



PROJECT WORKSAFE

Work-Related Asthma

Types of Work-Related Asthma

There are 3 types of work-related asthma:

- **Work-Aggravated:** when a person already has asthma but something at work makes the breathing symptoms worse.
- **New-Onset Asthma from a High Level Exposure to a Substance at Work:** when a person never had asthma before and was exposed to a spill or big leak of a chemical at work and then developed asthma after that event.
- **New-Onset Asthma from Working with a Substance Known to Cause Asthma:** when a person may have worked with a substance at work, even for many years with no asthma symptoms, and then develops asthma, months or years later.

Substances at Work that Can Cause Asthma

There are more than 400 substances that have been reported in the medical literature that have been shown to cause work-related asthma. The list continues to grow. The main categories of substances that can cause asthma in the workplace include animals, plants and plant material, and chemicals.

The following is a short list of examples of the types of jobs, industries, and substances that can cause asthma.

Some of the More Common Workplace Exposures

Job or Type of Industry	Type of Asthma-Causing Agent
Animal or Insect Proteins	
Laboratory animal workers	
Veterinarians	dander and urine proteins
Food processing	shellfish, egg proteins
Poultry farmers	poultry mites, droppings, feathers
Grain workers	storage mites, aspergillus, grass pollen
Plant Proteins	
Bakers	flour dust
Food processing	coffee bean dust, tea, meat tenderizer
Farmers	soybean dust
Sawmill workers/carpenters	wood dust (western red cedar, oak, mahogany, redwood, and others)
Electric soldering	colophony (pine resin)
Nurses	psyllium, latex
Chemicals	
Plating	nickel salts
Beauty shop	Persulfate
Welding	stainless steel fumes, chromium salts
Hospital workers	disinfectants (formaldehyde, glutaraldehyde)
Plastics manufacturing	TDI, HDI, Methylene diisocyanate, phthalic anhydride
Automobile painting	dimethyl ethanolamine diisocyanates

(Source: National Heart, Lung and Blood Institute. June 1992, Pub. No. 92-3091)

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The National Institute for Occupational Safety and Health (NIOSH) has also developed Alerts on several asthma-causing agents. These Alerts provide important information on working with some of the more widely-used and dangerous asthma-causing agents.

Examples of Agents Capable of Causing Work-Related Asthma

Natural Products	
vegetable gums	orris root
flax seed	Flour
castor bean	Papain
Soybean	mushroom dust and moldy compost
natural glues	wood dusts
animal danders and other animal antigens	natural resins
coffee bean	animal fat, oil and products
insect debris	fish meal and emulsions
detergent enzymes	tobacco dust
grain dusts and grain products	pancreatic extracts
Synthetics	
Inorganic Pharmaceuticals	
platinum, complex salts	Psyllium
nickel salts	Penicillin
chromium salts	Ampicillin
sodium and potassium	Spiramycin
Persulphates	phenylglycine acid chloride
Organic Pharmaceuticals	
Sulphathiasole	Bromelin
Diisocyanates	amprolium hydrochloride
Toluene	sulphone chloramides
Diphenylmethane	Tetracycline
Hexamethylene	
Miscellaneous Anhydrides	
Phthalic	Formaldehyde
Tetrachlorophthallic	Piperazine
Trimellitic	organophosphorus insecticides
Miscellaneous Amines	
pyrolysis products of polyvinyl chloride	
Aminoethyl	alkylaryl polyether alcohol
Ethanolamine	Tartrazine
dimethyl ethanolamine	products of heated adhesives
ethylene diamine	
Paraphenylenediamine	
diethylene triamine	
diethylene tetramine	

If you have concerns on work-related asthma please give us a call at 1-888-SAFE-YES (1-888-723-3937). We offer free confidential services to Vermont companies. Our staff will be able to provide an on site evaluation and offer assistance in reducing work-related asthma risk. See us on the web at www.labor.vermont.gov.