risk of cancer among men: a nationwide case-control study in Japan

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Supplementary Table 1. List of chemicals for which special medical examinations are required

| Substances | CAS No. | Content (Weight Percent) for GHS Label (no less than, NLT) | Content (Weight Percent) for SDS (no less than, NLT) |
|---|--------------|---|---|
| Specified chemical substances | | | |
| Dichlorobenzidine and its salts | 91-94-1 etc | 0.1%, NLT | 0.1%, NLT |
| α -Naphthylamine and its salts | 134-32-7 etc | 1%, NLT | 1%, NLT |
| Polychlorinated biphenyl (alias PCB) | - | 0.1%, NLT | 0.1%, NLT |
| o-Tolidine and its salts | 119-93-7 etc | 1%, NLT | 0.1%, NLT |
| Dianisidine and its salts | 119-90-4 etc | 1%, NLT | 0.1%, NLT |
| Beryllium and its compounds | - | 0.1%, NLT | 0.1%, NLT |
| Benzotrichloride | 98-07-7 | 0.1%, NLT | 0.1%, NLT |
| Acrylamide | 79-06-1 | 0.1%, NLT | 0.1%, NLT |
| Acrylonitrile | 107-13-1 | 1%, NLT | 0.1%, NLT |
| Antimony trioxide | 1309-64-4 | 0.1%, NLT | 0.1%, NLT |
| Indium compounds | - | 0.1%, NLT | 0.1%, NLT |
| Ethylbenzene | 100-41-4 | 0.1%, NLT | 0.1%, NLT |
| Ethyleneimine | 151-56-4 | 0.1%, NLT | 0.1%, NLT |
| Ethylene oxide | 75-21-8 | 0.1%, NLT | 0.1%, NLT |
| Vinyl chloride | 75-01-4 | 0.1%, NLT | 0.1%, NLT |
| Chlorine | 7782-50-5 | 1%, NLT | 1%, NLT |
| Auramine | 492-80-8 | 1%, NLT | 0.1%, NLT |
| o-Phthalodinitrile | 91-15-6 | 1%, NLT | 1%, NLT |
| Cadmium and its compounds | - | 0.1%, NLT | 0.1%, NLT |
| Chromic acid and its salts | - | 0.1%, NLT | 0.1%, NLT |
| Dichromic acid and its salts | - | 0.1%, NLT | 0.1%, NLT |
| Chloroform | 67-66-3 | 1%, NLT | 0.1%, NLT |
| Chloromethyl methyl ether | 107-30-2 | 0.1%, NLT | 0.1%, NLT |
| Vanadium pentaoxide | 1314-62-1 | 0.1%, NLT | 0.1%, NLT |
| Coal tar | - | 0.1%, NLT | 0.1%, NLT |
| Propylene oxide; 1,2-Epoxypropane | 75-56-9 | 0.1%, NLT | 0.1%, NLT |
| Potassium cyanide | 151-50-8 | 1%, NLT | 1%, NLT |
| Hydrogen cyanide | 74-90-8 | 1%, NLT | 1%, NLT |
| Sodium cyanide | 143-33-9 | 1%, NLT | 0.1%, NLT |
| Carbon tetrachloride | 56-23-5 | 1%, NLT | 0.1%, NLT |
| 1,4-Dioxane | 123-91-1 | 1%, NLT | 0.1%, NLT |
| 1,2-Dichloroethane | 107-06-2 | 1%, NLT | 0.1%, NLT |
| 3,3'-Dichloro-4,4'-diaminodiphenylmethane; 4,4'-Methylenebis(2-chloroaniline) | 101-14-4 | 0.1%, NLT | 0.1%, NLT |

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| 1,2-Dichloropropane | 78-87-5 | 0.1%, NLT | 0.1%, NLT |
| Dichloromethane (alias Methylenechloride) | 75-09-2 | 1%, NLT | 0.1%, NLT |
| Dimethyl 2,2-dichlorovinyl phosphate; 2,2-Dichloroethenyl dimethyl phosphate (alias DDVP) | 62-73-7 | 1%, NLT | 0.1%, NLT |
| 1,1-Dimethylhydrazine | 57-14-7 | 0.1%, NLT | 0.1%, NLT |
| Methyl bromide | 74-83-9 | 1%, NLT | 0.1%, NLT |
| Refractory ceramic fibres | 142844-00-6 | 1%, NLT | 0.1%, NLT |
| Styrene | 100-42-5 | 0.3%, NLT | 0.1%, NLT |
| 1,1,2,2-Tetrachloroethane (alias Tetrachloroacetylene) | 79-34-5 | 1%, NLT | 0.1%, NLT |
| Tetrachloroethylene (alias Perchloroethylene) | 127-18-4 | 0.1%, NLT | 0.1%, NLT |
| Trichloroethylene | 79-01-6 | 0.1%, NLT | 0.1%, NLT |
| Tolylene diisocyanate | 26471-62-5 etc | 1%, NLT | 0.1%, NLT |
| o-Toluidine | 95-53-4 | 0.1%, NLT | 0.1%, NLT |
| Naphthalene | 91-20-3 | 1%, NLT | 0.1%, NLT |
| Nickel carbonyl | 13463-39-3 | 0.1%, NLT | 0.1%, NLT |
| Nitroglycol | 628-96-6 | 1%, NLT | 1%, NLT |
| p-Dimethylaminoazobenzene | 60-11-7 | 1%, NLT | 0.1%, NLT |
| p-Nitrochlorobenzene | 100-00-5 | 1%, NLT | 0.1%, NLT |
| Hydrogen fluoride | 7664-39-3 | 1%, NLT | 0.1%, NLT |
| β-Propiolactone | 57-57-8 | 0.1%, NLT | 0.1%, NLT |
| Benzene | 71-43-2 | 0.1%, NLT | 0.1%, NLT |
| Pentachlorophenol (alias PCP) | 87-86-5 | 0.3%, NLT | 0.1%, NLT |
| Pentachlorophenol (alias PCP) sodium salts | 131-52-2 | 0.3%, NLT | 0.1%, NLT |
| Formaldehyde | 50-00-0 | 0.1%, NLT | 0.1%, NLT |
| Magenta | 632-99-5 | 1%, NLT | 0.1%, NLT |
| Manganese | 7439-96-5 | 0.3%, NLT | 0.1%, NLT |
| Methyl isobutyl ketone | 108-10-1 | 1%, NLT | 0.1%, NLT |
| Methyl iodide | 74-88-4 | 1%, NLT | 1%, NLT |
| Hydrogen sulfide | 7783-06-4 | 1%, NLT | 1%, NLT |
| Dimethyl sulfate | 77-78-1 | 0.1%, NLT | 0.1%, NLT |
| Alkylmercury compounds | - | 0.3%, NLT | 0.1%, NLT |
| Arsenic and its compounds | - | 0.1%, NLT | 0.1%, NLT |
| Nickel compounds | - | 0.1%, NLT | 0.1%, NLT |
| Manganese inorganic compounds | - | 1%, NLT | 0.1%, NLT |
| Cobalt and its compounds | - | 0.1%, NLT | 0.1%, NLT |
| Mercury and its inorganic compounds | - | 0.3%, NLT | 0.1%, NLT |
| Organic solvents | | | |
| 1,2-Dichloroethylene; 1,2-Dichloroethene | 540-59-0 | 1%, NLT | 0.1%, NLT |
| Carbon disulfide | 75-15-0 | 0.3%, NLT | 0.1%, NLT |
| Acetone | 67-64-1 | 1%, NLT | 0.1%, NLT |

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| Isopentyl alcohol (alias Isoamylalcohol) | 123-51-3 | 1%, NLT | 1%, NLT |
| Ethyl ether | 60-29-7 | 1%, NLT | 0.1%, NLT |
| Ethylene glycol monoethyl ether (alias Cellosolve) | 110-80-5 | 0.3%, NLT | 0.1%, NLT |
| Ethylene glycol monoethyl ether acetate (alias Cellosolve acetate) | 111-15-9 | 0.3%, NLT | 0.1%, NLT |
| Ethylene glycol mono-n-butyl ether (alias Butyl cellosolve) | 111-76-2 | 1%, NLT | 0.1%, NLT |
| Ethylene glycol monomethyl ether (alias Methyl cellosolve) | 109-86-4 | 0.3%, NLT | 0.1%, NLT |
| o-Dichlorobenzene | 95-50-1 | 1%, NLT | 1%, NLT |
| Xylene | 1330-20-7 | 0.3%, NLT | 0.1%, NLT |
| o-Xylene | 95-47-6 | 0.3%, NLT | 0.1%, NLT |
| m-Xylene | 108-38-3 | 0.3%, NLT | 0.1%, NLT |
| p-Xylene | 106-42-3 | 0.3%, NLT | 0.1%, NLT |
| Cresol | 1319-77-3 | 1%, NLT | 0.1%, NLT |
| o-Cresol | 95-48-7 | 1%, NLT | 0.1%, NLT |
| m-Cresol | 108-39-4 | 1%, NLT | 0.1%, NLT |
| p-Cresol | 106-44-5 | 1%, NLT | 0.1%, NLT |
| Chlorobenzene | 108-90-7 | 1%, NLT | 0.1%, NLT |
| Ethyl acetate | 141-78-6 | 1%, NLT | 1%, NLT |
| n-Butyl acetate | 123-86-4 | 1%, NLT | 1%, NLT |
| Isobutyl acetate | 110-19-0 | 1%, NLT | 1%, NLT |
| n-Propyl acetate | 109-60-4 | 1%, NLT | 1%, NLT |
| Isopropyl acetate | 108-21-4 | 1%, NLT | 1%, NLT |
| n-Pentyl acetate (alias n-Amyl acetate) | 628-63-7 | 1%, NLT | 0.1%, NLT |
| Isopentyl acetate (alias Isoamyl acetate) | 123-92-2 | 1%, NLT | 0.1%, NLT |
| Methyl acetate | 79-20-9 | 1%, NLT | 1%, NLT |
| Cyclohexanol | 108-93-0 | 1%, NLT | 0.1%, NLT |
| Cyclohexanone | 108-94-1 | 1%, NLT | 0.1%, NLT |
| N,N-Dimethylformamide | 68-12-2 | 0.3%, NLT | 0.1%, NLT |
| Tetrahydrofuran | 109-99-9 | 1%, NLT | 0.1%, NLT |
| 1,1,1-Trichloroethane | 71-55-6 | 1%, NLT | 0.1%, NLT |
| Toluene | 108-88-3 | 0.3%, NLT | 0.1%, NLT |
| 1-Butanol | 71-36-3 | 1%, NLT | 0.1%, NLT |
| 2-Butanol | 78-92-2 | 1%, NLT | 0.1%, NLT |
| Isobutanol | 78-83-1 | 1%, NLT | 0.1%, NLT |
| Isopropyl alcohol | 67-63-0 | 1%, NLT | 0.1%, NLT |
| n-Hexane | 110-54-3 | 1%, NLT | 0.1%, NLT |
| Methanol | 67-56-1 | 0.3%, NLT | 0.1%, NLT |
| Methyl ethyl ketone | 78-93-3 | 1%, NLT | 1%, NLT |

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| Methylcyclohexanol | 25639-42-3 etc | 1%, NLT | 1%, NLT |
| Methylcyclohexanone | 1331-22-2 etc | 1%, NLT | 1%, NLT |
| Methyl n-butyl ketone | 591-78-6 | 1%, NLT | 1%, NLT |
| Gasoline | 8006-61-9 | 1%, NLT | 0.1%, NLT |
| Coal tar naphtha | - | 1%, NLT | 1%, NLT |
| Petroleum ether | - | 1%, NLT | 1%, NLT |
| Petroleum naphtha | - | 1%, NLT | 1%, NLT |
| Petroleum benzine | - | 1%, NLT | 1%, NLT |
| Turpentine oil | 8006-64-2 | 1%, NLT | 0.1%, NLT |
| Mineral spirits (include mineral thinner, petroleum spirits, white spirits and mineral turpentine) | 64742-47-8 | 1%, NLT | 1%, NLT |
| Lead | | | |
| Lead acetate | 301-04-2 | 0.3%, NLT | 0.1%, NLT |
| Tetraalkyllead | - | — | 0.1%, NLT |
| Lead stearate | 1072-35-1 | 0.1%, NLT | 0.1%, NLT |
| Lead and its inorganic compounds | - | 0.1%, NLT | 0.1%, NLT |

Supplementary Table 2. Length of employment (in years) in workplaces handling hazardous chemicals and risk of cancer among men under 70 years old^a

| Cancer site | Length (in years) | N of Exposed cases | Categorical cumulative exposure | | Continuous cumulative exposure (5-year increase) | |
|---------------|-------------------|--------------------|---------------------------------|----------------|--|----------------|
| | | | OR | (95% CI) | OR | (95% CI) |
| All cancers | 1 to 10 | 281 | 0.86 | (0.75 to 1.00) | 1.00 | (1.00 to 1.01) |
| | 11 to 20 | 301 | 0.88 | (0.76 to 1.01) | | |
| | 21+ | 2062 | 1.02 | (0.97 to 1.08) | | |
| Lung | 1 to 10 | 41 | 1.83 | (1.17 to 2.86) | 1.09 | (1.06 to 1.11) |
| | 11 to 20 | 38 | 1.52 | (0.97 to 2.39) | | |
| | 21+ | 287 | 1.86 | (1.55 to 2.24) | | |
| Oesophagus | 1 to 10 | 8 | 1.11 | (0.43 to 2.88) | 1.05 | (0.99 to 1.11) |
| | 11 to 20 | 9 | 1.22 | (0.52 to 2.87) | | |
| | 21+ | 60 | 1.37 | (0.91 to 2.05) | | |
| Stomach | 1 to 10 | 43 | 0.97 | (0.67 to 1.42) | 1.01 | (0.99 to 1.03) |
| | 11 to 20 | 44 | 0.89 | (0.61 to 1.30) | | |
| | 21+ | 354 | 1.04 | (0.91 to 1.20) | | |
| Colorectal | 1 to 10 | 50 | 0.95 | (0.67 to 1.35) | 1.00 | (0.98 to 1.02) |
| | 11 to 20 | 56 | 1.23 | (0.87 to 1.74) | | |
| | 21+ | 290 | 0.97 | (0.83 to 1.13) | | |
| Liver | 1 to 10 | 15 | 0.98 | (0.50 to 1.89) | 0.98 | (0.95 to 1.02) |
| | 11 to 20 | 15 | 0.73 | (0.37 to 1.43) | | |
| | 21+ | 117 | 0.92 | (0.71 to 1.20) | | |
| Biliary tract | 1 to 10 | 2 | 0.80 | (0.15 to 4.23) | 1.04 | (0.97 to 1.12) |
| | 11 to 20 | 6 | 1.18 | (0.42 to 3.32) | | |
| | 21+ | 30 | 1.18 | (0.69 to 2.02) | | |
| Pancreas | 1 to 10 | 5 | 0.94 | (0.31 to 2.84) | 1.06 | (1.01 to 1.12) |
| | 11 to 20 | 9 | 1.91 | (0.76 to 4.82) | | |
| | 21+ | 57 | 1.44 | (0.96 to 2.16) | | |
| Bladder | 1 to 10 | 15 | 0.88 | (0.47 to 1.65) | 1.03 | (1.00 to 1.07) |
| | 11 to 20 | 16 | 1.36 | (0.70 to 2.66) | | |
| | 21+ | 122 | 1.28 | (0.98 to 1.66) | | |

^aORs and 95% CIs were calculated by conditional logistic regression with multiple imputation, matched for age categories (5-year categories), hospital (34 hospitals), and admitted year (1-year) with additional adjustment for smoking status, alcohol consumption status, and longest occupation held (the reference for categorical cumulative exposure were never exposed).

OR, Odds ratio; CI, Confidence interval.

Supplementary Table 3. Length of employment (in years) in workplaces handling hazardous chemicals and risk of cancer among men under 60 years old^a

| Cancer site | Length (in years) | N of Exposed cases | Categorical cumulative exposure | | Continuous cumulative exposure (5-year increase) | |
|---------------|-------------------|--------------------|---------------------------------|----------------|--|----------------|
| | | | OR | (95% CI) | OR | (95% CI) |
| All cancers | 1 to 10 | 150 | 0.95 | (0.78 to 1.16) | 1.01 | (0.99 to 1.02) |
| | 11 to 20 | 174 | 0.96 | (0.80 to 1.16) | | |
| | 21+ | 640 | 1.03 | (0.93 to 1.14) | | |
| Lung | 1 to 10 | 18 | 2.81 | (1.33 to 5.92) | 1.11 | (1.05 to 1.17) |
| | 11 to 20 | 20 | 2.04 | (1.05 to 3.93) | | |
| | 21+ | 74 | 1.86 | (1.30 to 2.68) | | |
| Oesophagus | 1 to 10 | 3 | 7.62 | (0.66 to 88.0) | 1.17 | (1.04 to 1.31) |
| | 11 to 20 | 5 | 2.49 | (0.64 to 9.62) | | |
| | 21+ | 21 | 2.97 | (1.34 to 6.57) | | |
| Stomach | 1 to 10 | 24 | 1.08 | (0.64 to 1.81) | 0.99 | (0.95 to 1.03) |
| | 11 to 20 | 28 | 1.28 | (0.77 to 2.14) | | |
| | 21+ | 105 | 0.92 | (0.71 to 1.20) | | |
| Colorectal | 1 to 10 | 36 | 1.50 | (0.95 to 2.36) | 1.02 | (0.98 to 1.05) |
| | 11 to 20 | 34 | 1.61 | (1.01 to 2.58) | | |
| | 21+ | 115 | 1.08 | (0.83 to 1.39) | | |
| Liver | 1 to 10 | 9 | 2.14 | (0.85 to 5.37) | 1.08 | (1.00 to 1.16) |
| | 11 to 20 | 8 | 0.97 | (0.37 to 2.52) | | |
| | 21+ | 37 | 1.62 | (0.97 to 2.71) | | |
| Biliary tract | 1 to 10 | 1 | 0.71 | (0.07 to 7.49) | 0.91 | (0.80 to 1.04) |
| | 11 to 20 | 4 | 1.29 | (0.33 to 5.15) | | |
| | 21+ | 7 | 0.45 | (0.17 to 1.18) | | |
| Pancreas | 1 to 10 | 1 | 0.19 | (0.02 to 1.69) | 0.99 | (0.89 to 1.10) |
| | 11 to 20 | 4 | 1.24 | (0.34 to 4.55) | | |
| | 21+ | 16 | 0.76 | (0.37 to 1.56) | | |
| Bladder | 1 to 10 | 3 | 0.52 | (0.15 to 1.85) | 1.02 | (0.95 to 1.10) |
| | 11 to 20 | 8 | 1.57 | (0.58 to 4.25) | | |
| | 21+ | 35 | 1.17 | (0.71 to 1.91) | | |

^aORs and 95% CIs were calculated by conditional logistic regression with multiple imputation, matched for age categories (5-year categories), hospital (34 hospitals), and admitted year (1-year) with additional adjustment for smoking status, alcohol consumption status, and longest occupation held (the reference for categorical cumulative exposure were never exposed).

OR, Odds ratio; CI, Confidence interval.

Supplementary Table 4. Length of employment (in years) in workplaces handling dust and risk of cancer among men^a

| Cancer site | Length (in years) | N of Exposed cases | Categorical cumulative exposure | | Continuous cumulative exposure (5-year increase) | |
|---------------|-------------------|--------------------|---------------------------------|----------------|--|----------------|
| | | | OR | (95% CI) | OR | (95% CI) |
| All cancers | 1 to 10 | 174 | 0.76 | (0.63 to 0.91) | 1.01 | (1.00 to 1.02) |
| | 11 to 20 | 284 | 1.00 | (0.86 to 1.16) | | |
| | 21+ | 1810 | 1.07 | (1.00 to 1.13) | | |
| Lung | 1 to 10 | 35 | 1.75 | (1.07 to 2.85) | 1.12 | (1.09 to 1.14) |
| | 11 to 20 | 45 | 1.80 | (1.15 to 2.81) | | |
| | 21+ | 346 | 2.37 | (1.99 to 2.82) | | |
| Oesophagus | 1 to 10 | 4 | 1.07 | (0.28 to 4.03) | 1.10 | (1.04 to 1.17) |
| | 11 to 20 | 8 | 1.55 | (0.60 to 4.04) | | |
| | 21+ | 49 | 2.00 | (1.28 to 3.11) | | |
| Stomach | 1 to 10 | 24 | 0.74 | (0.46 to 1.19) | 1.01 | (0.99 to 1.03) |
| | 11 to 20 | 46 | 1.12 | (0.77 to 1.63) | | |
| | 21+ | 303 | 1.08 | (0.94 to 1.25) | | |
| Colorectal | 1 to 10 | 25 | 0.72 | (0.45 to 1.15) | 1.00 | (0.98 to 1.03) |
| | 11 to 20 | 38 | 1.13 | (0.75 to 1.69) | | |
| | 21+ | 241 | 1.05 | (0.89 to 1.24) | | |
| Liver | 1 to 10 | 11 | 0.97 | (0.46 to 2.01) | 0.98 | (0.94 to 1.01) |
| | 11 to 20 | 18 | 0.97 | (0.52 to 1.82) | | |
| | 21+ | 97 | 0.88 | (0.68 to 1.15) | | |
| Biliary tract | 1 to 10 | 1 | 0.44 | (0.05 to 4.02) | 0.98 | (0.92 to 1.05) |
| | 11 to 20 | 7 | 1.55 | (0.57 to 4.24) | | |
| | 21+ | 28 | 0.80 | (0.48 to 1.34) | | |
| Pancreas | 1 to 10 | 7 | 1.74 | (0.62 to 4.87) | 1.10 | (1.04 to 1.16) |
| | 11 to 20 | 10 | 2.90 | (1.12 to 7.52) | | |
| | 21+ | 44 | 1.80 | (1.16 to 2.78) | | |
| Bladder | 1 to 10 | 3 | 0.99 | (0.46 to 2.13) | 1.03 | (1.00 to 1.07) |
| | 11 to 20 | 8 | 1.51 | (0.80 to 2.86) | | |
| | 21+ | 35 | 1.30 | (1.00 to 1.70) | | |

^aORs and 95% CIs were calculated by conditional logistic regression with multiple imputation, matched for age categories (5-year categories), hospital (34 hospitals), and admitted year (1-year) with additional adjustment for smoking status, alcohol consumption status, and longest occupation held (the reference for categorical cumulative exposure were never exposed).

OR, Odds ratio; CI, Confidence interval.

Supplementary Table 5. Length of employment (in years) in workplaces handling organic solvents and risk of cancer among men^a

| Cancer site | Length (in years) | N of Exposed cases | Categorical cumulative exposure | | Continuous cumulative exposure (5-year increase) | |
|---------------|-------------------|--------------------|---------------------------------|----------------|--|----------------|
| | | | OR | (95% CI) | OR | (95% CI) |
| All cancers | 1 to 10 | 178 | 0.99 | (0.82 to 1.19) | 1.01 | (1.00 to 1.02) |
| | 11 to 20 | 216 | 0.98 | (0.83 to 1.16) | | |
| | 21+ | 1663 | 1.07 | (1.00 to 1.14) | | |
| Lung | 1 to 10 | 26 | 1.58 | (0.89 to 2.80) | 1.04 | (1.01 to 1.07) |
| | 11 to 20 | 28 | 1.40 | (0.85 to 2.31) | | |
| | 21+ | 202 | 1.37 | (1.13 to 1.67) | | |
| Oesophagus | 1 to 10 | 3 | 0.58 | (0.15 to 2.23) | 1.06 | (1.00 to 1.12) |
| | 11 to 20 | 7 | 1.99 | (0.68 to 5.77) | | |
| | 21+ | 44 | 1.54 | (0.98 to 2.40) | | |
| Stomach | 1 to 10 | 20 | 0.8 | (0.47 to 1.35) | 1.00 | (0.98 to 1.02) |
| | 11 to 20 | 27 | 0.83 | (0.52 to 1.32) | | |
| | 21+ | 266 | 1.02 | (0.87 to 1.19) | | |
| Colorectal | 1 to 10 | 30 | 1.14 | (0.72 to 1.81) | 0.98 | (0.96 to 1.00) |
| | 11 to 20 | 44 | 1.32 | (0.90 to 1.95) | | |
| | 21+ | 215 | 0.84 | (0.71 to 1.00) | | |
| Liver | 1 to 10 | 6 | 0.50 | (0.20 to 1.28) | 1.01 | (0.98 to 1.05) |
| | 11 to 20 | 9 | 0.62 | (0.28 to 1.38) | | |
| | 21+ | 103 | 1.11 | (0.86 to 1.43) | | |
| Biliary tract | 1 to 10 | 1 | 1.03 | (0.09 to 11.5) | 1.01 | (0.94 to 1.08) |
| | 11 to 20 | 5 | 0.90 | (0.31 to 2.67) | | |
| | 21+ | 26 | 1.00 | (0.59 to 1.68) | | |
| Pancreas | 1 to 10 | 2 | 1.05 | (0.18 to 5.93) | 1.08 | (1.02 to 1.14) |
| | 11 to 20 | 5 | 1.53 | (0.48 to 4.88) | | |
| | 21+ | 51 | 1.63 | (1.09 to 2.44) | | |
| Bladder | 1 to 10 | 15 | 1.58 | (0.78 to 3.20) | 1.04 | (1.01 to 1.08) |
| | 11 to 20 | 15 | 1.90 | (0.93 to 3.91) | | |
| | 21+ | 102 | 1.34 | (1.03 to 1.76) | | |

^aORs and 95% CIs were calculated by conditional logistic regression with multiple imputation, matched for age categories (5-year categories), hospital (34 hospitals), and admitted year (1-year) with additional adjustment for smoking status, alcohol consumption status, and longest occupation held (the reference for categorical cumulative exposure were never exposed).

OR, Odds ratio; CI, Confidence interval.

Supplementary Table 6. Length of employment (in years) in workplaces handling specified chemical substances and risk of cancer among men^a

| Cancer site | Length (in years) | N of Exposed cases | Categorical cumulative exposure | | Continuous cumulative exposure (5-year increase) | |
|---------------|-------------------|--------------------|---------------------------------|----------------|--|----------------|
| | | | OR | (95% CI) | OR | (95% CI) |
| All cancers | 1 to 10 | 78 | 1.06 | (0.80 to 1.41) | 1.02 | (1.01 to 1.03) |
| | 11 to 20 | 94 | 1.00 | (0.78 to 1.29) | | |
| | 21+ | 912 | 1.14 | (1.05 to 1.25) | | |
| Lung | 1 to 10 | 16 | 3.46 | (1.48 to 8.08) | 1.10 | (1.06 to 1.13) |
| | 11 to 20 | 16 | 1.21 | (0.62 to 2.37) | | |
| | 21+ | 151 | 2.00 | (1.56 to 2.56) | | |
| Oesophagus | 1 to 10 | 3 | 5.73 | (0.56 to 58.3) | 1.06 | (0.98 to 1.15) |
| | 11 to 20 | 3 | 7.36 | (0.75 to 72.2) | | |
| | 21+ | 23 | 1.54 | (0.85 to 2.80) | | |
| Stomach | 1 to 10 | 9 | 0.62 | (0.29 to 1.32) | 0.99 | (0.97 to 1.02) |
| | 11 to 20 | 11 | 0.67 | (0.33 to 1.35) | | |
| | 21+ | 139 | 0.96 | (0.78 to 1.18) | | |
| Colorectal | 1 to 10 | 13 | 1.24 | (0.61 to 2.53) | 1.00 | (0.97 to 1.03) |
| | 11 to 20 | 16 | 1.01 | (0.55 to 1.87) | | |
| | 21+ | 122 | 1.00 | (0.80 to 1.26) | | |
| Liver | 1 to 10 | 2 | 0.67 | (0.13 to 3.34) | 0.96 | (0.91 to 1.01) |
| | 11 to 20 | 3 | 0.61 | (0.14 to 2.57) | | |
| | 21+ | 39 | 0.77 | (0.52 to 1.14) | | |
| Biliary tract | 1 to 10 | 2 | - | no controls | 1.06 | (0.97 to 1.15) |
| | 11 to 20 | 16 | 2.00 | (0.28 to 14.4) | | |
| | 21+ | 1 | 1.37 | (0.69 to 2.71) | | |
| Pancreas | 1 to 10 | 3 | 0.72 | (0.07 to 7.29) | 1.08 | (1.01 to 1.15) |
| | 11 to 20 | 29 | 2.96 | (0.48 to 18.0) | | |
| | 21+ | 6 | 1.63 | (0.97 to 2.75) | | |
| Bladder | 1 to 10 | 6 | 1.23 | (0.44 to 3.48) | 1.06 | (1.01 to 1.10) |
| | 11 to 20 | 62 | 1.91 | (0.60 to 6.02) | | |
| | 21+ | 0 | - | no cases | | |

^aORs and 95% CIs were calculated by conditional logistic regression with multiple imputation, matched for age categories (5-year categories), hospital (34 hospitals), and admitted year (1-year) with additional adjustment for smoking status, alcohol consumption status, and longest occupation held (the reference for categorical cumulative exposure were never exposed).

OR, Odds ratio; CI, Confidence interval.

Supplementary Table 7. Length of employment (in years) in workplaces handling lead and risk of cancer among men^a

| Cancer site | Length (in years) | N of Exposed cases | Categorical cumulative exposure | | Continuous cumulative exposure (5-year increase) | |
|---------------|-------------------|--------------------|---------------------------------|----------------|--|----------------|
| | | | OR | (95% CI) | OR | (95% CI) |
| All cancers | 1 to 10 | 33 | 1.08 | (0.71 to 1.66) | 1.00 | (0.98 to 1.03) |
| | 11 to 20 | 36 | 1.06 | (0.70 to 1.62) | | |
| | 21+ | 227 | 1.00 | (0.85 to 1.19) | | |
| Lung | 1 to 10 | 4 | 2.71 | (0.53 to 14.0) | 1.01 | (0.94 to 1.09) |
| | 11 to 20 | 8 | 2.71 | (0.94 to 7.79) | | |
| | 21+ | 21 | 0.94 | (0.54 to 1.65) | | |
| Oesophagus | 1 to 10 | 2 | 2.85 | (0.24 to 33.5) | 1.05 | (0.94 to 1.18) |
| | 11 to 20 | 1 | 1.35 | (0.08 to 22.7) | | |
| | 21+ | 10 | 1.52 | (0.62 to 3.74) | | |
| Stomach | 1 to 10 | 6 | 0.98 | (0.36 to 2.63) | 1.01 | (0.96 to 1.06) |
| | 11 to 20 | 4 | 0.42 | (0.12 to 1.45) | | |
| | 21+ | 39 | 1.06 | (0.71 to 1.56) | | |
| Colorectal | 1 to 10 | 3 | 0.67 | (0.18 to 2.48) | 1.04 | (0.98 to 1.11) |
| | 11 to 20 | 6 | 2.52 | (0.76 to 8.34) | | |
| | 21+ | 35 | 1.35 | (0.87 to 2.09) | | |
| Liver | 1 to 10 | 3 | 6.00 | (0.60 to 60.2) | 0.95 | (0.87 to 1.04) |
| | 11 to 20 | 1 | 2.57 | (0.16 to 41.1) | | |
| | 21+ | 12 | 0.66 | (0.33 to 1.35) | | |
| Biliary tract | 1 to 10 | 1 | - | no controls | 1.00 | (0.80 to 1.25) |
| | 11 to 20 | 3 | 4.70 | (0.48 to 45.7) | | |
| | 21+ | 1 | 0.47 | (0.05 to 4.27) | | |
| Pancreas | 1 to 10 | 2 | 2.13 | (0.29 to 15.7) | 1.08 | (1.01 to 1.15) |
| | 11 to 20 | 1 | 2.28 | (0.14 to 38.2) | | |
| | 21+ | 5 | 1.50 | (0.47 to 4.78) | | |
| Bladder | 1 to 10 | 1 | 0.40 | (0.05 to 3.51) | 1.06 | (1.01 to 1.10) |
| | 11 to 20 | 1 | 2.17 | (0.13 to 36.4) | | |
| | 21+ | 22 | 2.75 | (1.43 to 5.28) | | |

^aORs and 95% CIs were calculated by conditional logistic regression with multiple imputation, matched for age categories (5-year categories), hospital (34 hospitals), and admitted year (1-year) with additional adjustment for smoking status, alcohol consumption status, and longest occupation held (the reference for categorical cumulative exposure were never exposed).

OR, Odds ratio; CI, Confidence interval.