# Occupations or Occupational Groups Associated with Carcinogen Exposures



## What are examples of occupational exposures that have been associated with exposure to carcinogens?

Examples of occupations and occupational groups that are more likely to have been exposed to carcinogens are listed in the following table.

Please note: This list was complied from information available from reputable sources, but it is not complete. It represents associations that have been reported in literature between occupations and examples of substances often linked to cancer that may have been used in the workplace.

Exposure to a carcinogen does not necessarily mean that you will develop cancer.

**Some Occupations or Occupational Groups Associated with Carcinogen Exposure**

| Occupations and Occupational Groups | Suspect Substance |
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| Aircraft and aerospace industries | Asbestos, Beryllium and beryllium compounds; Ionizing radiation |
| Aluminum production | Aromatic amines; Pitch volatiles |
| Asbestos cement industry | Asbestos |
| Auramine manufacture | Auramine; 2-Naphthylamine; Pigments |

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| **Battery production workers** | **Cadmium and cadmium compounds** |
| **Beryllium extraction and processing** | **Beryllium and beryllium compounds** |
| **Boot and shoe manufacture/repair** | **Leather dust, benzene and other solvents** |
| **Bus and truck drivers; Dock workers; Filling station attendants; Mechanics; Operators of excavating machines; Professional drivers; Railroad workers; Transport industry** | **Diesel engine exhaust** |
| **Cadmium-copper alloy workers; Cadmium-smelter workers** | **Cadmium and cadmium compounds** |
| **Carpentry and joinery; Furniture and cabinet making** | **Wood dust** |
| **Ceramic production** | **Cobalt and cobalt compounds** |
| **Chemical and rubber industries** | **Aromatic amines; 1,3-Butadiene; Isoprene** |
| **Chemical industry** | **Acetamide; Acrylamide; Benzene** |
| **Chromate production plants; Chromium ferro-alloy production** | **Chromium (VI) compounds** |
| **Coal gasification, coke production** | **Coal tar, coal-tar fumes; Polycyclic aromatic hydrocarbons (PAHs)** |
| **Construction; Insulation and maintenance workers** | **Asbestos; Glass wool; Silica (crystalline); Toluene diisocyanates** |

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| **Dry cleaning** | **Carbon tetrachloride; Tetrachloroethylene; Trichloroethylene** |
| **Dye and pigment production** | **Aromatic amines (e.g., 2-naphthylamine, 4-aminobiphenyl); Benzidine; Cadmium and cadmium compounds; Chromium (VI) compounds** |
| **Electrical capacitor manufacturing** | **Polychlorinated biphenyls (PCBs)** |
| **Electronic production/industries** | **Beryllium and beryllium compounds; Dichloromethane (methylene chloride)** |
| **Electroplating processes** | **Cadmium and cadmium compounds** |
| **Fabric manufacture (heat-resistant)** | **Ceramic fibres (refractory; respirable)** |
| **Firefighters** | **Polycyclic aromatic hydrocarbons (PAHs)** |
| **Furnace insulators** | **Ceramic fibres (refractory; respirable)** |
| **Furniture restorers** | **Dichloromethane (methylene chloride)** |
| **Glass production** | **Cobalt and cobalt compounds** |
| **Hairdressers & barbers** | **Aerosols, Dyes (aromatic amines, amino-phenols with hydrogen peroxide); Propellants; Solvents** |
| **Hematite mining; Uranium miners** | **Radon daughters; Silica (crystalline)** |

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| **Herbicide production** | **Polychlorophenols and their sodium salts** |
| **Hospitals** | **Ethylene oxide** |
| **Iron and steel founding** | **Formaldehyde; Metal fumes; PAHs; Silica (crystalline)** |
| **Isopropanol manufacture, strong-acid process** | **Diisopropyl sulfate; Isopropyl oils; Sulfuric acid** |
| **Jewellers** | **Beryllium and beryllium compounds** |
| **Leather manufacturing including tanning** | **Polychlorophenols and their sodium salts, Chromium (VI) compounds** |
| **Magenta manufacture** | **Magenta; 4,4´-Methylene bis(2-methylaniline); ortho-Nitrotoluene; ortho-Toluidine** |
| **Manufacture of pottery, paper, paint and cosmetics** | **Talc containing asbestiform fibres** |
| **Metal degreasing** | **Tetrachloroethylene; Trichloroethylene** |
| **Metals industry** | **Strong-inorganic mists containing sulfuric acid** |
| **Mineral processing** | **Acrylamide** |
| **Miners (including underground)** | **Cobalt and cobalt compounds; X-radiation, gamma-radiation** |
| **Mining and milling** | **Asbestos** |

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| **Mining of ores containing arsenic** | **Arsenic and inorganic arsenic compounds** |
| **Nickel refining and smelting; Welding** | **Nickel and nickel compounds; Welding fumes** |
| **Nonferrous metal smelting** | **Arsenic and inorganic arsenic compounds** |
| **Nuclear industry; Clean-up workers following nuclear accidents** | **Beryllium and beryllium compounds; X- radiation, gamma-radiation** |
| **Outdoor workers** | **Solar radiation** |
| **Paint stripping; Cleaning and degreasing** | **Dichloromethane (methylene chloride); 1,2,3-Trichloropropane** |
| **Perfume preparation; Epoxy resin formulations; Styrene glycol production; Manufacture of cosmetics, surface coatings, agricultural and biological chemicals** | **Styrene-7,8-oxide** |
| **Petroleum refining and distribution** | **Acrylamide; PAHs; Benzene; Diesel fuel, marine; Fuel oils, residual (heavy); Gasoline** |
| **Pharmaceutical production** | **Dichloromethane (methylene chloride)** |
| **Plastics industries** | **Acetaldehyde; Acetamide; Acrylonitrile; Ethyl acrylate; Isoprene; Special purpose glass fibres (respirable); Styrene; Vinyl acetate** |
| **Plating and engraving; Lithography; Photography** | **Chromium (VI) compounds** |

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| **Plutonium workers** | **X-radiation, gamma-radiation** |
| **Polyester resin manufacture; Production of packaging materials and fibreglass-reinforced polyester** | **Styrene** |
| **Printing processes** | **Inks; Solvents** |
| **Processing of copper and nickel ore** | **Cobalt and cobalt compounds** |
| **Production and use of resins, glycerin and propylene-based rubbers** | **Epichlorohydrin** |
| **Production of art glass, glass containers, and pressed ware** | **Arsenic; Antimony oxides; Asbestos; Lead; PAHs; Silica (crystalline)** |
| **Production of polyvinyl chloride and co-polymers** | **Vinyl chloride** |
| **Production, packaging, and use of arsenic-containing pesticides** | **Arsenic and inorganic arsenic compounds** |
| **Radiologists and technologists; Radium-dial painters** | **X-radiation, gamma-radiation** |
| **Sheep dip manufacture** | **Arsenic and inorganic arsenic compounds** |
| **Sheet-metal workers** | **Asbestos** |
| **Shiftwork that involves circadian disruption** | **–** |
| **Ship builders** | **Ceramic fibres (refractory; respirable); Toluene diisocyanates** |

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| **Shipyard workers** | **Asbestos** |
| **Stainless-steel welding** | **Chromium (VI) compounds** |
| **Steel and lumber industries** | **Acrylamide** |
| **Sugar production** | **Acrylamide** |
| **Textile manufacturing/industries** | **Acrylonitrile; Textile dust in manufacturing process; Dyes and solvents in dyeing and printing operations; Formaldehyde** |
| **Water and wastewater treatment** | **Acrylamide; Chromium (VI) compounds** |
| **Wood manufacturing** | **Pentachlorophenol; Polychlorophenols and their sodium salts** |
| **Wood preservation** | **Chromium (VI) compounds; Pentachlorophenol** |
| **Wool fibre production** | **Arsenic and inorganic arsenic compounds** |
| **Workers in bars and restaurants** | **Tobacco smoke** |

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