

Hazardous Substances

Industrial Toxins and Chemicals – Toxic substances that can cause lung diseases

Toxin	Common industrial diseases it can cause	Occupations/Industries at risk	Acute health effects	Chronic health effects
Asbestos	<ul style="list-style-type: none"> • Asbestosis • Mesothelioma • Pleural Plaques • Pleural Thickening 	<ul style="list-style-type: none"> • Mining • Construction • Shipbuilding • Manufacturing of asbestos-containing materials • Carpenters • Painters • Railway industry workers • Electricians • Plumbers and gas fitters • Public building workers • Roofers • Steel workers • Vehicle body workers • Transport/haulage workers 	<ul style="list-style-type: none"> • Cough • Shortness of breath, wheezing or hoarseness • Shoulder pain • Unexplained weight loss • Chest pain • Depression, mood changes 	<ul style="list-style-type: none"> • Fibrosis – the formation of too many fibrous tissues • Pleural calcification – hardening of the membrane covering the surface of the lung • Lung cancer – tumor cells growing in the lung • Pleural Mesothelioma – Cancer contained in the lining of the lungs
Aluminium dust	<ul style="list-style-type: none"> • Aluminosis 	<ul style="list-style-type: none"> • Manufacture of aluminium products • Fireworks • Ceramics • Paints • Electrical goods • Abrasives 	<ul style="list-style-type: none"> • Cough • Shortness of breath 	<ul style="list-style-type: none"> • Interstitial fibrosis – when the part of the lungs surrounding the air sacs become scarred and cause excessive fibrous tissues to be produced

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Aluminium Abrasives	<ul style="list-style-type: none"> Shaver's disease – progressive lung disorder Corundum Smelter's lung Bauxite lung 	<ul style="list-style-type: none"> Manufacture of abrasives smelting 	<ul style="list-style-type: none"> Alveolar edema – build up of fluid in the alveoli 	<ul style="list-style-type: none"> Interstitial fibrosis - when the part of the lungs surrounding the air sacs become scarred and cause excessive fibrous tissues to be produced Emphysema – the loss of elasticity of the lung tissue resulting in the small airways collapsing during exhalation and air becoming trapped in the lungs
Ammonia	<ul style="list-style-type: none"> Pneumoconiosis – build up of large amounts of dust in the lungs causing a tissue reaction 	<ul style="list-style-type: none"> Ammonia products Manufacture of fertilizers Chemical productions Explosives 	<ul style="list-style-type: none"> Upper and lower respiratory tract irritation eg cough, phlegm, chest tightness and shortness of breath Edema – abnormal accumulation of fluid beneath the skin or in one or more of the cavities in the body 	<ul style="list-style-type: none"> Chronic bronchitis – inflammation of the medium-sized airways in the lungs caused by prolonged irritation
Arsenic		Manufacture of <ul style="list-style-type: none"> Pesticides Pigments Glass Alloys 	<ul style="list-style-type: none"> Bronchitis eg cough, wheezing, difficulty breathing, and a blocked/runny nose Laryngitis eg hoarse voice or complete loss of voice due to irritation of the vocal cords lasting a few days 	<ul style="list-style-type: none"> Lung cancer - tumor cells growing in the lung Bronchitis - inflammation of air passages in the lungs Laryngitis – inflammation of the larynx lasting over 3 weeks
Beryllium	<ul style="list-style-type: none"> Berylliosis Chronic Beryllium Disease (CBD) 	Ore extraction Manufacture of <ul style="list-style-type: none"> Alloys Ceramics 	<ul style="list-style-type: none"> Severe pulmonary edema Pneumonia 	<ul style="list-style-type: none"> Fibrosis - the formation of too many fibrous tissues Progressive dyspnea – severe shortness of breath

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Beryllium continued				<ul style="list-style-type: none"> • Interstitial granulomatosis – formation of a ball-like collection of immune cells in the alveolar, bronchial and vascular walls • Lung cancer - tumor cells growing in the lung • Cor pulmonale (pulmonary heart disease) - tissue damage causing a change in structure and function of the right ventricle of the heart
Cadmium Oxide		<ul style="list-style-type: none"> • Welding • Manufacture of Electrical equipment • Alloys • Pigments • Smelting 	<ul style="list-style-type: none"> • Cough • Pneumonia 	<ul style="list-style-type: none"> • Emphysema – the loss of elasticity of the lung tissue resulting in the small airways collapsing during exhalation and air becoming trapped in the lungs • Cor pulmonale (pulmonary heart disease) - tissue damage causing a change in structure and function of the right ventricle of the heart
Carbides of tungsten, titanium, tantalum	<ul style="list-style-type: none"> • Hard metal disease 	<ul style="list-style-type: none"> • Manufacture of cutting edge on tools 	<ul style="list-style-type: none"> • Hyperplasia (build up of extra cells) and metaplasia (abnormal cell growth in which cells become unlike the normal cells) of bronchial epithelium (membranous tissue composed of one or more layers of cells covering bronchial airways) 	<ul style="list-style-type: none"> • Peribronchial and perivascular fibrosis – excessive build up of tissue near or surrounding the bronchus or bronchi

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Chlorine		Manufacture of <ul style="list-style-type: none"> • Pulp and paper • Plastics • Chlorinated chemicals 	<ul style="list-style-type: none"> • Cough • Coughing up blood • Shortness of breath • Tracheobronchitis – inflammation of the trachea or bronchi • Bronchopneumonia – inflammation of the bronchial tubes and the lungs 	
Chromium (VI)		<ul style="list-style-type: none"> • Production of Ore compounds • Paint pigments • Reduction of Chromite Ore 	<ul style="list-style-type: none"> • Nasal irritation • Bronchitis eg cough, wheezing, difficulty breathing, and a blocked/runny nose 	<ul style="list-style-type: none"> • Fibrosis – the formation of too many fibrous tissues • Lung cancer – tumor cells growing in the lung
Coal dust	<ul style="list-style-type: none"> • Pneumoconiosis – build up of large amounts of dust in the lungs causing a tissue reaction • Black Lung 	<ul style="list-style-type: none"> • Coal mining 		<ul style="list-style-type: none"> • Fibrosis – the formation of too many fibrous tissues
Cotton dust	<ul style="list-style-type: none"> • Byssinosis – asthma like narrowing of the airways • Brown lung disease 	<ul style="list-style-type: none"> • Manufacture of textiles 	<ul style="list-style-type: none"> • Chest tightness • Wheezing • Shortness of breath 	<ul style="list-style-type: none"> • Reduced pulmonary function • Chronic bronchitis - inflammation of the medium-sized airways in the lungs caused by prolonged irritation
Hydrogen Fluoride		Manufacture of <ul style="list-style-type: none"> • Chemicals • Photographic film • Solvents • Plastics 	<ul style="list-style-type: none"> • Respiratory irritation • Hemorrhagic pulmonary edema – fluid build up in the lungs 	

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Iron oxides	<ul style="list-style-type: none"> Siderotic lung disease Silver finisher's lung Hematite miner's lung Arc welder's lung 	<ul style="list-style-type: none"> Welding Foundry work Steel manufacture Hematite mining Jewellery making 	<ul style="list-style-type: none"> Cough 	<ul style="list-style-type: none"> Silver finisher's lung Sub pleural and perivascular aggregations of white bloods that ingest foreign material Hematite miner's lung Diffuse fibrosislike pneumoconiosis Arc welder's lung Bronchitis - inflammation of the medium-sized airways in the lungs caused by prolonged irritation
Isocyanates		<ul style="list-style-type: none"> Manufacture of plastics Chemical industry 	<ul style="list-style-type: none"> Airway irritation Cough Shortness of breath 	<ul style="list-style-type: none"> Asthma Reduced lung function
Kaolin	<ul style="list-style-type: none"> Kaolinosis 	<ul style="list-style-type: none"> Pottery making 		<ul style="list-style-type: none"> Fibrosis - the formation of too many fibrous tissues
Manganese	<ul style="list-style-type: none"> Manganese Pneumonia 	<ul style="list-style-type: none"> Chemical and metal industries 	<ul style="list-style-type: none"> Acute pneumonia often fatal 	<ul style="list-style-type: none"> Recurrent pneumonia
Nickel		<ul style="list-style-type: none"> Nickel ore extraction Smelting Electronic electroplating Fossil fuels 	<ul style="list-style-type: none"> Pulmonary edema delayed by 2 days (NiCO) 	<ul style="list-style-type: none"> Build up of flat scale-like cancer cells in the nasal cavity and lung
Oxides of Nitrogen		<ul style="list-style-type: none"> Welding Silo filling Explosive manufacture 	<ul style="list-style-type: none"> Lung congestion and edema 	<ul style="list-style-type: none"> Bronchiolitis obliterans – obstructive lung disease where the bronchioles become plugged with fibrous connective tissue
Ozone		<ul style="list-style-type: none"> Welding Bleaching flour Deodorizing 	<ul style="list-style-type: none"> Lung edema – build up of fluid in the lung 	<ul style="list-style-type: none"> Fibrosis - the formation of too many fibrous tissues

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Phosgene		Production of <ul style="list-style-type: none"> • Plastics • Pesticides • Chemicals 	<ul style="list-style-type: none"> • Edema – build up of fluid on the lungs 	<ul style="list-style-type: none"> • Bronchitis - inflammation of the medium-sized airways in the lungs caused by prolonged irritation • Fibrosis - the formation of too many fibrous tissues
Perchloroethylene		<ul style="list-style-type: none"> • Dry cleaning • Metal degreasing • Grain fumigating 	<ul style="list-style-type: none"> • Edema – build up of fluid on the lungs 	<ul style="list-style-type: none"> • Cancer of the liver and lungs
Silica	<ul style="list-style-type: none"> • Silicosis • Pneumoconiosis 	<ul style="list-style-type: none"> • Mining • Stone cutting • Construction • Farming • Quarrying • Sand blasting 	<ul style="list-style-type: none"> • Acute silicosis – inflammation and scarring of nodular lesions in the upper lobes of the lungs 	<ul style="list-style-type: none"> • Fibrosis - the formation of too many fibrous tissues • Silicotuberculosis – silicosis and tuberculosis in the same lung
Sulphur dioxide		Manufacture of <ul style="list-style-type: none"> • Chemicals • Refrigeration • Bleaching • Fumigation 	<ul style="list-style-type: none"> • Bronchoconstriction – constriction of the airways in the lungs due to tightening of surround smooth muscle • Cough • Chest tightness 	<ul style="list-style-type: none"> • Chronic Bronchitis - inflammation of the medium-sized airways in the lungs caused by prolonged irritation
Talc	<ul style="list-style-type: none"> • Talcosis 	<ul style="list-style-type: none"> • Rubber industries • Cosmetics 		<ul style="list-style-type: none"> • Fibrosis - the formation of too many fibrous tissues
Tin	<ul style="list-style-type: none"> • Stanosis 	<ul style="list-style-type: none"> • Mining • Processing of tin 	<ul style="list-style-type: none"> • Narrowing of a duct or passage surrounding the lung 	<ul style="list-style-type: none"> • Widespread mottling of x-ray without clinical signs
Vanadium		<ul style="list-style-type: none"> • Steel manufacture 	<ul style="list-style-type: none"> • Airway irritation and mucus production 	<ul style="list-style-type: none"> • Chronic Bronchitis - inflammation of the medium-sized airways in the lungs caused by prolonged irritation

Compensation

If you have been diagnosed with an industrial or work related disease you could be entitled to compensation. Call our industrial disease team now on 0808 129 3320 or complete our online enquiry form at (<http://www.simpsonmillar.co.uk>).

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