

ASTHMA AND WORK

Vehicle spray painters are about 80 times more likely to get asthma than the average worker -- due to chemicals like isocyanates in paints and lacquers.

We have little Australian information about how many people suffer from work related asthma but it is estimated that for 1 in 6 people of working age who develop asthma work exposures may be the cause. It is also important to remember that "water-based" paints may contain isocyanates.

Work related asthma is diagnosed when there is an association between symptoms and work.

The categories of work related asthma are:

- Work aggravated asthma: existing or new asthma made worse by work
- Occupational asthma: cause by exposures at work

Allergic or sensitised to substances (involves the immune system). Symptoms may occur sometime after exposure. Irritant when the airways react to the substance (does not involve the immune system) and symptoms develop within a few hours of exposure.

Whatever the type of work related asthma the symptoms include:

- recurring sore or watering eyes
- recurring blocked or running nose
- bouts of coughing; chest tightness
- wheezing or
- any persistent history of chest problems.

The symptoms improve on days away from work. Having these symptoms is not a diagnosis of work related asthma, but further medical investigation is needed - for example lung function tests - serial peak flow measurements, at least four readings per day.

The most frequently reported causative agents include isocyanates - found in many paints and foams - colophony and fluxes and aldehydes. Several hundred agents have been reported in the medical literature and new causes are reported regularly. [See list of other common agents]

Occupations most at risk for occupational asthma include:

- spray painters
- mechanics and storage workers (diesel exhaust exposure),
- chemical workers
- welders
- plastics and rubber workers
- metal workers
- food processing workers and
- laboratory technicians.

Avoiding exposure to Asthma causing agents

The most important action is avoidance of exposure to the causative agent(s).

Spray painting often uses isocyanates and even some water based paints will contain chemicals that cause asthma.

["Beware Spray Painting Mists" http://www.amwu.org.au/info_and_fact_sheets]

All hazardous substances such as thinners/paints/lacquers must be supplied with labels and Safety Data Sheets.

Check for the risk phrases R42 and R42/43

- R42 'May cause sensitisation by inhalation' (may lead to asthma) or
- R42/43 'May cause sensitisation by inhalation and skin contact'. and the pictograms for health hazards and chronic health hazards.

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Removal from the exposure is essential

Early diagnosis and early avoidance of further exposure, offer the best chance of complete recovery, for those who have been exposed.

Workers who remain in the same job and continue to be exposed to the same causative agent after diagnosis are unlikely to improve and symptoms may worsen.

As about one third of workers with occupational asthma are unemployed after diagnosis, from continued symptoms and difficulty in finding jobs – prevention of work related asthma is essential.

It is important that people are not excluded from employment due to asthma: the evidence indicates that a previous history of asthma is not significantly associated with occupational asthma. However, when occupational asthma has been diagnosed the worker needs to be removed from exposure to the causative agent.

When asthma causing agents are used, regular health monitoring is essential. Information and guidance for workers, doctors and employers is included in the Guides on Health Monitoring For Exposure To Hazardous Chemicals [www.safeworkaustralia.gov.au in the publications section].



Some substances known to cause asthma

AZODICARBONAMIDE - the expansion of polymers in the rubber and plastics industries

CHROMIUM (VI) COMPOUNDS - present in stainless steel welding fume and used in electroplating

COBALT (METAL AND COMPOUNDS) - present in the hard metal production

ETHYLENEDIAMINE - corrosive chemical with an irritating vapour used in the printed circuit board and metal finishing industries. Also used in epoxy coatings and resins and in the manufacture of pharmaceuticals

FLUX FUME - gum rosin (colophony) is the form used in soldering

GLUTARALDEHYDE - used in the oil and gas industry for the inhibition of corrosion causing bacteria

ISOCYANATES - used in manufacture of polyurethane foams, plastics, coatings, varnish, twopack paints and adhesives

MALEIC ANHYDRIDE - manufacture of polyester resins, oil additives and maleic acid

METHYLTETRAHYDROPHthalic ANHYDRIDE - production of epoxy resins used in the manufacture of special application plastics

NICKEL SULPHATE - electroplating industry and the production of hard metal

PHthalic ANHYDRIDE - manufacture of plasticisers, resins, dyes, pesticides and pharmaceuticals

SUBTILISINS - enzymes used in the manufacture of detergents. Also food & leather processing

TETRACHLOROPHTHALIC ANHYDRIDE - production of epoxy resins for manufacture of plastics, paints and electronic components

TRIMELLITIC ANHYDRIDE - production of plasticisers, wire enamels, surface coatings and wall and floor coverings