

Supplemental material for:

Narrative review of occupational exposures and non-communicable diseases

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Supplemental Table 1. Occupational risk factors for cancer in humans (adapted from Loomis et al.¹ (Group 1 agents), Marant Micallef et al.² (Group 1 and 2A agents), and IARC monographs published subsequently (<https://monographs.iarc.who.int/monographs-available/>).

Cancer	Exposure Group	Consistent evidence for association	Limited or inadequate evidence for association
Lung	Airborne particles/complex mixtures	Asbestos (all forms) Engine exhaust, diesel Silica dust, crystalline, in the form of quartz or cristobalite Soot Welding fumes	
	Chemicals and chemical mixtures	Bis(chloromethyl)ether, chloromethyl methyl ether (technical grade) PAHs (aluminium production, coal gasification, coal-tar pitch, coke production) Sulfur mustard	Alpha-Chlorinated toluenes and benzoyl chloride (combined exposures) Benzene Bitumens Diazinon Hydrazine Insecticides (non-arsenical, occupational exposures in spraying and application) Mists from strong inorganic acids PAHs (carbon electrode manufacture, creosotes)
	Metals and metal compounds	Arsenic and inorganic arsenic compounds Beryllium and its compounds Cadmium and its compounds Chromium (VI) compounds Nickel compounds	Trivalent antimony
	Radiation and radionuclides	Hematite mining (underground, with exposure to radon) Plutonium Radon-222 and its decay products X-radiation and gamma-radiation	
	Occupation, industry or process	Acheson process Iron and steel founding Painter Rubber manufacturing	Art glass manufacturing
Urinary bladder	Airborne particles/complex mixtures		Engine exhaust, diesel
	Chemicals and chemical mixtures	Aromatic amines (2-Naphthylamine, 4-aminobiphenyl, auramine production, benzidine, magenta production, ortho-toluidine) PAHs (aluminium production)	2-mercaptobenzothiazole Aromatic amine (4-chloro-ortho-toluidine) PAHs (coal tar pitch) Soot Tetrachloroethylene

	Metals and metal compounds	Arsenic and inorganic arsenic compounds	
	Radiation and radionuclides	X-radiation and gamma-radiation	
	Occupation, industry or process	Firefighter Painter Rubber manufacturing	Hairdressers and barbers
Skin (incl. malignant melanoma)	Airborne particles/complex mixtures	Soot	
	Chemicals and chemical mixtures	Coal-tar pitch Mineral oils, untreated or treated mildly Polychlorinated biphenyls Shale oils	PAHs (creosotes)
	Metals and metal compounds	Arsenic and inorganic arsenic compounds	
	Radiation and radionuclides	Solar radiation Ultraviolet radiation X-radiation and gamma-radiation	
	Occupation, industry or process	Coal-tar distillation	Firefighter Petroleum refining
Haematolymphatic system, including leukaemia, NHL	Chemicals and chemical mixtures	1,3-Butadiene Benzene Formaldehyde Lindane Pentachlorophenol	Diazinon Dichloromethane (methylene chloride); DDT Ethylene oxide Glyphosate Malathion PCBs Styrene Trichloroethylene 1,1,1-Trichloroethane
	Radiation and radionuclides	X-radiation and gamma-radiation	Radioiodines, including iodine-131 Radon-222
	Occupation, industry or process	Rubber manufacturing	Firefighter
Nasal cavity and paranasal sinus	Airborne particles/complex mixtures	Leather dust Wood dust	
	Chemicals and chemical mixtures		Formaldehyde

	Metals and metal compounds	Nickel compounds	Chromium (VI) compounds
	Radiation and radionuclides	Radium-226, -228 and its decay products	
	Occupation, industry or process	Isopropyl alcohol manufacture using strong acids	
Bone	Radiation and radionuclides	Plutonium Radium-224, -226, -228 and its decay products; X-radiation and gamma-radiation	Radioiodines, including iodine-131
Larynx	Airborne particles/complex mixtures	Acid mists Asbestos (all forms)	
	Occupation, industry or process		Rubber manufacturing industry
Oesophagus	Radiation and radionuclides	X-radiation and gamma-radiation	
	Occupation, industry or process		Rubber manufacturing industry
Kidney	Airborne particles/complex mixtures		Welding fumes
	Chemicals and chemical mixtures	Trichloroethylene Perfluorooctanoic acid (PFOA)	
	Metals and metal compounds		Arsenic and inorganic arsenic compounds; Cadmium and its compounds
	Radiation and radionuclides	X-radiation and gamma-radiation	
Liver	Chemicals and chemical mixtures	Vinyl chloride	Dichloromethane (methylene chloride) DDT Trichloroethylene
	Metals and metal compounds		Arsenic and inorganic arsenic compounds
	Radiation and radionuclides	Plutonium	X-radiation and gamma-radiation
Mesothelioma	Airborne particles/complex mixtures	Asbestos (all forms)	
	Occupation, industry or process	Firefighter Painter	
Nasopharynx	Airborne particles/complex mixtures	Wood dust	Asbestos (all forms)

	Chemicals and chemical mixtures	Formaldehyde	
Stomach	Airborne particles/complex mixtures		Asbestos (all forms)
	Metals and metal compounds		Lead compounds, inorganic
	Radiation and radionuclides	X-radiation and gamma-radiation	
	Occupation, industry or process	Rubber manufacturing	
Thyroid	Radiation and radionuclides	Radioiodines, including iodine-131 X-radiation and gamma-radiation	
Biliary tract	Chemicals and chemical mixtures	1,2-Dichloropropane	
Brain and central nervous system	Radiation and radionuclides	X-radiation and gamma-radiation	
Breast	Chemicals and chemical mixtures		Dieldrin Ethylene oxide Polychlorinated biphenyls
	Radiation and radionuclides	X-radiation and gamma-radiation	
	Working hours		Night shift work
Colon and Rectum	Airborne particles/complex mixtures		Asbestos (all forms)
	Radiation and radionuclides	X-radiation and gamma-radiation	
	Occupation, industry or process		Firefighter
	Working hours		Night shift work
Eye	Radiation and radionuclides	Ultraviolet radiation	
Ovary	Airborne particles/complex mixtures	Asbestos (all forms)	
	Radiation and radionuclides		X-radiation and gamma-radiation
Prostate	Chemicals and chemical mixtures		Malathion

	Metals and metal compounds		Arsenic and inorganic arsenic compounds Cadmium and its compounds
	Radiation and radionuclides		Thorium-232 and its decay products X-radiation and gamma-radiation
	Occupation, industry or process		Firefighter Rubber manufacturing
	Working hours		Night shift work
Salivary Gland	Radiation and radionuclides	X-radiation and gamma-radiation	Radioiodines, including iodine-131
Digestive tract	Radiation and radionuclides		Radioiodines, including iodine-131
Pancreas	Radiation and radionuclides		X-radiation and gamma-radiation
Testis	Chemicals and chemical mixtures	Perfluorooctanoic acid (PFOA)	DDT; N,N-dimethylformamide
	Occupation, industry or process		Firefighter
None specified	Chemicals and chemical mixtures		2-Bromopropane Cobalt metal Soluble cobalt(II) salts
	Radiation and radionuclides	Ionising radiation (all types) Radionuclides, alpha-particle emitting, internally deposited Radionuclides, beta-particle emitting, internally deposited	
All cancers combined	Chemicals and chemical mixtures	2,3,7,8-Tetrochlorodibenzo-para-dioxin	

DDT: Dichlorodiphenyltrichloroethane; NHL: Non-Hodgkin's lymphoma; PAH: Polycyclic aromatic hydrocarbons; PCB: Polychlorinated biphenyls

Supplemental Table 2: Possible occupational risk factors for cancer, non-malignant respiratory diseases, neurodegenerative diseases, cardiovascular and metabolic diseases, mental diseases, and musculoskeletal diseases – Chemical and biological agents

Exposure	Disease/disorder	Evidence for association	Areas to focus research on	References
Acid mists From strong inorganic acids	Cancer, Larynx	Consistent		Loomis (2018); Marant Micallef (2018)
	Cancer, Lung	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
Agricultural dust Grain farming	Idiopathic Pulmonary Fibrosis	Limited/Inadequate		Blanc (2019); Taskar (2006); Taskar (2008)
	Sarcoidosis	Limited/Inadequate		Blanc (2019); Taskar (2008)
	COPD, excess lung function decline	Consistent		Cullinan (2012); Fell (2014); Fontana (2017); Guillien (2019); Omland (2014)
Agrochemicals	Stroke	Limited/Inadequate	Prospective cohort studies; Studies on different exposures within agrochemicals; Adjustment for confounders	Sekhotha (2016)
Alcohol	COPD, excess lung function decline	Limited/Inadequate		Dumas (2019); Pourhassan (2019)
Alpha-Chlorinated toluenes and benzoyl chloride (combined exposures)	Cancer, Lung	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
Aluminium	Dementia	Limited/Inadequate	Prospective cohort studies	Inan-Eroglu (2018); Virk (2015); Wang (2016)
Ammonia	Chronic/irritant/perennial rhinitis	Limited/Inadequate		Archangelidi (2020); Radon (2008); Stevens (2015)
Aromatic amine (4-Chloro-ortho-toluidine)	Cancer, Urinary bladder	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
Aromatic amines (2-Naphthylamine; 4-Aminobiphenyl; Auramine production; Benzidine; Magenta production; ortho-Toluidine)	Cancer, Urinary bladder	Consistent		Loomis (2018); Marant Micallef (2018)
Arsenic and inorganic arsenic compounds	Cancer, Kidney	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
	Cancer, Liver	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
	Cancer, Lung	Consistent		Loomis (2018); Marant Micallef (2018)
	Cancer, Prostate	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
	Cancer, Skin	Consistent		Loomis (2018); Marant Micallef (2018)
	Cancer, Urinary bladder	Consistent		Loomis (2018); Marant Micallef (2018)
	Hypertension	Limited/Inadequate	Prospective cohort studies	Chen (2007); da Cunha Martins (2018)
	Ischemic heart disease	Consistent		NEG (2020)
Asbestos (all forms, including actinolite, amosite, anthophyllite, chrysotile, crocidolite, tremolite)	Cancer, Colon and Rectum	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
	Cancer, Larynx	Consistent		Loomis (2018); Marant Micallef (2018)
	Cancer, Lung	Consistent		Loomis (2018); Marant Micallef (2018)
	Cancer, Mesothelioma	Consistent		Loomis (2018); Marant Micallef (2018)
	Cancer, Nasopharynx	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)

	Cancer, Ovary	Consistent		Loomis (2018); Marant Micallef (2018)
	Cancer, Stomach	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
	Hypertension	Limited/Inadequate	Prospective cohort studies	SBU (2017)
	Ischemic heart disease	Consistent	Exposure-response; Gender differences; Critical time windows	SBU (2017)
	Pneumoconiosis	Consistent		Wagner (1997); Standards (2014); McCunney (2009); Beer (2017); MacMurdo (2020); Borak (2016); Adams (2017); Taylor (2017)
Asphalt emissions	COPD, excess lung function decline	Limited/Inadequate		Cullinan (2012); Omland (2014); Fell (2014); Ryu (2015); Alif (2016); Sadhra (2017); Schlünssen (2020)
Benzene	Cancer, Haematolymphatic system	Consistent		Loomis (2018); Marant Micallef (2018)
	Cancer, Lung	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
Benzo(a)pyrene	Ischemic heart disease	Limited/Inadequate	Prospective cohort studies	SBU (2017)
Beryllium and beryllium compounds	Cancer, Lung	Consistent		Loomis (2018); Marant Micallef (2018)
	Pneumoconiosis	Consistent		Wagner (1997); Standards (2014); McCunney (2009); Beer (2017); MacMurdo (2020); Borak (2016); Adams (2017); Taylor (2017)
Bis(chloromethyl)ether, chloromethyl methyl ether (technical grade)	Cancer, Lung	Consistent		Loomis (2018); Marant Micallef (2018)
Bisphenol A	Diabetes mellitus (types 1 and 2)	Limited/Inadequate	Prospective cohort studies	Caporossi (2017)
Bitumens (oxidized bitumens and hard bitumens) (during roofing and mastic asphalt work)	Cancer, Lung	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
Bleach	Chronic/irritant/perennial rhinitis	Limited/Inadequate		Archangelidi (2020); Radon (2008); Stevens (2015)
Cadmium and cadmium compounds	Cancer, Kidney	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
	Cancer, Lung	Consistent		Loomis (2018); Marant Micallef (2018)
	Cancer, Prostate	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
	Dementia	Limited/Inadequate	Prospective cohort studies	Bakulski (2020); Min (2016); Peng (2017)
	Hypertension	Limited/Inadequate	Prospective cohorts studies; Occupational setting	da Cunha Martins (2018); Gallagher (2010)
	Ischemic heart disease	Consistent		NEG (2020)
Cadmium fume	COPD, excess lung function decline	Consistent		Cullinan (2012); Omland (2014); Fell (2014); Ryu (2015); Alif (2016); Sadhra (2017); Schlünssen (2020)
Carbon disulphide	Ischemic heart disease	Consistent	Exposure-response; Gender differences; Critical time windows	SBU (2017)
	Stroke	Limited/Inadequate	Prospective cohort studies	SBU (2017)
Carbon monoxide	Ischemic heart disease	Limited/Inadequate	Prospective cohort studies	SBU (2017)

Cement dust		COPD, excess lung function decline	Limited/Inadequate		Cullinan (2012); Omland (2014); Fell (2014); Ryu (2015); Alif (2016); Sadhra (2017); Schlünssen (2020)
Chemicals, non-specified		Carpal tunnel syndrome	Limited/Inadequate	Prospective cohort studies	Roquelaure (2020)
		Low-Dose Repeated Exposures Irritant-Induced Asthma	Limited/Inadequate		Bernstein (2021); Vandenplas (2014)
Chlorine gas		Chronic/irritant/perennial rhinitis	Limited/Inadequate		Archangelidi (2020); Radon (2008); Stevens (2015)
		Low-Dose Repeated Exposures Irritant-Induced Asthma	Limited/Inadequate		Bernstein (2021); Vandenplas (2014)
Chromium (VI) compounds		Cancer, Lung	Consistent		Loomis (2018); Marant Micallef (2018)
		Cancer, Nasal cavity and paranasal sinus	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
Cleaning agents & disinfectants		COPD, excess lung function decline	Limited/Inadequate		Dumas (2019); Pourhassan (2019)
		Chronic/irritant/perennial rhinitis	Limited/Inadequate		Archangelidi (2020); Radon (2008); Stevens (2015)
		Low-Dose Repeated Exposures Irritant-Induced Asthma	Limited/Inadequate		Bernstein (2021); Vandenplas (2014)
Coal dust	Coal mine dust	COPD, excess lung function decline	Consistent		Cullinan (2012); Omland (2014); Fell (2014); Ryu (2015); Alif (2016); Sadhra (2017); Schlünssen (2020)
		Pneumoconiosis	Consistent		Wagner (1997); Standards (2014); McCunney (2009); Beer (2017); MacMurdo (2020); Borak (2016); Adams (2017); Taylor (2017)
	Non-silica	Pneumoconiosis	Consistent		Wagner (1997); Standards (2014); McCunney (2009); Beer (2017); MacMurdo (2020); Borak (2016); Adams (2017); Taylor (2017)
Coal-tar distillation		Cancer, Skin	Consistent		Loomis (2018); Marant Micallef (2018)
Coal-tar pitch		Cancer, Skin	Consistent		Loomis (2018); Marant Micallef (2018)
Cobalt metal		Cancer, Lung	Limited/Inadequate		IARC Monographs (2023)
Coke oven emissions		COPD, excess lung function decline	Limited/Inadequate		Cullinan (2012); Omland (2014); Fell (2014); Ryu (2015); Alif (2016); Sadhra (2017); Schlünssen (2020)
Combustion particles/fumes / engine exhaust		Low-Dose Repeated Exposures Irritant-Induced Asthma	Limited/Inadequate		Bernstein (2021); Vandenplas (2014)
		Ischemic heart disease	Consistent		NEG (2020)
Cotton dust		Sarcoidosis	Limited/Inadequate		Blanc (2019); Taskar (2008)
DDT		Cancer, Haematolymphatic system	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
		Cancer, Liver	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
		Cancer, Testis	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
Diazinon		Cancer, Haematolymphatic system	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
		Cancer, Lung	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
Dichloromethane (methylene chloride)		Cancer, Haematolymphatic system	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)

	Cancer, Liver	Limited/Inadequate	Loomis (2018); Marant Micallef (2018)
	Ischemic heart disease	Limited/Inadequate	NEG (2020)
Dieldrin	Cancer, Breast	Limited/Inadequate	Loomis (2018); Marant Micallef (2018)
Diesel motor exhaust	Cancer, Lung	Consistent	Loomis (2018); Marant Micallef (2018)
	Cancer, Urinary bladder	Limited/Inadequate	Loomis (2018); Marant Micallef (2018)
	COPD, excess lung function decline	Limited/Inadequate	Cullinan (2012); Omland (2014); Fell (2014); Ryu (2015); Alif (2016); Sadhra (2017); Schlünssen (2020)
Drugs (e.g., opiates, antibiotics)	Allergic IgE mediated asthma	Limited/Inadequate	Dalbøge (2020); Baur (2014); Cullinan (2020); Henneberger (2011); Maestrelli (2020); Arts (2020)
	Allergic Non IgE mediated asthma	Limited/Inadequate	Dalbøge (2020); Baur (2014); Cullinan (2020); Henneberger (2011); Maestrelli (2020); Arts (2020)
	Allergic rhinosinusitis/rhinitis	Limited/Inadequate	Radon (2008); Stevens (2015); Chiarella (2015); Hellgren (2008); Ameille (2013); Nicholson (2005); Vandenplas (2020)
Endotoxin	Allergic Non IgE mediated asthma	Consistent	Dalbøge (2020); Baur (2014); Cullinan (2020); Henneberger (2011); Maestrelli (2020); Arts (2020)
	COPD, excess lung function decline	Limited/Inadequate	Cullinan (2012); Fell (2014); Fontana (2017); Guillien (2019); Omland (2014)
Enzymes	Allergic IgE mediated asthma	Consistent	Dalbøge (2020); Baur (2014); Cullinan (2020); Henneberger (2011); Maestrelli (2020); Arts (2020)
	Allergic rhinosinusitis/rhinitis	Consistent	Radon (2008); Stevens (2015); Chiarella (2015); Hellgren (2008); Ameille (2013); Nicholson (2005); Vandenplas (2020)
Ethylene oxide	Cancer, Breast	Limited/Inadequate	Loomis (2018); Marant Micallef (2018)
	Cancer, Haematolymphatic system	Limited/Inadequate	Loomis (2018); Marant Micallef (2018)
Fish and animal proteins	Allergic IgE mediated asthma	Consistent	Dalbøge (2020); Baur (2014); Cullinan (2020); Henneberger (2011); Maestrelli (2020); Arts (2020)
	Allergic rhinosinusitis/rhinitis	Consistent	Radon (2008); Stevens (2015); Chiarella (2015); Hellgren (2008); Ameille (2013); Nicholson (2005); Vandenplas (2020)
Flour	Allergic IgE mediated asthma	Consistent	Dalbøge (2020); Baur (2014); Cullinan (2020); Henneberger (2011); Maestrelli (2020); Arts (2020)
	Allergic rhinosinusitis/rhinitis	Consistent	Radon (2008); Stevens (2015); Chiarella (2015); Hellgren (2008); Ameille (2013); Nicholson (2005); Vandenplas (2020)
	Hypersensitivity pneumonitis	Limited/Inadequate	Gerfaud-Valentin (2014); Kongsupon (2021)
Fluoride (aluminium production)	Low-Dose Repeated Exposures Irritant-Induced Asthma	Limited/Inadequate	Bernstein (2021); Vandenplas (2014)
Fluorocarbon	Hypersensitivity pneumonitis	Limited/Inadequate	Walters (2017)

Formaldehyde	Cancer, Haematolymphatic system	Consistent		Loomis (2018); Marant Micallef (2018)
	Cancer, Nasal cavity and paranasal sinus	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
	Cancer, Nasopharynx	Consistent		Loomis (2018); Marant Micallef (2018)
	COPD, excess lung function decline	Limited/Inadequate		Dumas (2019); Pourhassan (2019)
Glutaraldehyde	COPD, excess lung function decline	Limited/Inadequate		Dumas (2019); Pourhassan (2019)
Glyphosate	Cancer, Haematolymphatic system	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
Hydrazine	Cancer, Lung	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
Hydrocarbons including solvents	Parkinson disease	Limited/Inadequate	Prospective cohort studies; Studies on specific agents (Specify exposure)	Palin (2015); Goldman (2012)
Hydrochloric acid	Chronic/irritant/perennial rhinitis	Limited/Inadequate		Archangelidi (2020); Radon (2008); Stevens (2015)
Hydrogen peroxide	COPD, excess lung function decline	Limited/Inadequate		Dumas (2019); Pourhassan (2019)
Hydrogen sulphide	Chronic/irritant/perennial rhinitis	Limited/Inadequate		Archangelidi (2020); Radon (2008); Stevens (2015)
Hypochlorite bleach	COPD, excess lung function decline	Limited/Inadequate		Dumas (2019); Pourhassan (2019)
Insecticides	Non-arsenical Cancer, Lung	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
Insects	Allergic IgE mediated asthma	Limited/Inadequate		Dalbøge (2020); Baur (2014); Cullinan (2020); Henneberger (2011); Maestrelli (2020); Arts (2020)
Irritants, non-specified	Acute Irritant Induced Asthma (Reactive Airways Dysfunction Syndrome -RADS)	Consistent	Peak exposure assessment; Interaction (age, sex, atopy, gene-environment); Clarify frequency among occupational asthma cases (current estimates: 5-20%, differences partly due to different cases definitions)	Bernstein (2021); Vandenplas (2014)
	Chronic/irritant/perennial rhinitis	Consistent	Critical time windows; Standardized outcome measures	Archangelidi (2020); Radon (2008); Stevens (2015)
	Low-Dose Repeated Exposures Irritant-Induced Asthma	Limited/Inadequate		Bernstein (2021); Vandenplas (2014)
Isocyanates	Allergic Non IgE mediated asthma	Consistent		Dalbøge (2020); Baur (2014); Cullinan (2020); Henneberger (2011); Maestrelli (2020); Arts (2020)
	Hypersensitivity pneumonitis	Limited/Inadequate		Barber (2017); Kongsupon (2021)
Lead	Hypertension	Limited/Inadequate	Prospective cohort studies; Occupational setting	Gonick (2002); SBU (2017)
	Ischemic heart disease	Consistent		NEG (2020)
	Stroke	Limited/Inadequate	Prospective cohort studies; Occupational setting	Navas-Acien (2007); SBU (2017)
Lead compounds, inorganic	Cancer, Stomach	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
Leather dust	Cancer, Nasal cavity and paranasal sinus	Consistent		Loomis (2018); Marant Micallef (2018)
Lindane	Cancer, Haematolymphatic system	Consistent		Loomis (2018); Marant Micallef (2018)
Low molecular weight allergens (e.g., platinum salts; phthalic anhydride)	Allergic IgE mediated asthma	Consistent		Dalbøge (2020); Baur (2014); Cullinan (2020); Henneberger (2011); Maestrelli (2020); Arts (2020)
	Allergic rhinosinusitis/rhinitis	Consistent		Radon (2008); Stevens (2015); Chiarella (2015); Hellgren (2008); Ameille (2013); Nicholson (2005); Vandenplas (2020)

Malathion	Cancer, Haematolymphatic system	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
	Cancer, Prostate	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
Manganese	Parkinsonism	Consistent	Critical time window	Park (2013)
Marine biomolecules (salmon)	Hypersensitivity pneumonitis	Limited/Inadequate		Tjalvin (2018)
Mercury	Stroke	Limited/Inadequate	Prospective cohort studies; Occupational setting	Hu (2021)
	Methylmercury Ischemic heart disease	Limited/Inadequate		NEG (2020)
Metals (combined)	Allergic Non IgE mediated asthma	Limited/Inadequate		Dalbøge (2020); Baur (2014); Cullinan (2020); Henneberger (2011); Maestrelli (2020); Arts (2020)
	Dementia	Limited/Inadequate	Prospective cohort studies; Specify exposure; Occupational setting	Bakulski (2020); Cicero (2017); Koeman (2015)
	Diabetes mellitus (types 1 and 2)	Limited/Inadequate	Prospective cohort studies	Liu (2016); Rana (2014)
	Idiopathic pulmonary fibrosis	Limited/Inadequate		Blanc (2019); Taskar (2006); Taskar (2008)
	Parkinson disease	Limited/Inadequate	Prospective cohort studies; Reverse causation; Specify exposure	Gunnarsson (2019)
	Pneumoconiosis	Limited/Inadequate		Wagner (1997); Standards (2014); McCunney (2009); Beer (2017); MacMurdo (2020); Borak (2016); Adams (2017); Taylor (2017)
	Sarcoidosis	Limited/Inadequate		Blanc (2019); Taskar (2008)
Heavy metals	ALS	Limited/Inadequate	Prospective cohort studies; Reverse causation	Peters (2021); Wang (2017)
Hard metal	Pneumoconiosis	Consistent		Wagner (1997); Standards (2014); McCunney (2009); Beer (2017); MacMurdo (2020); Borak (2016); Adams (2017); Taylor (2017)
Metalworking fluids	Ischemic heart disease	Limited/Inadequate	Prospective cohort studies	SBU (2017)
	Water-based, microbial contamination Hypersensitivity pneumonitis	Consistent		Cullinan (2014); Burge (2016); Barber (2017); Kongsupon (2021)
Mineral fibres	Sarcoidosis	Limited/Inadequate	Exposure-response	Blanc (2019); Taskar (2008)
Mineral oils, untreated or treated mildly	Cancer, Skin	Consistent		Loomis (2018); Marant Micallef (2018)
Mites	Allergic IgE mediated asthma	Consistent		Dalbøge (2020); Baur (2014); Cullinan (2020); Henneberger (2011); Maestrelli (2020); Arts (2020)
	Allergic rhinosinusitis/rhinitis	Consistent		Radon (2008); Stevens (2015); Chiarella (2015); Hellgren (2008); Ameille (2013); Nicholson (2005); Vandenplas (2020)
Molluscs	Allergic IgE mediated asthma	Limited/Inadequate		Dalbøge (2020); Baur (2014); Cullinan (2020); Henneberger (2011); Maestrelli (2020); Arts (2020)
Mould	Allergic IgE mediated asthma	Limited/Inadequate		Dalbøge (2020); Baur (2014); Cullinan (2020); Henneberger (2011); Maestrelli (2020); Arts (2020)
	Allergic Non IgE mediated asthma	Limited/Inadequate		Dalbøge (2020); Baur (2014); Cullinan (2020); Henneberger (2011); Maestrelli (2020); Arts (2020)

Mould, fungus and mites	Hypersensitivity pneumonitis	Consistent		Pepys (1965); Gerfaud-Valentin (2014); Cullinan (2014); Burge (2016); Barber (2017); Kongsupon (2021)
Mould and mildew	Sarcoidosis	Limited/Inadequate		Blanc (2019); Taskar (2008)
N,N-dimethylformamide	Cancer, Testis	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
Nickel compounds	Cancer, Lung	Consistent		Loomis (2018); Marant Micallef (2018)
	Cancer, Nasal cavity and paranasal sinus	Consistent		Loomis (2018); Marant Micallef (2018)
Nitrogen hydroxide	Chronic/irritant/perennial rhinitis	Limited/Inadequate		Archangelidi (2020); Radon (2008); Stevens (2015)
Nitroglycerine	Ischemic heart disease	Limited/Inadequate	Prospective cohort studies	SBU (2017)
Nylon	Pneumoconiosis	Limited/Inadequate		Wagner (1997); Standards (2014); McCunney (2009); Beer (2017); MacMurdo (2020); Borak (2016); Adams (2017); Taylor (2017)
PAHs	Ischemic heart disease	Limited/Inadequate	Prospective cohort studies; Gender differences; Effect during pregnancy; Studies on morbidity	SBU (2017)
Aluminium production; Coal gasification; Coal-tar pitch; Coke production	Cancer, Lung	Consistent		Loomis (2018); Marant Micallef (2018)
	Carbon electrode manufacture; Creosotes	Cancer, Lung	Limited/Inadequate	Loomis (2018); Marant Micallef (2018)
Creosotes	Cancer, Skin	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
Coal tar pitch	Cancer, Urinary bladder	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
Aluminium production	Cancer, Urinary bladder	Consistent		Loomis (2018); Marant Micallef (2018)
Pentachlorophenol	Cancer, Haematolymphatic system	Consistent		Loomis (2018); Marant Micallef (2018)
Perfluorooctanoic acid (PFOA)	Cancer, Testis	Consistent		IARC Monographs (2023)
	Cancer, Kidney	Consistent		IARC Monographs (2023)
Pesticides	ALS	Limited/Inadequate	Prospective cohort studies	Wang (2017)
	COPD, excess lung function decline	Limited/Inadequate		Dumas (2019); Pourhassan (2019)
	Dementia	Limited/Inadequate	Prospective cohort studies; Specify exposure	Zaganas (2013)
	Parkinson disease	Consistent	Exposure-response; Critical time window; Nature of exposure (specify exposure)	Gunnarsson (2017); Martino (2017)
	Sarcoidosis	Limited/Inadequate		Huntley (2022)
	Suicide	Consistent	Objective exposure assessment; Specify exposure	Freire (2013)
Polychlorinated biphenyls	Cancer, Breast	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
	Cancer, Haematolymphatic system	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
	Cancer, Skin	Consistent		Loomis (2018); Marant Micallef (2018)
Proteins from birds	Hypersensitivity pneumonitis	Consistent		Morell (2008); Ishizuka (2015); Cramer (2016); Barber (2017); Morell (2021)
Quaternary ammonium compounds	COPD, excess lung function decline	Limited/Inadequate		Dumas (2019); Pourhassan (2019)
Respirable crystalline silica	ALS	Limited/Inadequate	Prospective cohort studies	Visser (2019)

	Cancer, Lung	Consistent		Loomis (2018); Marant Micallef (2018)
	COPD, excess lung function decline	Consistent		Cullinan (2012); Omland (2014); Fell (2014); Ryu (2015); Alif (2016); Sadhra (2017); Schlünssen (2020)
	Ischemic heart disease	Consistent	Exposure-response; Gender differences; Critical time windows	SBU (2017); Sjögren (2020); Gustavsson (2019)
	Pneumoconiosis	Consistent		Wagner (1997); Standards (2014); McCunney (2009); Beer (2017); MacMurdo (2020); Borak (2016); Adams (2017); Taylor (2017)
	Sarcoidosis	Limited/Inadequate		Blanc (2019); Taskar (2008)
Rubber dust	COPD, excess lung function decline	Limited/Inadequate		Cullinan (2012); Fell (2014); Fontana (2017); Guillien (2019); Omland (2014)
Shale oils	Cancer, Skin	Consistent		Loomis (2018); Marant Micallef (2018)
Soluble cobalt(II) salts	Cancer, unspecified	Limited/Inadequate		IARC Monographs (2023)
Solvents	ALS	Limited/Inadequate	Objective exposure assessment	Wang (2017)
	Chronic/irritant/perennial rhinitis	Limited/Inadequate		Archangelidi (2020); Radon (2008); Stevens (2015)
	Dementia	Limited/Inadequate	Prospective cohort studies; Specify exposure	Killin (2016); Koeman (2015)
	Vapors Low-Dose Repeated Exposures Irritant-Induced Asthma	Consistent		Bernstein (2021); Vandenplas (2014)
	Organic solvents Multiple sclerosis	Limited/Inadequate	Nature and timing of exposure	Meca-Lallana (2021); Hedström (2018)
Soot	Cancer, Lung	Consistent		Loomis (2018); Marant Micallef (2018)
	Cancer, Skin	Consistent		Loomis (2018); Marant Micallef (2018)
	Cancer, Urinary bladder	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
Stone/sand/silica dust	Idiopathic Pulmonary Fibrosis	Limited/Inadequate		Blanc (2019); Taskar (2006); Taskar (2008)
Styrene	Cancer, Haematolymphatic system	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
	Hypersensitivity pneumonitis	Limited/Inadequate		Meyer (2018)
Sulfur mustard	Cancer, Lung	Consistent		Loomis (2018); Marant Micallef (2018)
Talc	Pneumoconiosis	Limited/Inadequate		Wagner (1997); Standards (2014); McCunney (2009); Beer (2017); MacMurdo (2020); Borak (2016); Adams (2017); Taylor (2017)
TCDD (phenoxy acids containing TCDD(dioxin))	Ischemic heart disease	Consistent	Exposure-response; Gender differences; Critical time windows	SBU (2017)
	Stroke	Limited/Inadequate	Prospective cohort studies	SBU (2017)
Tetrachloroethylene	Cancer, Urinary bladder	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
Textile dust (cotton, flax, jute)	COPD, excess lung function decline	Consistent		Cullinan (2012); Fell (2014); Fontana (2017); Guillien (2019); Omland (2014)
Trichloroethylene	Cancer, Haematolymphatic system	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
	Cancer, Kidney	Consistent		Loomis (2018); Marant Micallef (2018)
	Cancer, Liver	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
Trivalent antimony	Cancer, Lung	Limited/Inadequate		IARC Monographs (2023)

Vapours, dust, or fumes (non-specified)	COPD, excess lung function decline	Consistent		Cullinan (2012); Fell (2014); Omland (2014); Ryu (2015); Alif (2016); Sadhra (2017); Fuertes (2020); Schlünssen (2020)
	Idiopathic Pulmonary Fibrosis	Limited/Inadequate		Blanc (2019); Taskar (2006); Taskar (2008)
Vinyl chloride	Cancer, Liver	Consistent		Loomis (2018); Marant Micallef (2018)
Viral infection	ALS	Limited/Inadequate	Prospective cohort studies	Wang (2017)
	Chronic rhinosinusitis	Limited/Inadequate	Prospective cohort studies; Objective exposure measures; Standardized outcome measures	Geramas (2018); Sundaresan (2015); Clarhed (2018)
Waterproofing spray	Hypersensitivity pneumonitis	Limited/Inadequate		Walters (2017)
Welding and welding fumes	Cancer, Kidney	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
	Cancer, Lung	Consistent		Loomis (2018); Marant Micallef (2018)
	COPD, excess lung function decline	Consistent		Cullinan (2012); Omland (2014); Fell (2014); Ryu (2015); Alif (2016); Sadhra (2017); Schlünssen (2020)
	Ischemic heart disease	Limited/Inadequate	Prospective cohort studies; Specify exposure; Relevant exposure metrics; Threshold limit	Sjögren (2020); Gustavsson (2019); SBU (2017)
Western red cedar	Allergic Non IgE mediated asthma	Consistent		Dalbøge (2020); Baur (2014); Cullinan (2020); Henneberger (2011); Maestrelli (2020); Arts (2020)
Wood dust	Cancer, Nasal cavity and paranasal sinus	Consistent		Loomis (2018); Marant Micallef (2018)
	Cancer, Nasopharynx	Consistent		Loomis (2018); Marant Micallef (2018)
	COPD, excess lung function decline	Limited/Inadequate		Cullinan (2012); Fell (2014); Fontana (2017); Guillien (2019); Omland (2014)
	Idiopathic Pulmonary Fibrosis	Limited/Inadequate		Blanc (2019); Taskar (2006); Taskar (2008)
	Sarcoidosis	Limited/Inadequate		Blanc (2019); Taskar (2008)
Including plants (e.g., obeche, latex)	Allergic IgE mediated asthma	Consistent		Dalbøge (2020); Baur (2014); Cullinan (2020); Henneberger (2011); Maestrelli (2020); Arts (2020)
Including plants (e.g., pine, beech, oak, iroko, Tobacco, paprika, coffee)	Allergic IgE mediated asthma	Limited/Inadequate		Dalbøge (2020); Baur (2014); Cullinan (2020); Henneberger (2011); Maestrelli (2020); Arts (2020)
Including plants (e.g., pine, beech, oak, iroko, tobacco, paprika, coffee)	Allergic Non IgE mediated asthma	Limited/Inadequate		Dalbøge (2020); Baur (2014); Cullinan (2020); Henneberger (2011); Maestrelli (2020); Arts (2020)
Including plants (e.g., obeche, latex)	Allergic rhinosinusitis/rhinitis	Consistent		Radon (2008); Stevens (2015); Chiarella (2015); Hellgren (2008); Ameille (2013); Nicholson (2005); Vandenplas (2020)
Including plants (e.g., pine, beech, oak, iroko, Tobacco, paprika, coffee)	Allergic rhinosinusitis/rhinitis	Limited/Inadequate		Radon (2008); Stevens (2015); Chiarella (2015); Hellgren (2008); Ameille (2013); Nicholson (2005); Vandenplas (2020)
Pine, MDF	Hypersensitivity pneumonitis	Limited/Inadequate		Malmström (1999); Toribio (2012); Kongsupon (2021)
1,1,1-Trichloroethane	Cancer, Haematolymphatic system	Limited/Inadequate		IARC Monographs (2023)
1,2-Dichloropropane	Cancer, Biliary tract	Consistent		Loomis (2018); Marant Micallef (2018)

1,3-Butadiene	Cancer, Haematolymphatic system	Consistent	Loomis (2018); Marant Micallef (2018)
2-Bromopropane	Cancer, unsepecified	Limited/Inadequate	IARC Monographs (2023)
2,3,7,8-Tetrochlorodibenzo- para-dioxin	All cancers combined	Consistent	Loomis (2018); Marant Micallef (2018)
2-mercaptobenzothiazole	Cancer, Urinary bladder	Limited/Inadequate	Loomis (2018); Marant Micallef (2018)

Supplemental Table 3: Possible occupational risk factors for cancer, non-malignant respiratory diseases, neurodegenerative diseases, cardiovascular and metabolic diseases, mental disorders, and musculoskeletal diseases – Physical exposures, including radiation, radionuclides and trauma

Exposure	Disease/disorder	Status of knowledge	Areas to focus research on	References
Cold	Carpal tunnel syndrome	Limited/Inadequate	Prospective cohort studies	Mäkinen (2009)
Electric shock	ALS	Limited/Inadequate	Prospective cohort studies; Disentangle exposures related to electric work (Specify exposure)	Peters (2019); Wang (2017)
ELF-MF	ALS	Consistent	Exposure-response; Critical time window	Huss (2018)
	Dementia	Limited/Inadequate	Prospective cohort studies	Gunnarsson (2018); Killin (2016); Koeman (2015)
	Parkinson disease	Limited/Inadequate	Prospective cohort studies	Gunnarsson (2019); Huss (2015)
Hand-arm vibration	Carpal tunnel syndrome	Consistent	Gender differences; Exposure-response	Nilsson (2017); Kozak (2015); Barcenilla (2012); van Rijn (2009); Palmer (2007)
	Hand/wrist osteoarthritis	Limited/Inadequate	Prospective cohort studies; Gender differences; Exposure-response	Hammer (2014)
	Subacromial pain syndrome	Limited/Inadequate	Prospective cohort studies; Gender differences; Interaction between physical and psychosocial exposures	Dalbøge (2018); van der Molen (2017)
Head trauma	Dementia	Limited/Inadequate	Prospective cohort studies; More studies on non-military occupations such, and studies on potential differential disease risks in treated vs untreated head trauma.	Snyder (2018)
	Parkinson disease	Limited/Inadequate	Prospective cohort studies; Reverse causation	Ascherio (2016); Harris (2013); Martino (2017)
Ionising radiation (all types)	Cancer, none-specified	Consistent		Loomis (2018); Marant Micallef (2018)
	Stroke	Limited/Inadequate		SBU (2015)
Noise	Dementia	Limited/Inadequate	Prospective cohort studies; Occupational setting	Huang (2021)
	Diabetes mellitus (types 1 and 2) and pregnancy related diabetes	Limited/Inadequate	Prospective cohort studies	Wang (2020); Lissåker (2021)
	Hypertension	Consistent	Gender differences; Critical time windows; Low frequency noise, different occupational noise sources (machine, industry, pre-school, restaurant)	Basner (2014); Bolm-Audorff (2020); Skogstad (2016)
	Ischemic heart disease	Limited/Inadequate	Prospective cohort studies	SBU (2015)
	Stroke	Limited/Inadequate	Prospective cohort studies; Objective measurements of exposure	Teixeira (2021)
Plutonium	Cancer, Bone	Consistent		Loomis (2018); Marant Micallef (2018)
	Cancer, Liver	Consistent		Loomis (2018); Marant Micallef (2018)
	Cancer, Lung	Consistent		Loomis (2018); Marant Micallef (2018)
Radioiodines, including iodine-131	Cancer, Bone	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
	Cancer, Digestive tract	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
	Cancer, Haematolymphatic system	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
	Cancer, Salivary Gland	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
	Cancer, Thyroid	Consistent		Loomis (2018); Marant Micallef (2018)
Radionuclides, alpha-particle emitting, internally deposited	Cancer, none-specified	Consistent		Loomis (2018); Marant Micallef (2018)
Radionuclides, beta-particle emitting, internally deposited	Cancer, none-specified	Consistent		Loomis (2018); Marant Micallef (2018)

Radium-224, -226, -228 and its decay products	Cancer, Bone	Consistent		Loomis (2018); Marant Micallef (2018)
Radium-226, -228 and its decay products	Cancer, Nasal cavity and paranasal sinus	Consistent		Loomis (2018); Marant Micallef (2018)
Radon-222	Cancer, Haematolymphatic system	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
Including decay products	Cancer, Lung	Consistent		Loomis (2018); Marant Micallef (2018)
Solar radiation	Cancer, Skin	Consistent		Loomis (2018); Marant Micallef (2018)
Thorium-232 and its decay products	Cancer, Prostate	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
Trauma	ALS	Limited/Inadequate	Reverse causation	Wang (2017)
Ultraviolet radiation	Cancer, Eye	Consistent		Loomis (2018); Marant Micallef (2018)
	Cancer, Skin	Consistent		Loomis (2018); Marant Micallef (2018)
Whole-body vibration	Non-specific low back pain	Consistent	Gender differences; Exposure-response; Interaction between physical and psychosocial exposures	Lötters (2003); SBU (2014); Burström (2015); Hoogendoorn (1999)
	Hip osteoarthritis	Consistent	Gender differences; Exposure-response	Gignac (2020)
Professional driving	Sciatic pain	Limited/Inadequate		SBU (2014); Burström (2015); Bovenzi (2015)
Professional driving	Sciatica	Limited/Inadequate	Prospective cohort studies; Exposure-response; Gender differences; Interaction between physical and psychosocial exposures	Kuijer (2018)
Whole body vibration and hand-arm vibration	Diabetes mellitus (types 1 and 2) and pregnancy-related diabetes	Limited/Inadequate	Prospective cohort studies; Adjustment for related occupational exposure (e.g., particles and physically strenuous work)	Lapko (2017); Atal (2022); Skröder (2020)
X-radiation and gamma-radiation	Cancer, Bone	Consistent		Loomis (2018); Marant Micallef (2018)
	Cancer, Brain and central nervous system	Consistent		Loomis (2018); Marant Micallef (2018)
	Cancer, Breast	Consistent		Loomis (2018); Marant Micallef (2018)
	Cancer, Colon and Rectum	Consistent		Loomis (2018); Marant Micallef (2018)
	Cancer, Oesophagus	Consistent		Loomis (2018); Marant Micallef (2018)
	Cancer, Haematolymphatic system	Consistent		Loomis (2018); Marant Micallef (2018)
	Cancer, Kidney	Consistent		Loomis (2018); Marant Micallef (2018)
	Cancer, Liver	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
	Cancer, Lung	Consistent		Loomis (2018); Marant Micallef (2018)
	Cancer, Ovary	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
	Cancer, Pancreas	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
	Cancer, Prostate	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)

Cancer, Salivary Gland	Consistent	Loomis (2018); Marant Micallef (2018)
Cancer, Skin	Consistent	Loomis (2018); Marant Micallef (2018)
Cancer, Stomach	Consistent	Loomis (2018); Marant Micallef (2018)
Cancer, Thyroid	Consistent	Loomis (2018); Marant Micallef (2018)
Cancer, Urinary bladder	Consistent	Loomis (2018); Marant Micallef (2018)

ALS = amyotrophic lateral sclerosis; ELF-MF = extremely low-frequency magnetic fields

Supplemental Table 4: Possible occupational risk factors for cancer, non-malignant respiratory diseases, neurodegenerative diseases, cardiovascular and metabolic diseases, mental disorders, and musculoskeletal diseases – Biomechanical exposures

Exposure	Disease/disorder	Status of knowledge	Areas to focus research on	References
Arm elevation (hands at or above shoulder level)	Sciatic pain	Limited/Inadequate	Prospective cohort studies; Exposure-response; Gender differences; Interaction between physical and psychosocial exposures	SBU (2014)
	Subacromial pain syndrome	Consistent	Prospective cohort studies; Gender differences; Exposure-response	Dalbøge (2018); van der Molen (2017), Seidler (2020); Wærsted (2020)
Carrying, pushing or pulling	Non-specific low back pain	Limited/Inadequate	Prospective cohort studies; Objective exposure measurements; Gender differences; Exposure-response; Interaction between physical and psychosocial exposures	SBU (2014); Swain (2020)
Climbing stairs	Knee osteoarthritis	Limited/Inadequate	Gender differences; Exposure-response	Schram (2020); Verbeek (2017); Gignac (2020); Wang (2020)
Combined biomechanical exposures	Subacromial pain syndrome	Consistent	Prospective cohort studies; Gender differences; Exposure-response	Dalbøge (2018); van der Molen (2017)
	Chronic low back pain	Consistent	Case control and cohort studies; exposure–response relation	Jahn (2023)
Computer work	Carpal tunnel syndrome	Limited/Inadequate	Adjustment for other occupational exposures	Coenen (2019); Shiri (2015); Kozak (2015); Mediouni (2014); van Rijn (2009); Thomsen (2008);
Extended/ flexed wrist	Carpal tunnel syndrome	Limited/Inadequate	Prospective cohort studies; Using an objective and conservative definition of CTS; Confounding; Gender differences	Kozak (2015); You (2014); Barcenilla (2012); van Rijn (2009); Palmer (2007)
Forceful shoulder exertion	Subacromial pain syndrome	Consistent	Prospective cohort studies; Gender differences; Exposure-response	Dalbøge (2018); van der Molen (2017)
Hand force	Carpal tunnel syndrome	Consistent	Gender differences; Exposure-response	Kozak (2015); Barcenilla (2012); van Rijn (2009)
	Hand/wrist osteoarthritis	Limited/Inadequate	Prospective cohort studies; Gender differences; Exposure-response	Hammer (2014)
Heavy lifting	Hip osteoarthritis	Consistent	Gender differences; Exposure-response; Interaction with overweight/obesity	Schram (2020); Sun (2019); Gignac (2020); Canetti (2020)
	Knee osteoarthritis	Consistent	Gender differences; Exposure-response; Interaction with overweight/obesity	Schram (2020); Verbeek (2017); Canetti (2020); Wang (2020)
	Non-specific low back pain	Consistent	Gender differences; Objective exposure measurements; Exposure-response; Interaction between physical and psychosocial exposures	SBU (2014); Swain (2020)
Kneeling/squatting	Hip osteoarthritis	Limited/Inadequate	Prospective cohort studies; Exposure-response; Gender differences	Schram (2020); Canetti (2020)
	Knee osteoarthritis	Consistent	Gender differences; Interaction with overweight/obesity	Schram (2020); Gignac (2020); Wang (2020); Verbeek (2017)
	Non-specific low back pain	Limited/Inadequate	Prospective cohort studies; Objective exposure measurements; Gender differences; Exposure-response; Interaction between physical and psychosocial exposures	SBU (2014)
	Sciatic pain	Limited/Inadequate	Prospective cohort studies; Exposure-response; Gender differences; Interaction between physical and psychosocial exposures	SBU (2014); Cook (2014)
	Sciatica	Limited/Inadequate	Prospective cohort studies; Exposure-response; Gender differences; Interaction between physical and psychosocial exposures	Kuijjer (2018)
Lifting and bending of the trunk	Sciatica	Limited/Inadequate	Prospective cohort studies; Exposure-response; Gender differences; Interaction between physical and psychosocial exposures	Kuijjer (2018)
Lifting and carrying	Hip osteoarthritis	Limited/Inadequate	Prospective cohort studies; Exposure-response; Gender differences	Gignac (2020); Canetti (2020)
	Knee osteoarthritis	Limited/Inadequate	Exposure-response; Gender differences	Gignac (2020); Wang (2020); Canetti (2020)
	Chronic low back pain	Consistent	Case control and cohort studies; exposure–response relation	Jahn (2023)
	Sciatica	Limited/Inadequate	Prospective cohort studies; Exposure-response; Gender differences; Interaction between physical and psychosocial exposures	Kuijjer (2018)
Lifting and kneeling/squatting	Knee osteoarthritis	Limited/Inadequate	Gender differences; Interaction with overweight/obesity	Schram (2020); Verbeek (2017); Gignac (2020)

Manual material handling	Non-specific low back pain	Consistent	Gender differences; Objective exposure measurements; Exposure-response; Interaction between physical and psychosocial exposures	SBU (2014); Yassi (2013); Swain (2020)
	Sciatic pain	Limited/Inadequate	Prospective cohort studies; Exposure-response; Gender differences; Interaction between physical and psychosocial exposures	SBU (2014)
Physically heavy work	ALS	Limited/Inadequate	Prospective cohort studies	Wang (2017); Visser (2018); Gallo (2016); Westenberg (2021)
	Ischemic heart disease	Limited/Inadequate		Sara (2018)
	Knee osteoarthritis	Consistent	Gender differences; Exposure-response	Gignac (2020)
	Non-specific low back pain	Limited/Inadequate	Prospective cohort studies; Objective exposure measurements; Gender differences; Exposure-response; Interaction between physical and psychosocial exposures	SBU (2014); Swain (2020)
	Sciatic pain	Limited/Inadequate	Prospective cohort studies; Exposure-response; Gender differences; Interaction between physical and psychosocial exposures	SBU (2014); Bovenzi (2015)
	Sciatica	Limited/Inadequate	Prospective cohort studies; Exposure-response; Gender differences; Interaction between physical and psychosocial exposures	Kuijjer (2018)
	Stroke	Limited/Inadequate	Prospective cohort studies; Occupational setting; Adjustment for confounders; Subgroup-analysis (e.g., women)	Muacevic and Adler, 2018
Repetitive movement	Carpal tunnel syndrome	Consistent	Gender differences; Exposure-response	Kozak (2015); Barcenilla (2012); van Rijn (2009); Palmer (2007)
	Hand/wrist osteoarthritis	Limited/Inadequate	Prospective cohort studies; Exposure-response; Gender differences	Hammer (2014); Gignac (2020)
	Non-specific low back pain	Limited/Inadequate	Prospective cohort studies; Objective exposure measurements; Gender differences; Exposure-response; Interaction between physical and psychosocial exposures	SBU (2014)
Repetitive shoulder movement	Subacromial pain syndrome	Limited/Inadequate	Prospective cohort studies; Gender differences; Interaction between physical and psychosocial exposures	Dalbøge (2018); van der Molen (2017)
Sedentary work/sitting at work	Non-specific low back pain	Limited/Inadequate	Prospective cohort studies; Objective exposure measurements; Gender differences; Exposure-response; Interaction between physical and psychosocial exposures	SBU (2014); Swain (2020)
	Chronic low back pain	Limited/Inadequate	Case-control and cohort studies	Jahn (2023)
	Obesity (general and abdominal)	Limited/Inadequate	Prospective cohort studies; Objective exposure assessment	Shrestha (2016); van Uffelen (2010)
	Sciatic pain	Limited/Inadequate	Prospective cohort studies; Exposure-response; Gender differences; Interaction between physical and psychosocial exposures	SBU (2014)
	Sciatica	Limited/Inadequate	Prospective cohort studies; Exposure-response; Gender differences; Interaction between physical and psychosocial exposures	Kuijjer (2018)
Spinal loading	Sciatic pain	Limited/Inadequate	Prospective cohort studies; Exposure-response; Gender differences; Interaction between physical and psychosocial exposures	Bovenzi (2015)
Standing (alone or in combination with walking)	Hip osteoarthritis	Limited/Inadequate	Prospective cohort studies; Exposure-response; Gender differences	Schram (2020); Canetti (2020)
	Knee osteoarthritis	Limited/Inadequate	Gender differences	Schram et al. 2020; Wang et al., 2020; Canetti et al., 2020
	Non-specific low back pain	Limited/Inadequate	Prospective cohort studies; Objective exposure measurements; Gender differences; Exposure-response; Interaction between physical and psychosocial exposures	Swain (2020)
	Chronic low back pain	Limited/Inadequate	Case-control and cohort studies; Exposure-response	Jahn (2023)
Twisting of the trunk/Awkward trunk posture	Non-specific low back pain	Consistent	Gender differences; Exposure-response; Interaction between physical and psychosocial exposures	SBU (2014); Swain (2020)
	Chronic low back pain	Consistent	Non-neutral body positions; Case-control and cohort studies; Exposure-response	Jahn (2023)

Sciatic pain	Limited/Inadequate	Prospective cohort studies; Exposure-response; Gender differences; Interaction between physical and psychosocial exposures	Cook (2014); SBU (2014)
Sciatica	Limited/Inadequate	Prospective cohort studies; Exposure-response; Gender differences; Interaction between physical and psychosocial exposures	Kuijer (2018)

ALS = amyotrophic lateral sclerosis; CVD = cardiovascular diseases

Supplemental Table 5: Possible occupational risk factors for cancer, non-malignant respiratory diseases, neurodegenerative diseases, cardiovascular and metabolic diseases, mental disorders, and musculoskeletal diseases – Psychosocial and organizational exposures

Exposure	Disease/disorder	Status of knowledge	Areas to focus research on	References
Aggression by co-workers or supervisor	Burnout	Limited/Inadequate	Prospective cohort studies	Pacheco (2021)
Aggression by customer	Burnout	Consistent	Gender and age differences; Threshold exposure; Beneficial versus detrimental effects	Pacheco (2021)
Bullying	Anxiety	Consistent	Interaction (age, sex and ethnic background)	Boudrias (2021); Leach (2017); Verkuil (2015)
	Burnout	Consistent	Gender and age differences; Threshold exposure; Beneficial versus detrimental effects	Boudrias (2021)
	Depression	Consistent	Prospective cohort studies; Exposure-response; Combined/cumulative exposures; Beneficial versus detrimental factors; Causation; Interaction (age, sex and ethnic background)	Niedhammer (2021); Boudrias (2021); Mikkelsen (2021)
	Suicide ideation	Consistent	Threshold exposure; Causal mechanism; Interaction (age, sex and ethnic background)	Boudrias (2021); Leach (2017)
Decision latitude	Burnout	Consistent	Gender and age differences; Threshold exposure; Beneficial versus detrimental effects	Niedhammer (2021)
	Depression	Consistent	Prospective cohort studies; Exposure-response; Combined/cumulative exposures; Beneficial versus detrimental factors; Causation; Interaction (age, sex and ethnic background)	Niedhammer (2021)
	Ischemic heart disease	Consistent		Sara (2018)
	Stroke	Limited/Inadequate		SBU (2015)
	Subacromial pain syndrome	Limited/Inadequate		Dalbøge (2018); van der Molen (2017)
	Suicide	Limited/Inadequate	Prospective cohort studies	Niedhammer (2021)
	Suicide ideation	Consistent	Threshold exposure; Causal mechanism; Interaction (age, sex and ethnic background)	Niedhammer (2021)
Development possibilities	Depression	Limited/Inadequate	Prospective cohort studies; Longer follow-up periods (from first employment)	Theorell (2015)
Effort-reward imbalance	Burnout	Limited/Inadequate		Niedhammer (2021)
	Depression	Consistent	Prospective cohort studies; Exposure-response; Combined/cumulative exposures; Beneficial versus detrimental factors; Causation; Interaction (age, sex and ethnic background)	Niedhammer (2021)
	Hypertension	Limited/Inadequate	Prospective cohort studies	SBU (2015)
	Ischemic heart disease	Limited/Inadequate		Sara (2018)
	Non-specific low back pain	Limited/Inadequate	Prospective cohort studies; Objective exposure measurements; Gender differences; Exposure-response; Interaction between physical and psychosocial exposures	Bernal (2015); Buruck (2019)
	Suicide ideation	Limited/Inadequate	Prospective cohort studies	Niedhammer (2021)
Emotional demands	Burnout	Consistent	Gender and age differences; Threshold exposure; Beneficial versus detrimental effects	Niedhammer (2021)
	Depression	Consistent	Prospective cohort studies; Exposure-response; Combined/cumulative exposures; Beneficial versus detrimental factors; Causation; Interaction (age, sex and ethnic background)	Mikkelsen (2021)
Iso strain	Sciatic pain	Limited/Inadequate	Prospective cohort studies; Exposure-response; Gender differences; Interaction between physical and psychosocial exposures	Bovenzi (2015); SBU (2014)
Job complexity	Dementia	Limited/Inadequate	Prospective cohort studies; Adjustment for related occupational exposures; Reverse causation	Gunnarsson (2019); Then (2014)
Job strain	Depression	Consistent	Prospective cohort studies; Exposure-response; Combined/cumulative exposures; Beneficial versus detrimental factors; Causation; Interaction (age, sex and ethnic background)	Niedhammer (2021); Mikkelsen (2021); Madsen (2017)
	Hypertension	Limited/Inadequate	Prospective cohort studies; Specify exposure	Babu (2014); Gilbert-Ouimet (2014); SBU (2015)
	Ischemic heart disease	Consistent		Sara (2018)

	Non-specific low back pain	Consistent	Gender differences; Exposure-response; Interaction between physical and psychosocial exposures	Bernal (2015); Lang (2012)
	Obesity (general and abdominal)	Limited/Inadequate	Prospective cohort studies; Specify exposure (frequency and duration); Bidirectional causality; Adjustment for lifestyle factors (e.g., physical activity); Gender differences	Overgaard (2004); Nyberg (2012); Solovieva (2013); Nyberg (2013); Kivimäki (2015a)
	Suicide ideation	Limited/Inadequate	Prospective cohort studies	Niedhammer (2021)
Job control	Carpal tunnel syndrome	Limited/Inadequate	Prospective cohort studies; Adjustment for confounders	Mansfield (2018); van Rijn (2009)
	Dementia	Limited/Inadequate	Specify exposure; Adjustment for related occupational exposures	Gunnarsson (2019); Then (2014)
	Depression	Consistent	Prospective cohort studies; Exposure-response; Combined/cumulative exposures; Beneficial versus detrimental factors; Causation; Interaction (age, sex and ethnic background)	Mikkelsen (2021)
	Non-specific low back pain	Consistent	Gender differences; Exposure-response; Interaction between physical and psychosocial exposures	Bernal (2015); Buruck (2019); Lang (2012); Thiese (2020)
	Subacromial pain syndrome	Limited/Inadequate	Prospective cohort studies; Gender differences; Interaction between physical and psychosocial exposures	Dalbøge (2018); van der Molen (2017)
Job insecurity	Anxiety	Limited/Inadequate	Prospective cohort studies	Niedhammer (2021)
	Burnout	Limited/Inadequate	Prospective cohort studies	Niedhammer (2021)
	Depression	Consistent	Prospective cohort studies; Exposure-response; Combined/cumulative exposures; Beneficial versus detrimental factors; Causation; Interaction (age, sex and ethnic background)	Niedhammer (2021); Mikkelsen (2021); Rönnblad (2019); Kim (2016)
	Ischemic heart disease	Limited/Inadequate		Sara (2018)
	Non-specific low back pain	Limited/Inadequate	Prospective cohort studies; Objective exposure measurements; Gender differences; Exposure-response; Interaction between physical and psychosocial exposures	Lang (2012)
	Suicide ideation	Consistent	Threshold exposure; Causal mechanism; Interaction (age, sex and ethnic background)	Niedhammer (2021)
Monotonous work	Non-specific low back pain	Limited/Inadequate	Prospective cohort studies; Objective exposure measurements; Gender differences; Exposure-response; Interaction between physical and psychosocial exposures	Lang (2012)
Organizational injustice	Burnout	Limited/Inadequate	Prospective cohort studies	Niedhammer (2021)
Procedural injustice	Depression	Limited/Inadequate	Prospective cohort studies; Longer follow-up periods (from first employment)	Mikkelsen (2021); Theorell (2015)
Psychosocial demands	Burnout	Consistent	Gender and age differences; Threshold exposure; Beneficial versus detrimental effects	Niedhammer (2021)
	Carpal tunnel syndrome	Limited/Inadequate	Prospective cohort studies; Adjustment for confounders	Mansfield (2018); van Rijn (2009)
	Depression	Limited/Inadequate	Prospective cohort studies; Longer follow-up periods (from first employment)	Mikkelsen (2021)
	Ischemic heart disease	Limited/Inadequate		Sara (2018)
	Non-specific low back pain	Consistent	Reversed or reciprocal causation between stressor and pain; Gender differences; Exposure-response; Interaction between physical and psychosocial exposures	Bernal (2015); Lang (2012)
	Subacromial pain syndrome	Limited/Inadequate	Prospective cohort studies; Gender differences; Interaction between physical and psychosocial exposures	Dalbøge (2018); van der Molen (2017)
	Suicide	Limited/Inadequate	Prospective cohort studies	Niedhammer (2021)
	Suicide ideation	Consistent	Threshold exposure; Causal mechanism; Interaction (age, sex and ethnic background)	Niedhammer (2021)
Psychosocial factors (non-specified)	Chronic rhinosinusitis	Limited/Inadequate	Prospective cohort studies; Objective exposure measures; Standardized outcome measures	Geramas (2018); Sundaesan (2015); Clarhed (2018)
Relation injustice	Depression	Limited/Inadequate	Prospective cohort studies; Longer follow-up periods (from first employment)	Mikkelsen (2021); Theorell (2015)
Role conflict	Suicide ideation	Limited/Inadequate	Prospective cohort studies	Milner (2018)
Shift work	Anxiety	Limited/Inadequate	Too few studies	Torquati (2019)

	Depression	Consistent	Prospective cohort studies; Exposure-response; Combined/cumulative exposures; Beneficial versus detrimental factors; Causation; Interaction (age, sex and ethnic background)	Rivera (2020); Mikkelsen (2021); Torquati (2019)
	Hypertension	Limited/Inadequate	Prospective cohort studies; More studies on potential differential effect for rotating shift workers versus night shift workers	Deng (2018); Knutsson (2000); Manohar (2017)
	Obesity (general and abdominal)	Limited/Inadequate	Prospective cohort studies; Specify exposure; Healthy worker effect	Esquirol (2011); Amani (2013); Proper (2016); Shrestha (2016); Saulle (2018); Sun (2018); Zhang (2020b)
	Stroke	Limited/Inadequate	Causal mechanism and mediating factors; Specify exposure (different types of shift work, intensity of shift, night work); The importance of consecutive nights and quick returns	Vyas (2012); Li (2016)
Shift work and working hours	Suicide ideation	Limited/Inadequate	Prospective cohort studies	Milner (2018)
Shift work, night work	Cancer, Breast	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
	Cancer, Colon and Rectum	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
	Cancer, Prostate	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
	Dementia	Limited/Inadequate	Prospective cohort studies	Bokenberger (2018); Nabe-Nielsen (2019)
	Depression	Limited/Inadequate	Prospective cohort studies; Longer follow-up periods (from first employment)	Lee (2017)
	Obesity (general and abdominal)	Consistent	Detailed evaluation of shifts; Number of consecutive shifts; Quick returns etc.	Sun (2018); Zhang (2020b)
	Multiple sclerosis	Limited/Inadequate		Hedström (2015); Gustavsen (2016)
	Ischemic heart disease	Limited/Inadequate	Prospective cohort studies; Specify exposure; The importance of consecutive nights and quick returns	Torquati (2018)
Skill discretion	Depression	Limited/Inadequate	Prospective cohort studies; Longer follow-up periods (from first employment)	Mikkelsen (2021)
	Sciatic pain	Limited/Inadequate	Prospective cohort studies; Exposure-response; Gender differences; Interaction between physical and psychosocial exposures	SBU (2014)
Social support	Burnout	Consistent	Gender and age differences; Threshold exposure; Beneficial versus detrimental effects	Niedhammer (2021)
	Carpal tunnel syndrome	Limited/Inadequate	Prospective cohort studies; Adjustment for confounders	Mansfield (2018); van Rijn (2009)
	Depression	Consistent	Prospective cohort studies; Exposure-response; Combined/cumulative exposures; Beneficial versus detrimental factors; Causation; Interaction (age, sex and ethnic background)	Mikkelsen (2021); Theorell (2015)
	Ischemic heart disease	Limited/Inadequate		Sara (2018)
	Non-specific low back pain	Limited/Inadequate	Prospective cohort studies; Objective exposure measurements; Gender differences; Exposure-response; Interaction between physical and psychosocial exposures	Bernal (2015); Buruck (2019); Campbell (2013); Lang (2012); Thiese (2020)
	Subacromial pain syndrome	Limited/Inadequate		Dalbøge (2018); van der Molen (2017)
	Suicide	Limited/Inadequate	Prospective cohort studies	Niedhammer (2021)
	Suicide ideation	Consistent	Threshold exposure; Causal mechanism; Interaction (age, sex and ethnic background)	Milner (2018)
Temporary agency work	Anxiety	Limited/Inadequate	Prospective cohort studies	Hünefeld (2020)
	Burnout	Limited/Inadequate	Prospective cohort studies	Hünefeld (2020)
	Depression	Limited/Inadequate	Prospective cohort studies	Hünefeld (2020)
Temporary employment	Depression	Limited/Inadequate	Prospective cohort studies; Longer follow-up periods (from first employment)	Rönnblad (2019)

Violence or threats	Anxiety	Limited/Inadequate	Prospective cohort studies	Niedhammer (2021); Rudkjoebing (2020)
	Burnout	Consistent	Gender and age differences; Threshold exposure; Beneficial versus detrimental effects	Niedhammer (2021); Rudkjoebing (2020)
	Depression	Consistent	Prospective cohort studies; Exposure-response; Combined/cumulative exposures; Beneficial versus detrimental factors; Causation; Interaction (age, sex and ethnic background)	Niedhammer (2021); Mikkelsen (2021); Rudkjoebing (2020)
Working hours	Anxiety	Limited/Inadequate	Too few studies	Niedhammer (2021)
	Depression	Consistent	Prospective cohort studies; Exposure-response; Combined/cumulative exposures; Beneficial versus detrimental factors; Causation; Interaction (age, sex and ethnic background)	Niedhammer (2021); Mikkelsen (2021); Madsen (2017); Virtanen (2018); Wong (2019)
	Diabetes mellitus (types 1 and 2) and pregnancy related diabetes	Limited/Inadequate	Better exposure assessment; Adjustment for related occupational exposures	Sui (2016)
Long working hours	Obesity (general and abdominal)	Limited/Inadequate	Prospective cohort studies; Exposure-response	Solovieva (2013); Virtanen (2020); Zhu (2020); Li (2021)
	Ischemic heart disease	Consistent		NEG (2020)
	Stroke	Consistent	Causal mechanism; Objective measured exposure; More studies on subgroups of gender and type of stroke.	Descatha (2020); Kivimäki (2015b)
Long/irregular working hours	Sciatic pain	Limited/Inadequate	Prospective cohort studies; Exposure-response; Gender differences; Interaction between physical and psychosocial exposures	SBU (2014)
Workplace conflicts	Depression	Limited/Inadequate	Prospective cohort studies	Theorell (2015)

Supplemental Table 6: Possible occupational risk factors for cancer, non-malignant respiratory diseases, neurodegenerative diseases, cardiovascular and metabolic diseases, mental disorders, and musculoskeletal diseases – Occupation, industry, and process

Exposure	Disease/disorder	Status of knowledge	Areas to focus research on	References
Acheson process	Cancer, Lung	Consistent	Specify exposure	Loomis (2018); Marant Micallef (2018)
Automobile manufacturing	Sarcoidosis	Limited/Inadequate	Specify exposure	Taskar (2008); Blanc (2019)
Electrolytic production of aluminium	Ischemic heart disease	Limited/Inadequate	Prospective cohort studies	SBU (2017)
	Stroke	Limited/Inadequate	Prospective cohort studies	SBU (2017)
Fire fighting	Cancer, Colon	Limited/Inadequate		Demers (2022)
	Cancer, Melanoma of the skin	Limited/Inadequate		Demers (2022)
	Cancer, Mesothelioma	Consistent		Demers (2022)
	Cancer, Non-Hodgkin lymphoma	Limited/Inadequate		Demers (2022)
	Cancer, Prostate	Limited/Inadequate		Demers (2022)
	Cancer, Testis	Limited/Inadequate		Demers (2022)
	Cancer, Urinary bladder	Consistent		Demers (2022)
	Ischemic heart disease	Limited/Inadequate	Selection into and out workforce (by finding appropriate comparison groups and/or using cohort- internal analyses)	Soteriades (2011); Sjögren (2020)
Glass production	Sarcoidosis	Limited/Inadequate	Specify exposure	Taskar (2008); Blanc (2019)
	Cancer, Lung	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
Including ceramic production	COPD, excess lung function decline	Limited/Inadequate	Specify exposure	Cullinan (2012); Omland (2014); Fell (2014); Ryu (2015); Alif (2016); Sadhra (2017); Schlünssen (2020)
Hairdressing	Cancer, Urinary bladder	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
	Idiopathic Pulmonary Fibrosis	Limited/Inadequate	Specify exposure	Taskar (2006); Taskar (2008) Blanc (2019)
Hematite mining (underground, with exposure to radon)	Cancer, Lung	Consistent		Loomis (2018); Marant Micallef (2018)
Iron and steel founding (occupational exposure during)	Cancer, Lung	Consistent		Loomis (2018); Marant Micallef (2018)
Isopropyl alcohol manufacturing using strong acids	Cancer, Nasal cavity and paranasal sinus	Consistent		Loomis (2018); Marant Micallef (2018)
Military service	ALS	Consistent	Nature of exposure within military service (Specify exposure)	Al-Chalabi (2013); Wang (2017)
	Sarcoidosis	Limited/Inadequate	Specify exposure	Taskar (2008); Blanc (2019)
Painter	Cancer, Lung	Consistent		Loomis (2018); Marant Micallef (2018)
	Cancer, Mesothelioma	Consistent		Loomis (2018); Marant Micallef (2018)
	Cancer, Urinary bladder	Consistent		Loomis (2018); Marant Micallef (2018)
Paper production (using sulphate pulping process)	Ischemic heart disease	Limited/Inadequate	Prospective cohort studies	SBU (2017)
Petroleum production	COPD, excess lung function decline	Limited/Inadequate	Specify exposure	Cullinan (2012); Omland (2014); Fell (2014); Ryu (2015); Alif (2016); Sadhra (2017); Schlünssen (2020)

Petroleum refining	Cancer, Skin	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
Raising birds	Idiopathic Pulmonary Fibrosis	Limited/Inadequate	Specify exposure	Taskar (2006); Taskar (2008) Blanc (2019)
	Sarcoidosis	Limited/Inadequate	Specify exposure	Taskar (2008); Blanc (2019)
Rubber manufacturing	Cancer, Oesophagus	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
	Cancer, Haematolymphatic system	Consistent		Loomis (2018); Marant Micallef (2018)
	Cancer, Larynx	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
	Cancer, Lung	Consistent		Loomis (2018); Marant Micallef (2018)
	Cancer, Prostate	Limited/Inadequate		Loomis (2018); Marant Micallef (2018)
	Cancer, Stomach	Consistent		Loomis (2018); Marant Micallef (2018)
	Cancer, Urinary bladder	Consistent		Loomis (2018); Marant Micallef (2018)
Tunnel work	COPD, excess lung function decline	Limited/Inadequate	Specify exposure	Cullinan (2012); Omland (2014); Fell (2014); Ryu (2015); Alif (2016); Sadhra (2017); Schlünssen (2020)

COPD = chronic obstructive pulmonary disease; ALS = amyotrophic lateral sclerosis

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