

WORKPLACES, OCCUPATIONS, AND PROCESSES, RELATED IARC KNOWN CARCINOGENIC AGENTS (GROUP 1), AND ASSOCIATED CANCER SITES WITH SUFFICIENT AND LIMITED EVIDENCE IN HUMANS, IARC MONOGRAPHS VOLUMES 1 – 100, VOLUME 106, VOLUME 120, AND OTHER PUBLISHED EVIDENCE

WORKPLACES, OCCUPATIONS, AND PROCESSES

RELATED CARCINOGENIC AGENTS AND ASSOCIATED CANCER SITES

Acheson process, occupational exposure of
(an industrial process for the
manufacture of graphite)

Acheson Process - Lung (1) (Vol. 111)

Aerospace industry

Beryllium and Be compounds - Lung (1) (Vol. 100C)
(2012)
Trichloroethylene – kidney (1) (Vol. 106) (2014)
Limited Evidence – Trichloroethylene –
NHL, liver (1) (Vol. 106) (2014)

Agricultural chemicals, production

2-nitrotoluene (2A) (Vol. 101) (2013) (possible
bladder, but IARC did not state) (used
in manufacture of azo dyes, other dyes, such
magenta, sulfur dyes, rubber chemicals,
agricultural chemicals, and explosives)

Agricultural work in soil
contaminated with erionite

Erionite – mesothelioma (Vol. 100C) (2012)

Agricultural workers

Lindane (banned in most countries) – Non-Hodgkin
Lymphoma (NHL) (Vol. 113) (2018)

Aircraft workers

Trichloroethylene – kidney (1) (Vol. 106) (2014)
Limited Evidence – Trichloroethylene –
NHL, liver (1) (Vol. 106) (2014)

Aluminium production	Aluminium production, PAH-related exposures – Lung, urinary bladder (1) (Vol. 100F) (2012)
Anatomists	Formaldehyde – Leukemia (particularly myeloid leukemia after maternal exposure before or during pregnancy or both), nasopharynx (1) (Vol. 100F) (2012) Limited Evidence – Formaldehyde - nasal cavity, paranasal, sinonasal (1) (Vol. 100F) (2012)
Animal feed factories	Aflatoxins, naturally occurring fungal toxins – Bile duct, hepatocellular carcinoma, liver (1)(Vol. 100F) (2012)
Armed forces, military exposed to mustard gas	Sulfur mustard (mustard gas) – Lung (1) (Vol. 100F) (2012) Limited Evidence – Sulfur mustard - Larynx (1) (Vol. 100E) (2012) -
Auramine production	Auramine production, aromatic amine exposures - Urinary bladder (1) (Vol. 100F) (2012)
Automotive parts manufacture and use	Beryllium and Beryllium compounds - Lung (1) (Vol. 100C) (2012)
Barbers	Vinyl chloride (hairspray in 1970's, Infante and Petty, 2009) - Hepatic angiosarcoma, hepatocellular carcinoma (1) (Vol. 100F) (2012)
Battery makers, storage	Nickel compounds and metal - Lung, nasal sinuses, nose (1) (Vol. 100C) (2012)

Benzidine manufacturing, use, and storage	Benzidine – Urinary bladder (1) (Vol. 100F) (2012)
Beryllium smelting or fabrication	Beryllium and Be compounds - Lung (1) (Vol. 100C) (2012)
Boot manufacture and repair	<p>Benzene – Acute myeloid leukaemia, other acute non-lymphocytic leukemia (1) (Vol.120) (2018), MDS (1) (Vol.100F) (2012)</p> <p>Limited Evidence – Benzene - chronic lymphatic leukemia, chronic myeloid leukaemia, multiple myeloma, non-Hodgkin lymphoma: all combined (1)(Vol. 120) (2018)</p> <p>Leather dust - Lung (1) (Vol. 100C) (2012)</p>
Building construction	1,3-Butadiene – Haematolymphatic organs (1) (Vol. 100F) (2012)
Building material and particle Board, working with	<p>Formaldehyde - Leukaemia, nasopharynx (1)(Vol. 100F) (2012)</p> <p>Limited Evidence – Formaldehyde - Sinonasal cancer (1)(Vol. 100F) (2012)</p>
Butadiene monomer production	1,3-Butadiene – Haematolymphatic organs (1) (Vol. 100F) (2012)
Cabinet manufacture	Wood dust - Nasal cavity, nasopharynx, paranasal sinuses (1) (Vol. 100C) (2012)

Cadmium alloy production	Cadmium and cadmium compounds - Lung (1) (Vol. 58, Vol. 100C) (2012) Limited Evidence – Cadmium and cadmium compounds – Kidney, prostate, (Vol. 100C) (2012)
Cadmium pigment manufacture And formulation	Cadmium and cadmium compounds - Lung (1) (Vol. 58, Vol. 100C) (2012) Limited Evidence – Cadmium and cadmium compounds - Kidney, prostate, (1) (Vol. 100C) (2012)
Cadmium production and refining	Cadmium and cadmium compounds – Lung (1) (Vol. 58, Vol. 100C) (2012) Limited Evidence – Cadmium and cadmium compounds – Kidney, prostate (1) (Vol. 100C) (2012)
Carpentry and joinery	Limited Evidence - Carpentry and joinery – Nasal cavity, paranasal sinus (2B) (Supp. 7) (1987)
Carpets, working with	Formaldehyde - Leukaemia, nasopharynx (1) (Vol. 100F) (2012) Limited Evidence – Formaldehyde - Sinonasal cancer (1) (Vol. 100F) (2012)
Catalyst workers	Nickel compounds and metal - Lung, nasal cavity, nasal sinuses, nose, paranasal sinus (1) (Vol. 100C) (2012)

Cemented carbide makers

Nickel compounds and metal - Lung,
nasal cavity, nasal sinuses, nose,
paranasal sinus (1) (Vol. 100C) (2012)

Ceramics production

Beryllium and Be compounds – Lung (Vol. 100C)
(2012)
Nickel compounds and metal - Lung,
nasal cavity, nasal sinuses, nose,
paranasal sinus (1) (Vol. 100C) (2012)
Silica dust, crystalline, in the form of quartz
or cristobalite - Lung (1) (Vol. 100C) (2012)

Chemical – dye industry

Benzidine – urinary bladder (1) (Vol. 100F) (2012)
Dioxin (2,3,7,8-TCDD) - All cancers
combined (1) (Vol. 100F) (2012)
Limited Evidence – Dioxin - Lung,
Non-Hodgkin lymphoma (NHL),
Soft Tissue Sarcoma (STS), (1)
(Vol. 100F) (2012)

Chemical plant – manufacturing
and processing

4-aminobiphenyl - Urinary bladder (1) (Vol. 100F)
(2012)
Benzene – Acute myeloid leukaemia, other acute
non-lymphocytic leukemia (1)(Vol.120) (2018),
MDS (1) (Vol.100F) (2012)
Limited Evidence – Benzene - chronic
lymphatic leukemia, chronic myeloid
leukaemia, multiple myeloma, non-Hodgkin
lymphoma: all combined (1) (Vol. 120) (2018)
1,3-Butadiene – Hematolymphatic organs (1)
(Vol. 100F) (2012)
1,2-Dichloropropane – cholangiocarcinoma (1)
(Vol. 110) (2016)
Dioxin (2,3,7,8-TCDD) - All cancers
combined (1) (Vol. 100F) (2012)
Limited Evidence – Dioxin - Lung, Soft
Tissue Sarcoma (STS), Non-Hodgkin
lymphoma (NHL) (Vol. 100F) (2012)
Formaldehyde - Leukemia, nasopharyngeal
(1) (Vol. 100F) (2012)

Limited Evidence - Formaldehyde – Nasal cavity, paranasal sinus, sinonasal cancer (1) (Vol. 100F) (2012)

Chemists

Nickel compounds and metal - Lung, nasal cavity, nasal sinuses, nose, paranasal sinus (1) (Vol. 100C) (2012)
Benzene – Acute myeloid leukaemia, other acute non-lymphocytic leukemia (1) (Vol.120)(2018), MDS (1) (Vol.100F) (2012)
Limited Evidence – Benzene - chronic lymphatic leukemia, chronic myeloid leukaemia, multiple myeloma, non-Hodgkin lymphoma: all combined (1) (Vol. 120) (2018)

Chimney sweep (soot exposure)

Soot (chimney sweeping) – Skin, lung (1) (Vol. 100F) (2012)
Limited Evidence –Soot (chimney sweeping), Urinary bladder (1) (Vol. 100F) (2012)

Chloromethyl methyl ether manufacturing

Bis(chloromethyl)ether (BCME)/Chloromethyl methyl ether(CMME) (technical grade) - Lung (1) (Vol. 100F) (2012)

Chloromethyl methyl ether workers

Bis(chloromethyl)ether(BCME)/ Chloromethyl methyl ether (CMME) (technical grade) - Lung (1) (Vol. 100F) (2012)

2-chloronaphthylamine production

2-Naphthylamine – Bladder, urinary (US - Commercial manufacture and use banned in early 1970's) (1) (Vol. 100F) (2012)

Chlorophenols production	2,3,7,8-Tetrachlorodibenzo- <i>para</i> -dioxin (Dioxin) - All cancers combined (Vol. 100F) (2012) Limited Evidence – 2,3,7,8-Tetrachlorodibenzo- <i>para</i> -dioxin (Dioxin) Lung, soft tissue sarcoma (STS), non-Hodgkin lymphoma (NHL) (Vol. 100F) (2012)
Chromate pigment production	Chromium (VI) compounds - Lung (Vol. 100C) (2012) Limited Evidence – Chromium (VI) compounds Nasal cavity and paranasal sinuses (Vol. 100C) (2012)
Chromium plating	Chromium (VI) compounds- Lung (Vol. 100C) (2012) Limited Evidence – Chromium (VI) compounds Nasal cavity and paranasal sinuses (Vol. 100C) (2012)
Chromate production	Chromium (VI) compounds Lung (Vol. 100C) (2012) Limited Evidence – Nasal cavity and paranasal sinuses (Vol. 100C) (2012)
Clean-up workers, nuclear or radiation accidents	X-radiation and gamma radiation (Vol. 75, Vol. 100D) – Salivary gland, esophagus, stomach, colon, lung, bone, basal cell carcinoma of the skin (BCC), female breast, urinary bladder, brain, CNS, thyroid, kidney (atomic bomb survivors, medical patients), leukaemia (excluding CLL), multiple sites (in-utero exposure) (Vol. 100D) (2012) Limited Evidence – X-radiation and gamma radiation -Rectum, liver, pancreas, ovary, prostate, non-Hodgkin lymphoma (NHL), multiple myeloma (Vol. 100D) (2012)

Coal gasification	Coal gasification (PAH related industry - Lung (Vol. 100F) (2012) ***Myeloma (Doll, 1972; Hansen, 1992)
Coal-tar distillation – PAH-related exposures	Coal-tar distillation - PAH-related exposures, Skin (Vol. 100F) (2012)
Coal-tar pitches (paving, roofing), PAH-related exposures	Coal-tar pitches (paving, roofing), PAH – related exposures - Lung (Vol. 100F) (2012) Limited Evidence – Coal-tar pitches (paving, roofing), PAH – related exposures – Urinary bladder (Vol. 100F) (2012)
Coffee consumption during pregnancy	Coffee consumption during pregnancy - Childhood leukaemia in off-spring – Acute lymphocytic leukaemia and acute myeloid leukaemia (Cheng, J, et al. 2014, Thomopoulos, TP, et al. 2015, Yan, K, et al. 2016)
Coke oven workers – Indirect production	Benzene – Acute myeloid leukaemia, other acute non-lymphocytic leukemia (Vol.120) (2018), MDS (Vol. 100F) (2012) Limited Evidence – Benzene - chronic lymphatic leukemia, chronic myeloid leukaemia, multiple myeloma, non-Hodgkin lymphoma: all combined (Vol. 120) (2018)
Coke Production	Coke production - PAH – related exposures - Lung (Vol. 100F) (2012)
Construction carpentry	Wood dust - Nasal cavity, paranasal sinuses, nasopharynx (Vol. 100C) (2012)

Cosmetologist	Vinyl chloride (hairspray in 1970's, Infante and Petty, 2009) - Hepatic angiosarcoma, hepatocellular carcinoma (Vol. 100F) (2012)
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Dental equipment and supplies, manufacturing and use	Beryllium and Be compounds - Lung (Vol. 100C) (2012)
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Dental laboratories	Beryllium and Be compounds - Lung (Vol. 100C) (2012)
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Diatomaceous earth industries	Silica dust, crystalline, in the form of quartz or cristobalite - Lung (Vol. 100C) (2012)
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Disinfectant makers	Nickel compounds and metal - Lung, nose, nasal sinuses (Vol. 100C) (2012)
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Door manufacture	Wood dust - Nasal cavity, paranasal sinuses, nasopharynx (Vol. 100C) (2012)
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Dry cleaning	Trichloroethylene – Kidney (Vol. 106) (2014) Limited Evidence - Trichloroethylene – Bile Duct, Liver, Non-Hodgkin Lymphoma: all combined (Vol. 106) (2014)
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Dye manufacturing	Dioxin (2,3,7,8-TCDD) - All cancers combined (Vol. 100F) (2012) Limited Evidence – Dioxin - Lung, Soft Tissue Sarcoma (STS), Non-Hodgkin lymphoma (NHL) (Vol. 100F) (2012)
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2-Naphthylamine – Bladder, urinary (US - commercial manufacture and use banned in early 1970's)(Vol. 100F) (2012)
ortho-Toluidine, aromatic amine - Bladder, urinary (Vol. 100F) (2012)

Dyers Nickel compounds and metal - Lung, nose, nasal sinuses (Vol. 100C) (2012)

Dyestuffs manufacturing Benzidine – urinary bladder (Vol. 100F) (2012)

Dye Usage Dioxin (2,3,7,8-TCDD) - All cancers combined (Vol. 100F) (2012)
Limited Evidence – Dioxin - Lung, Soft Tissue Sarcoma (STS), Non-Hodgkin lymphoma (NHL) (Vol. 100F) (2012)

Electrical connectors production Beryllium and Be compounds - Lung (Vol. 100C) (2012)

Electronics manufacturing and recycling Beryllium and Be compounds - Lung (Vol. 100C) (2012)

Electroplaters Nickel compounds and metal - Lung, nose, nasal sinuses (Vol. 100C) (2012)

Embalming Formaldehyde - Leukaemia, nasopharynx (Vol. 100F) (2012)
Limited Evidence – Formaldehyde - Sinonasal cancer (Vol. 100F) (2012)

Enamellers	Nickel compounds and metal - Lung, nose, nasal sinuses (Vol. 100C) (2012)
Engineering and scientific equipment manufacturing and use	Beryllium and Be compounds - Lung (Vol. 100C) (2012)
Epoxy resin hardeners manufacture	<i>ortho</i> -Toluidine, aromatic amine, used for staining tissues - Bladder, urinary (Vol. 100F) (2012)
Ethylene oxide production	Ethylene oxide– Breast, lymphohematopoietic cancer (EPA, 2015) Limited Evidence – Ethylene oxide – Lymphoid tumors, non-Hodgkin lymphoma (NHL), multiple myeloma (MM), chronic lymphocytic leukemia (CLL), breast (Vol. 100F) (2012)
Farming – pesticide use	Arsenic and inorganic arsenic compounds- Lung, skin, urinary bladder (Vol. 100C) (2012) Limited Evidence – Arsenic - Kidney, liver, prostate (Vol. 100C) (2012) Dioxin (2,3,7,8-TCDD) - All cancers combined (Vol. 100F) (2012) Limited Evidence – Dioxin - Lung, Soft Tissue Sarcoma (STS), Non-Hodgkin lymphoma (NHL) (Vol. 100F) (2012)
Formaldehyde manufacture	Formaldehyde - Leukaemia, nasopharynx (Vol. 100F) (2012) Limited Evidence – Formaldehyde - Sinonasal cancer (Vol. 100F) (2012)

Formaldehyde used as disinfectant	Formaldehyde - Leukaemia, nasopharynx (Vol. 100F) (2012) Limited Evidence – Formaldehyde - Sinonasal cancer (Vol. 100F) (2012)
Foundries	Formaldehyde - Leukaemia, nasopharynx (Vol. 100F) (2012) Limited Evidence – Formaldehyde - Sinonasal cancer (Vol. 100F) (2012) Silica dust, crystalline, in the form of quartz or cristobalite - Lung (Vol. 100C) (2012)
Funeral parlor workers	Formaldehyde - Leukaemia, nasopharynx (Vol. 100F) (2012) Limited Evidence – Formaldehyde - Sinonasal cancer (Vol. 100F) (2012)
Fungicide manufacture	<i>ortho</i> -Toluidine, aromatic amine, used for staining tissues - Bladder, urinary (Vol. 100F) (2012)
Furniture manufacturing	Formaldehyde (varnishing) - Leukaemia, nasopharynx (Vol. 100F) (2012) Limited Evidence – Formaldehyde - Sinonasal cancer (Vol. 100F) (2012) Wood dust - Nasal cavity, paranasal sinuses, nasopharynx (1) (Vol. 100C) (2012)
Fur treatment	Formaldehyde - Leukaemia, nasopharynx (Vol. 100F) (2012) Limited Evidence – Formaldehyde - Sinonasal cancer (Vol. 100F) (2012)
Garment workers	Formaldehyde - Leukaemia, nasopharynx (Vol. 100F)

(2012)

Limited Evidence – Formaldehyde -
Sinonasal cancer (Vol. 100F) (2012)

Gas-mask makers

Nickel compounds and metal - Lung,
nose, nasal sinuses (Vol. 100C) (2012)

Gasoline production, storage, transport,
vending and combustion

Benzene – Acute myeloid leukaemia, other acute
non-lymphocytic leukemia (Vol.120) (2012)
MDS (Vol. 100F) (2012)
Limited Evidence – Benzene - chronic
lymphatic leukemia, chronic myeloid
leukaemia, multiple myeloma,
non-Hodgkin lymphoma: all combined
(Vol. 120) (2012)
1,3-Butadiene – Haematolymphatic organs
(Vol. 100A) (2012)

Glass worker

Arsenic and inorganic arsenic compounds-
Lung, skin, urinary bladder (Vol. 100C)(2012)
Limited Evidence – Arsenic and inorganic
arsenic compounds - Kidney, liver,
prostate (Vol. 100C)(2012)

Golf club manufacture and repair

Beryllium and Be compounds - Lung (Vol. 100C)
(2012)

Gold miners

Silica dust, crystalline, in the form of quartz
or cristobalite - Lung (Vol. 100C)(2012)

Granite workers

Silica dust, crystalline, in the form of quartz
or cristobalite - Lung (Vol. 100C) (2012)

Haematite underground mining

Radon (Suppl. 7, Vol. 100D, 2012)

Hairdressers

Formaldehyde - Leukaemia, nasopharynx (Vol. 100F) (2012)

Limited Evidence – Formaldehyde -
Sinonasal cancer (Vol. 100F) (2012)

Vinyl chloride - Vinyl chloride (hairspray in 1970's, Infante and Petty, 2009) - Hepatic angiosarcoma, hepatocellular carcinoma (Vol. 100F) (2012)

Handling and spraying of Agent Orange
(military in Viet Nam)

(Dioxin) 2,3,7,8-Tetrachlorodibenzo- *para*-dioxin -
All cancers combined (Vol. 100F) (2012)

Limited Evidence – Dioxin - Lung, soft
tissue sarcoma (STS), non-Hodgkin
lymphoma (NHL) (Vol. 100F) (2012)

Handling and spraying of 2,4,5-T

(Dioxin) 2,3,7,8-Tetrachlorodibenzo- *para*-dioxin -
All cancers combined (Vol. 100F) (2012)

Limited Evidence – Dioxin - Lung, soft
tissue sarcoma (STS), non-Hodgkin
lymphoma (NHL) (Vol. 100F) (2012)

Hazardous waste processing

Beryllium and Be compounds - Lung
(Vol. 100C)(2012)

Herbicide plants

(Dioxin) 2,3,7,8-Tetrachlorodibenzo- *para*-dioxin -
All cancers combined (Vol. 100F) (2012)

Limited Evidence – Dioxin - Lung, soft
tissue sarcoma (STS), non-Hodgkin
lymphoma (NHL) (Vol. 100F) (2012)

ortho-Toluidine, aromatic amine - Bladder, urinary
(Vol. 100F) (2012)

Incinerator plants (hazardous waste)	(Dioxin) 2,3,7,8-Tetrachlorodibenzo- <i>para</i> -dioxin - All cancers combined (Vol. 100F) (2012) Limited Evidence – Dioxin - Lung, soft tissue sarcoma (STS), non-Hodgkin lymphoma (NHL) (Vol. 100F) (2012)
Ink makers	Nickel compounds and metal - Lung, nose, nasal sinuses (Vol. 100C) (2012)
Iron founding	Iron Founding - Lung (Vol. 100F) (2012)
Isopropyl alcohol manufacture using strong acids	Isopropyl alcohol manufacture using strong acids - Nasal cavity (Vol. 100F) (2012)
Jewelers	Nickel compounds and metal - Lung, nose, nasal sinuses (Vol. 100C) (2012)
Joinery shops	Wood dust - Nasal cavity, paranasal sinuses, nasopharynx (Vol. 100C) (2012)
Jute processing	Mineral oils – Skin (Vol. 100F) (2012)
Laboratory workers	Aflatoxins, naturally occurring fungal toxins (Vol. 100F) (2012) - Hepatocellular carcinoma (Vol.100F) (2012) Bis(chloromethyl)ether (BCME)/ Chloromethyl methyl ether (CMME) (technical grade) (Vol. 100F) - Lung (Vol. 100F) (2012) 4,4'-Methylenebis(2-chloroaniline) (MOCA), used as model compound for studying carcinogens – No specific site (Vol. 100F)

(2012)
2-Naphthylamine, aromatic amine – Bladder,
urinary (Vol. 100F) (2012)
ortho-Toluidine, aromatic amine, used for
staining tissues - Bladder, urinary
(Vol. 100F) (2012)

Leather workers

Benzene – (where solvents are used)
Acute myeloid leukaemia, other acute
non-lymphocytic leukemia (Vol.120) (2012)
MDS (Vol. 100F) (2012)
Limited Evidence – Benzene - chronic
lymphatic leukemia, chronic myeloid
leukaemia, multiple myeloma,
non-Hodgkin lymphoma: all combined
(Vol. 120) (2012)
Leather dust - Lung (Vol. 100C) (2012)

Logging

Wood dust - Nasal cavity, paranasal sinuses,
nasopharynx (Vol. 100C) (2012)

Magnet makers

Nickel compounds and metal - Lung,
nose, nasal sinuses (Vol. 100C) (2012)

Manufactured board mills

Formaldehyde - Leukaemia, nasopharynx
(Vol. 100F) (2012)
Limited Evidence – Formaldehyde -
Sinonasal cancer (Vol. 100F)
(2012)

Mechanical measuring devices
manufacturing and use

Beryllium and Be compounds - Lung
(Vol. 100C) (2012)

Mechanical plating

Cadmium and cadmium compounds - Lung

(Vol. 58, Vol.100C) 2012)
Limited Evidence – Cadmium
and cadmium Compounds -
Prostate, kidney (Vol. 100C)
(2012)

Medical treatment facility

Azathioprine – Non-Hodgkin lymphoma, skin
(Vol. 100A) (2012)
Busulfan – Acute myeloid leukemia (Vol. 100A)
(2012)
Chlorambucil – Acute myeloid leukemia
(Vol. 100A) (2012)
Chlornaphazine – Bladder, urinary (Vol. 100A)
(2012)
Cyclophosphamide - Acute myeloid leukaemia,
bladder (Vol. 100A) (2012)
Cyclosporine - Non-Hodgkin lymphoma, skin,
multiple other sites (Vol. 100A) (2012)
DES, diethylstilbestrol - Breast (exposure during
pregnancy), vagina and cervix (exposure
in utero) (Vol. 100A) (2012)
Limited evidence – DES - Testis
(exposure in utero),endometrium
(Vol. 100A) (2012)
Etoposide in combination with cisplatin
and bleomycin - Acute myeloid leukaemia,
(Vol. 100A) (2012)
Melphalan - Acute myeloid leukaemia (Vol. 100A)
(2012)
MOPP, combination chemotherapy - Acute
myeloid leukemia, lung (Vol. 100A 2012)
Phenacetin – Renal pelvis, ureter (Vol. 100A) (2012)
Phenacetin, analgesic mixtures containing -
Renal pelvis, ureter(Vol. 100A) (2012)
Semustine [1-(2-Chloroethyl)-3-
(4-methylcyclohexyl)-1-nitrosourea,
Methyl-CCNU - Acute myeloid leukaemia
(+MDS) (Vol.100A) (2012)
Tamoxifen (anti-neoplastic agent) –Endometrium
(Vol. 100A) (2012)
Thiotepa (anti-neoplastic agent) –
Leukaemia (Vol. 100A) (2012)
Thorium-232 and decay products –
Liver, extrahepatic bile ducts,

gallbladder, leukaemia (excluding CLL)
(Vol. 100D) (2012)

ortho-Toluidine, aromatic amine, used for
staining tissues - Bladder, urinary
(Vol. 100F) (2012)

Treosulfan, anti-neoplastic agent - Acute
myeloid leukaemia (+MDS) (Vol. 100A)
(2012)

Vinyl chloride (used as anesthetic gas, 1960's) Vinyl
chloride - Vinyl chloride (hairspray in 1970's,
Infante and Petty, 2009) - Hepatic angiosarcoma,
hepatocellular carcinoma (Vol. 100F) (2012)

Limited Evidence – Ethylene oxide (used
for sterilizing equipment –Lymphoid
tumours (non-Hodgkin lymphoma (NHL),
multiple myeloma (MM), chronic
lymphocytic leukemia (CLL), breast
(Vol. 100F) (2012)

Medical uses of radiation

X-radiation and gamma radiation (Vol. 75,
Vol.100D) (2012) –

Salivary gland, esophagus, stomach, colon, lung,
bone, basal cell carcinoma of the skin (BCC),
female breast, urinary bladder, brain, CNS, thyroid,
kidney (atomic bomb survivors, medical patients),
leukaemia (excluding CLL), multiple sites
(in-utero exposure) (Vol. 100D) (2012)

Limited Evidence – X-radiation and gamma
radiation -rectum, liver, pancreas, ovary,
prostate, non-Hodgkin lymphoma (NHL),
multiple myeloma(Vol. 100D) (2012)

Metal industry

Mineral oils – Skin (Vol. 100F) (2012)

Metallizers, working with

Nickel compounds and metal - Lung,
nose, nasal sinuses (Vol. 100C) (2012)

Metal plating	Beryllium and Be compounds - Lung (Vol. 100C) (2012)
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4,4'-Methylenebis(2-chloroaniline) (MOCA) manufacture and use	4,4'-Methylenebis(2-chloroaniline) (MOCA) – No specific site (Vol. 100F) (2012)
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Machine production	Benzene – Acute myeloid leukaemia, other acute non-lymphocytic leukemia (Vol.120) (2018), MDS (Vol. 100F) (2012) Limited Evidence – Benzene - chronic lymphatic leukemia, chronic myeloid leukaemia, multiple myeloma, non-Hodgkin lymphoma: all combined (Vol. 120) (2018)
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Magenta production	Magenta production – Urinary bladder (Vol. 100F) (2012)
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Maize processing plants	Aflatoxins, naturally occurring fungal toxins (Vol. 100F) (2012) – Hepatocellular carcinoma (Vol. 100F) (2012)
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Manufacture of abrasives	Formaldehyde - Leukaemia, nasopharynx (Vol. 100F) (2012) Limited Evidence – Formaldehyde - Sinonasal cancer (Vol. 100F) (2012)
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Manufacture of dyes	2-Naphthylamine, aromatic amine, formerly used in this process – Bladder, urinary (Vol. 100F) (2012)
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Manufacturing of food spices

Limited Evidence – Ethylene oxide (used for sterilizing supplies) - Lymphoid tumors (non-Hodgkin lymphoma (NHL), multiple myeloma (MM), chronic lymphocytic leukemia (CLL), breast (Vol. 100F) (2012)

Manufacture of man-made vitreous fibers

Formaldehyde - Leukaemia, nasopharynx (Vol. 100F) (2012)
Limited Evidence – Formaldehyde - Sinonasal cancer (Vol. 100F) (2012)

Medical supplies manufacturing

Ethylene oxide (used for sterilizing equipment) – Breast, lymphohematopoietic cancer (EPA 2015)
Limited Evidence – Ethylene oxide (used for sterilizing supplies) - Lymphoid tumors (non-Hodgkin lymphoma (NHL), multiple myeloma (MM), chronic lymphocytic leukemia (CLL), breast (Vol. 100F) (2012)

Metal machining

Mineral oils – Skin (Vol. 100F) (2012)

Military service

X-radiation and gamma radiation - Salivary gland, esophagus, stomach, colon, lung, bone, basal cell carcinoma of the skin, female breast, urinary bladder, brain, CNS, thyroid, kidney (atomic bomb survivors, medical patients), leukaemia (excluding CLL), multiple sites (in-utero exposure)(Vol. 100D) (2012)
Limited - X-radiation and gamma radiation rectum, liver, pancreas, ovary, prostate, non-Hodgkin lymphoma, multiple myeloma (Vol. 100D) (2012)

Mineral oils, use of unrefined or mildly treated mineral oils	Mineral Oils - Skin (Vol. 100F) (2012)
Miners, underground	Radon-222 - Lung (Vol. 100D) (2012)
Mining	Asbestos (amosite, actinolite, anthophyllite, Chrysotile, crocidolite, and tremolite (all forms)(fibrous minerals) – Lung, mesothelioma, larynx, ovary (Vol. 100C) (2012) Limited Evidence – Asbestos (amosite, actinolite, anthophyllite, chrysotile, crocidolite, and tremolite (all forms)(fibrous minerals) - Colorectum, pharynx, stomach (Vol. 100C) (2012)
Mobile homes manufacture and use	Formaldehyde - Leukaemia, nasopharynx (Vol. 100F) (2012) Limited Evidence – Formaldehyde - Sinonasal cancer (Vol. 100F) (2012)
Model and pattern making	Wood dust - Nasal cavity, paranasal sinuses, nasopharynx (Vol. 100C) (2012)
Mond process workers	Nickel compounds and metal - Lung, nose, nasal sinuses (Vol. 100C) (2012)
Mould makers	Nickel compounds and metal - Lung, nose, nasal sinuses (Vol. 100C) (2012)
Mule spinning	Mineral oils – Skin (Vol. 100F) (2012)

Mustard gas production	Sulfur mustard (mustard gas) - Lung (Vol. 100F) (2012) Limited Evidence – Mustard gas production - Larynx (Vol. 100F) (2012)
Nickel-alloy makers	Nickel compounds and metal - Lung, nose, nasal sinuses (Vol. 100C) (2012)
Nickel-cadmium battery manufacturing	Cadmium and cadmium compounds - Lung (Vol.100C) (2012) Limited Evidence – Nickel-cadmium battery manufacturing - Prostate, kidney (Vol. 100C) (2012)
Nickel miners	Nickel compounds and metal - Lung, nose, nasal sinuses (Vol. 100C) (2012)
Nickel refiners	Nickel compounds and metal - Lung, nose, nasal sinuses (Vol. 100C) (2012)
Nickel smelters	Nickel compounds and metal - Lung, nose, nasal sinuses (Vol. 100C) (2012)
Nickel workers	Nickel compounds and metal - Lung, nose, nasal sinuses (Vol. 100C) (2012)
Nonferrous foundries and smelters	Beryllium and Be compounds - Lung (Vol. 100C) (2012)

Nuclear control equipment workers

Beryllium and Be compounds - Lung (Vol. 100C) (2012)

Nuclear fuel cycles

X-radiation and gamma radiation - Salivary gland, esophagus, stomach, colon, lung, bone, basal cell carcinoma of the skin, female breast, urinary bladder, brain, CNS, thyroid, kidney (atomic bomb survivors, medical patients), leukaemia (excluding CLL), multiple sites (in-utero exposure)(Vol. 100D) (2012)
Limited - X-radiation and gamma radiation rectum, liver, pancreas, ovary, prostate, non-Hodgkin lymphoma, multiple myeloma (Vol. 100D) (2012)

Nuclear reactor accident, following

Fission products, including strontium-90 (radiation, beta-particle emitter) - Solid Cancers, leukaemia (Vol. 100D) (2012)
Radioiodines, including strontium-90 (beta-particle emitter) - Thyroid (children and adolescents) (Vol. 100D)(2012)

Nuclear reactor workers

X-radiation and gamma radiation - Salivary gland, esophagus, stomach, colon, lung, bone, basal cell carcinoma of the skin, female breast, urinary bladder, brain, CNS, thyroid, kidney (atomic bomb survivors, medical patients), leukaemia (excluding CLL), multiple sites (in-utero exposure)(Vol. 100D) (2012)
Limited - X-radiation and gamma radiation rectum, liver, pancreas, ovary, prostate, non-Hodgkin lymphoma, multiple myeloma (Vol. 100D) (2012)

Nuclear clean-up workers

X-radiation and gamma radiation - Salivary gland, esophagus, stomach, colon, lung, bone, basal cell carcinoma of the skin, female breast, urinary bladder, brain, CNS, thyroid, kidney (atomic bomb survivors, medical patients), leukaemia (excluding CLL), multiple sites (in-utero exposure)(Vol. 100D) (2012)
Limited - X-radiation and gamma radiation - rectum, liver, pancreas, ovary, prostate, non-Hodgkin lymphoma, multiple myeloma (Vol. 100D) (2012)

Painter, occupational exposure as

Painter, occupational exposure as - Lung, urinary bladder, pleural mesothelioma (Vol.100F) (2012)
Limited Evidence – Painter, occupational exposure as - Childhood leukaemia, after maternal exposure (before and during pregnancy or both (Vol. 100F) (2012)

Painting production

Benzene – Acute myeloid leukaemia, other acute non-lymphocytic leukemia (Vol.120) (2018), MDS (Vol. 100F) (2012)
Limited Evidence – Benzene - chronic lymphatic leukemia, chronic myeloid leukaemia, multiple myeloma, non-Hodgkin lymphoma: all combined (Vol. 120) (2018)

Paint makers

Nickel compounds and metal - Lung, nose, nasal sinuses (Vol. 100C) (2012)

Paints, working with

Formaldehyde - Leukaemia, nasopharynx (Vol. 100F) (2012)
Limited Evidence – Formaldehyde - Sinonasal cancer (Vol. 100F) (2012)

Paper and pulp mills (that use chlorine bleaches)	Dioxin (2,3,7,8-TCDD) - All cancers combined (Vol. 100F) (2012) Limited Evidence – Dioxin - Lung, Soft Tissue Sarcoma (STS), Non-Hodgkin lymphoma (NHL) (Vol. 100F) (2012)
Paper manufacture	Wood dust - Nasal cavity, paranasal sinuses, nasopharynx (Vol. 100C) (2012)
Paper workers	Formaldehyde - Leukaemia, nasopharynx (Vol. 100F) (2012) Limited Evidence – Formaldehyde - Sinonasal cancer (Vol. 100F) (2012)
Particle-board mills	Wood dust - Nasal cavity, paranasal sinuses, nasopharynx (Vol. 100C)(2012)
Pathologists	Formaldehyde - Leukaemia, nasopharynx (Vol. 100F) (2012) Limited Evidence – Formaldehyde - Sinonasal cancer (Vol. 100F) (2012)
Paving	Coal-tar pitches (paving , roofing), PAH – related exposures - Lung (Vol. 100F) (2012) Coal-tar pitches - Limited Evidence – Urinary bladder (Vol. 100F) (2012)
PCP production	2,3,7,8-Tetrachlorodibenzo- <i>para</i> -dioxin (Dioxin) - All cancers combined (Vol. 100F) (2012) Limited Evidence – Dioxin - Lung, soft tissue sarcoma (STS), non-Hodgkin lymphoma (NHL) (Vol. 100F) (2012)

Penpoint makers	Nickel compounds and metal - Lung, nose, nasal sinuses (Vol. 100C) (2012)
Pesticide production	Arsenic and inorganic arsenic compounds- Lung, skin, urinary bladder (Vol. 100C) (2012) Limited Evidence – Arsenic -Kidney, liver, prostate (Vol. 100C) (2012) Dioxin (2,3,7,8-TCDD) - All cancers combined (Vol. 100F) (2012) Limited Evidence – Dioxin - Lung, Soft Tissue Sarcoma (STS), Non-Hodgkin lymphoma (NHL) (Vol. 100F) (2012)
Pesticide Usage	Arsenic and inorganic arsenic compounds- Lung, skin, urinary bladder (Vol. 100C) (2012) Limited Evidence – Arsenic -Kidney, liver, prostate (Vol. 100C) (2012) Dioxin (2,3,7,8-TCDD) - All cancers combined (Vol. 100F) (2012) Limited Evidence – Dioxin - Lung, Soft Tissue Sarcoma (STS), Non-Hodgkin lymphoma (NHL) (Vol. 100F) (2012)
Petrochemical plant	1,3-Butadiene – Haematolymphatic organs (Vol. 100A) (2012)
Petroleum refinery workers	Benzene – Acute myeloid leukaemia, other acute non-lymphocytic leukemia (Vol.120) (2018), MDS (Vol. 100F) (2012) Limited Evidence – Benzene - chronic lymphatic leukemia, chronic myeloid leukaemia, multiple myeloma, non-Hodgkin lymphoma: all combined (Vol. 120) (2018) 1,3-Butadiene – Haematolymphatic organs

(Vol. 100F) (2012)
Nickel compounds and metal - Lung,
nose, nasal sinuses (Vol. 100C) (2012)

Pharmaceutical production

Azathioprine - Non-Hodgkin lymphoma, skin
(Vol. 100A) (2012)
Busulfan – Acute myeloid leukemia (Vol. 100A)
(2012)
Chlorambucil – Acute myeloid leukemia
(Vol. 100A) (2012)
Chlornaphazine – Bladder, urinary (Vol. 100A)
(2012)
Cyclophosphamide - Acute myeloid leukaemia,
bladder (Vol. 100A) (2012)
Cyclosporine - Non-Hodgkin lymphoma, skin,
multiple other sites (Vol. 100A) (2012)
DES, diethylstilbestrol -Breast (exposure during
pregnancy), vagina and cervix (exposure
in utero) (Vol. 100A) (2012))
 Limited evidence –DES - Testis
 (exposure in utero), endometrium
 (Vol. 100A) (2012)
Etoposide in combination with cisplatin
and bleomycin - Acute myeloid leukaemia,
(+MDS) (Vol. 100A) (2012)
Melphalan - Acute myeloid leukaemia (Vol. 100A)
(2012)
MOPP, combination chemotherapy – Acute
myeloid leukemia, lung (Vol. 100A)
(2012)
Phenacetin – Renal pelvis, ureter (Vol. 100A)
(2012)
Phenacetin, analgesic mixtures containing -
Renal pelvis, ureter (Vol. 100A) (2012)
Semustine [1-(2-Chloroethyl)-3-
(4-methylcyclohexyl)-1-nitrosourea,
Methyl-CCNU - Acute myeloid leukaemia
(+MDS) (Vol.100A) (2012)
Tamoxifen (anti-neoplastic agent) –Endometrium
(Vol. 100A) (2012)
Thiotepa (anti-neoplastic agent) –
Leukaemia (Vol. 100A) (2012)
ortho-Toluidine, aromatic amine, used for
staining tissues - Bladder, urinary

(Vol. 100F) (2012)
Treosulfan, anti-neoplastic agent - Acute
myeloid leukaemia (+MDS) (Vol. 100A)
(2012)

Pharmacy workers

Azathioprine - Non-Hodgkin lymphoma, skin
(Vol. 100A) (2012)
Busulfan – Acute myeloid leukemia (Vol. 100A)
(2012)
Chlorambucil – Acute myeloid leukemia
(Vol. 100A) (2012)
Chlornaphazine – Bladder, urinary (Vol. 100A)
Cyclophosphamide - Acute myeloid leukaemia,
bladder (Vol. 100A) (2012)
Cyclosporine - Non-Hodgkin lymphoma, skin,
multiple other sites (Vol. 100A) (2012)
DES, diethylstilbestrol -Breast (exposure during
pregnancy), vagina and cervix (exposure
in utero) (Vol. 100A) (2012)
 Limited evidence – DES - Testis
 (exposure in utero),endometrium
 (Vol. 100A) (2012)
Etoposide in combination with cisplatin
and bleomycin - Acute myeloid leukaemia,
(+MDS) (Vol. 100A) (2012)
Melphalan - Acute myeloid leukaemia (Vol. 100A)
(2012)
MOPP, combination chemotherapy - Acute
myeloid leukemia, lung (Vol. 100A) (2012)
Phenacetin - Renal pelvis, ureter
(Vol. 100A) (2012)
Phenacetin, analgesic mixtures containing
- Renal pelvis, ureter
(Vol. 100A) (2012)
Semustine [1-(2-Chloroethyl)-3-
(4-methylcyclohexyl)-1-nitrosourea,
Methyl-CCNU - Acute myeloid leukaemia
(+MDS) (Vol.100A) (2012)
Tamoxifen (anti-neoplastic agent) –Endometrium
(Vol. 100A) (2012)
Thiotepa (anti-neoplastic agent) –
Leukaemia (Vol. 100A) (2012)
Treosulfan, anti-neoplastic agent - Acute
myeloid leukaemia (+MDS) (Vol. 100A) (2012)

Pigments manufacture	<i>ortho</i> -Toluidine, aromatic amine - Bladder, urinary (Vol. 100F) (2012)
Planer mills	Wood dust - Nasal cavity, paranasal sinuses, nasopharynx (Vol. 100C) (2012)
Plastics (PVC) production	Dioxin (2,3,7,8-TCDD) - All cancers combined (Vol. 100F) (2012) Limited Evidence – Dioxin - Lung, Soft Tissue Sarcoma (STS), Non-Hodgkin lymphoma (NHL) (Vol. 100F) (2012)
Plastics production	1,3-Butadiene – Haematolymphatic organs (Vol. 100F) (2012) Formaldehyde - Leukaemia, nasopharynx (Vol. 100F) (2012) Limited Evidence – Formaldehyde - Sinonasal cancer (Vol. 100F) (2012) Vinyl chloride - Hepatic angiosarcoma, hepatocellular carcinoma (production of plastic piping) (Vol. 100F) (2012)
Plywood mills	Wood dust - Nasal cavity, paranasal sinuses, nasopharynx (Vol. 100C) (2012)
Plutonium-production workers	Plutonium - Lung, liver, bone (Vol. 100D) (2012)
Polymer and derivatives production	1,3-Butadiene – Haematolymphatic organs (Vol. 100F) (2012)

Polyurethane production	4,4'-Methylenebis(2-chloroaniline) (MOCA) – No specific site (Vol. 100F) (2012)
Polyvinylchloride compounding	Cadmium and cadmium compounds - Lung (Vol. 58, Vol.100C) 2012) Limited Evidence – Cadmium and cadmium Compounds - Prostate, kidney (Vol. 100C) (2012) Dioxin (2,3,7,8-TCDD) - All cancers combined (Vol. 100F) (2012) Limited Evidence – Dioxin - Lung, Soft tissue Sarcoma (STS), Non-Hodgkin lymphoma (NHL) (Vol. 100F) (2012)
Polyvinyl chloride and PVC product manufacturing	Dioxin (2,3,7,8-TCDD) - All cancers combined (Vol. 100F) (2012) Limited Evidence – Dioxin - Lung, Soft Tissue Sarcoma (STS), Non-Hodgkin lymphoma (NHL) (Vol. 100F) (2012) Vinyl chloride - Hepatic angiosarcoma, hepatocellular carcinoma (Vol. 100F) (2012)
Pottery workers	Silica dust, crystalline, in the form of quartz or cristobalite - Lung (Vol. 100C) (2012)
Pulp manufacture	Wood dust - Nasal cavity, paranasal sinuses, nasopharynx (Vol. 100C) (2012)
Oil hydrogenators	Nickel compounds and metal - Lung, nose, nasal sinuses (Vol. 100C) (2012)
Ore mining	Silica dust, crystalline, in the form of quartz

or cristobalite - Lung (Vol. 100C) (2012)

Organic synthesis

Benzene – Acute myeloid leukaemia, other acute non-lymphocytic leukemia (Vol.120), MDS (Vol. 100F) (2012)
Limited Evidence – Benzene - chronic lymphatic leukemia, chronic myeloid leukaemia, multiple myeloma, non-Hodgkin lymphoma: all combined (Vol. 120) (2018)

Organic chemical synthesizers

Nickel compounds and metal - Lung, nose, nasal sinuses (Vol. 100C) (2012)

Quarry workers

Silica dust, crystalline, in the form of quartz or cristobalite - Lung (Vol. 100C) (2012)

Radiation accident clean-up workers

X-radiation and gamma radiation - Salivary gland, esophagus, stomach, colon, lung, bone, basal cell carcinoma of the skin, female breast, urinary bladder, brain, CNS, thyroid, kidney (atomic bomb survivors, medical patients), leukaemia (excluding CLL), multiple sites (in-utero exposure)(Vol. 100D) (2012)
Limited - X-radiation and gamma radiation rectum, liver, pancreas, ovary, prostate, non-Hodgkin lymphoma, multiple myeloma (Vol. 100D) (2012)

Radium-dial painters

Radium-226, and decay products – Bone, paranasal sinus and mastoid process (Vol. 100D) (2012)
Radium-228 - Bone, paranasal sinus (Vol. 100D) (2012)

Refractories	Beryllium and Be compounds - Lung (Vol. 100C) (2012)
Refractory brick workers	Silica dust, crystalline, in the form of quartz or cristobalite - Lung (Vol. 100C)(2012)
Resin production	Formaldehyde - Leukaemia, nasopharynx (Vol. 100F) (2012) Limited Evidence – Formaldehyde - Sinonasal cancer (Vol. 100F) (2012) Vinyl chloride - Hepatic angiosarcoma, hepatocellular carcinoma (Vol. 100F) (2012)
Roofing	Coal-tar pitches (paving , roofing), PAH – related exposures - Lung (Vol. 100F) (2012) Limited Evidence – Coal-tar pitches (paving, roofing), PAH – related exposures - Urinary bladder (Vol. 100F) (2012)
Road construction and maintenance	Benzene – Acute myeloid leukaemia, other acute non-lymphocytic leukemia (Vol.120), MDS (Vol. 100F) (2012) Limited Evidence – Benzene - chronic lymphatic leukemia, chronic myeloid leukaemia, multiple myeloma, non-Hodgkin lymphoma: all combined (Vol. 120) (2018) Erionite – Mesothelium (pleura, peritoneum and others)(Vol. 100C) (2012)
Rubber chemical manufacturing- chemicals manufactured from <i>ortho</i> -toluidine	<i>ortho</i> -Toluidine, aromatic amine - Bladder, urinary (Vol. 100F) (2012)

Rubber manufacturing

Benzene – Acute myeloid leukaemia, other acute non-lymphocytic leukemia (Vol.120) (2018), MDS (Vol. 100F) (2012)

Limited Evidence – Benzene - chronic lymphatic leukemia, chronic myeloid leukaemia, multiple myeloma, non-Hodgkin lymphoma: all combined (Vol. 120) (2018)

1,3 Butadiene – Haematolymphatic organs (Vol. 100A) (2012)

Dioxin (2,3,7,8-TCDD) - All cancers combined (Vol. 100F) (2012)

Limited Evidence – Dioxin - Lung, Soft Tissue Sarcoma (STS), Non-Hodgkin lymphoma (NHL) (Vol. 100F) (2012)

Formaldehyde - Leukaemia, nasopharynx (Vol. 100F) (2012)

Limited Evidence – Formaldehyde - Sinonasal cancer (Vol. 100F) (2012)

2-Naphthylamine, aromatic amine – Bladder, urinary (US - commercial manufacture and use banned in early 1970's)(Vol. 100F) (2012)

Rubber-manufacturing industry - Leukaemia, lymphoma, urinary bladder, lung, stomach (Vol. 100F) (2012)

Limited evidence – Rubber-manufacturing industry - Prostate, larynx, esophagus (Vol. 100F) (2012)

Sandblasting

Beryllium and Be compounds - Lung (Vol. 100C) (2012)

Silica dust, crystalline, in the form of quartz or cristobalite - Lung (Vol. 100C)(2012)

Sawmills

Wood dust - Nasal cavity, paranasal sinuses, nasopharynx (Vol. 100C)(2012)

Shale oil extraction plants

Shale oils - Skin (Vol. 100F) (2012)

Ships, unloading of
(not oil tankers or barges)

Aflatoxins, naturally occurring fungal toxins
(Vol. 100F) - Hepatocellular carcinoma
(Vol. 100F) (2012)

Shoe manufacture and repair

Benzene – Acute myeloid leukaemia, other acute
non-lymphocytic leukemia (Vol.120) (2018), MDS
(Vol. 100F) (2012)
Limited Evidence – Benzene - chronic
lymphatic leukemia, chronic myeloid
leukaemia, multiple myeloma,
non-Hodgkin lymphoma: all combined
(Vol. 120) (2018)
Leather dust - Lung (Vol. 100C) (2012)

Silicotics

Silica dust, crystalline, in the form of quartz
or cristobalite - Lung (Vol. 100C) (2012)

Smelter worker

Arsenic and inorganic arsenic compounds-
Lung, skin, urinary bladder (Vol. 100C) (2012)
Limited Evidence – Arsenic and
inorganic arsenic compounds-
Kidney, liver, prostate
(Vol. 100C) (2012)

Soldering

Beryllium and Be compounds – Lung (Vol. 100C)
(2012)

Solvents, chlorinated, manufacture

Trichloroethylene – Kidney (Vol. 106) (2014)
Limited Evidence - Trichloroethylene – Bile
Duct, Liver, Non-Hodgkin Lymphoma: all
combined (Vol. 106) (2014)
Vinyl chloride - Hepatic angiosarcoma,

hepatocellular carcinoma (Vol. 100F) (2012)

Soot exposure (chimney sweeping)

Soot (chimney sweeping) – Skin, lung (Vol. 100F) (2012)

Limited Evidence -Soot (chimney sweeping) - Urinary bladder (Vol. 100F) (2012)

Spark-plug makers

Nickel compounds and metal - Lung, nose, nasal sinuses (Vol. 100C) (2012)

Stainless-steel makers

Nickel compounds and metal - Lung, nose, nasal sinuses (Vol. 100C) (2012)

Stainless-steel welders

Chromium (VI) compounds- Lung (Vol. 100C) (2012)

Limited Evidence – Chromium (VI) Compounds - Nasal cavity and paranasal sinuses (Vol. 100C) (2012)

Steel founding

Steel founding - Lung (Vol. 100F) (2012)

Steel mills

Dioxin (2,3,7,8-TCDD) - All cancers combined (Vol. 100F) (2012)

Limited Evidence – Dioxin - Lung, Soft Tissue Sarcoma (STS), Non-Hodgkin lymphoma (NHL) (Vol. 100F) (2012)

Stone industry workers

Silica dust, crystalline, in the form of quartz or cristobalite - Lung (Vol. 100C) (2012)

Strong inorganic acid mists	Strong inorganic acid mists - Larynx (Vol. 100F) (2012) Limited Evidence - Lung (Vol. 100F) (2012)
Styrene-butadiene latex production	1,3 Butadiene – Haematolymphatic organs (Vol. 100A) (2012)
Synthetic rubber production	1,3 Butadiene – Haematolymphatic organs (Vol. 100A) (2012)
2,4,5-T production	Dioxin (2,3,7,8-TCDD) - All cancers combined (Vol. 100F) (2012) Limited Evidence – Dioxin - Lung, Soft Tissue Sarcoma (STS), Non-Hodgkin lymphoma (NHL) (Vol. 100F) (2012)
TCP production	Dioxin (2,3,7,8-TCDD) - All cancers combined (Vol. 100F) (2012) Limited Evidence – Dioxin - Lung, Soft Tissue Sarcoma (STS), Non-Hodgkin lymphoma (NHL) (Vol. 100F) (2012)
Telecommunication equipment manufacture and use	Beryllium and Be compounds - Lung (Vol. 100C) (2012)
Textile and cloth factories	Benzene – Acute myeloid leukaemia, other acute non-lymphocytic leukemia (Vol.120) (2018), MDS (Vol. 100F) (2012) Limited Evidence – Benzene - chronic lymphatic leukemia, chronic myeloid leukaemia, multiple myeloma, non-Hodgkin lymphoma: all combined (Vol. 120) (2018) Benzidine based dyes – Bladder cancer

(Vol. 29) (1982)
Formaldehyde - Leukaemia, nasopharynx
(Vol. 100F) (2012)
Limited Evidence – Formaldehyde -
Sinonasal cancer (Vol. 100F)
(2012)

Textile dyers

Nickel compounds and metal - Lung,
nose, nasal sinuses (Vol. 100C) (2012)

Tool and dye making

Beryllium and Be compounds – Lung
(Vol. 100C) (2012)

Tool setters and toolmakers

Mineral oils – Skin (Vol. 100F) (2012)

Underground miners

Radon-222 and decay products – Lung
(Vol. 100D) (2012)

Urethane rubber products, such
as shock-absorption pads
and conveyor belting, manufacture

4,4'-Methylenebis(2-chloroaniline) (MOCA)-
No specific site (Vol. 100F) (2012)

Vacuum tube makers

Nickel compounds and metal - Lung,
nose, nasal sinuses (Vol. 100C) (2012)

Varnishes, use of

Formaldehyde - Leukaemia, nasopharynx
(Vol. 100F) (2012)
Limited Evidence – Formaldehyde -
Sinonasal cancer (Vol. 100F)
(2012)

Varnishing of furniture and wooden floors	Formaldehyde - Leukaemia, nasopharynx (Vol. 100F) (2012) Limited Evidence – Formaldehyde - Sinonasal cancer (Vol. 100F) (2012)
Varnish makers	Nickel compounds and metal - Lung, nose, nasal sinuses (Vol. 100C) (2012)
Vinyl chloride monomer manufacturing	Vinyl chloride – Hepatic angiosarcoma, hepatocellular carcinoma (Vol. 100F) (2012)
Wastewater treatment facilities	Dioxin (2,3,7,8-TCDD) - All cancers combined (Vol. 100F) (2012) Limited Evidence – Dioxin - Lung, Soft Tissue Sarcoma (STS), Non-Hodgkin lymphoma (NHL) (Vol. 100F) (2012)
Welders	Nickel compounds and metal - Lung, nose, nasal sinuses (Vol. 100C) (2012)
Welding or flame cutting	Beryllium and Be compounds – Lung (Vol. 100C) (2012)
Window manufacture	Wood dust - Nasal cavity, paranasal sinuses, nasopharynx (Vol. 100C) (2012)
Wine /vineyard worker	Arsenic – Lung, skin, urinary bladder (Vol. 100C) (2012)

Limited evidence – Arsenic -
Kidney, liver, prostate
(Vol. 100C) (2012)

Wood flooring, installation, and
refinishing

Wood dust - Nasal cavity, paranasal sinuses,
nasopharynx (Vol. 100C) (2012)

Wood furniture manufacturing

Formaldehyde (varnishing) - Leukaemia,
nasopharynx (Vol. 100F) (2012)
Limited Evidence – Formaldehyde -
Sinonasal cancer (Vol. 100F) (2012)
Wood dust - Nasal cavity, paranasal sinuses,
nasopharynx (Vol. 100C) (2012)

Wood workers

Formaldehyde (varnishing) - Leukaemia,
nasopharynx (Vol. 100F) (2012)
Limited Evidence – Formaldehyde -
Sinonasal cancer (Vol. 100F)
(2012)
Wood dust – Nasal cavity, paranasal
sinuses, nasopharynx (Vol. 100C) (2012)

Wooden boat manufacture

Wood dust - Nasal cavity, paranasal sinuses,
nasopharynx (Vol. 100C) (2012)

Zeolites mining, milling, and processing

Erionite – Mesothelioma (Vol. 100C) (2012)

Zinc smelting, soldering

Cadmium, and cadmium compounds - Lung,
(Vol.100C) (2012)
Limited Evidence – Cadmium,
and cadmium compounds -
Prostate, kidney
(Vol. 100C) (2012)