Risk Management Guidelines

Occupational Asthma

Introduction
Some airborne chemicals and dusts, known as respiratory sensitisers, can cause permanent damage to the nose, throat and lungs. Symptoms range from a runny nose and watery eyes to chronic asthma.

Occupational asthma is a significant cause of ill health with many sufferers believing their complaint has been caused or made worse by substances breathed at work. Some people become so badly disabled they cannot work. Earning potential may be affected where specialist skills can no longer be used. The complaint may reduce life expectancy.

Common Occupational Sensitisers
A range of chemicals, metals, natural animal or plant materials are respiratory sensitisers but the majority of occupational cases arise from exposure to:

- isocyanate fume (TDI, MDI or HDI) from spray painting and foam manufacture
- flour, grain or hay dust from milling, baking, farming and dock work
- soldering flux fumes from welding, soldering or electronic assembly
- some hardwood dusts, e.g. Iroko or western red cedar
- fumes from the curing of epoxy glues and resins, e.g. PA, TCPA, TMA, MA, MTPA
- residues from laboratory and other animals.

What is Sensitisation?
Sensitisation modifies the body immune system, affecting its ability to protect us from the harmful effects of contaminants breathed in. Once sensitised the body over-reacts to any exposure to the material, with typical symptoms being:

- asthma, giving attacks of wheezing, breathlessness and tightness in the chest.
- rhinitis or conjunctivitis, causing runny or stuffy noses, or watery, sore eyes. Persons so affected may develop asthma.

These reactions do not occur on initial exposure but remain dormant and the problem flares up months or even years later. Key features of sensitisation are:

- initially it will be provoked by a specific substance but persons exhibiting reactions to one material, or having an existing respiratory complaint, are more likely to be affected by other sensitisers or materials such as tobacco smoke.
- only some individuals at risk will be affected, typically 5-25%.
- the effects are irreversible and symptoms appear immediately following or shortly after exposure occurs, but disappear once exposure has stopped. If exposure continues symptoms are likely to increase in severity.
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- once sensitised the symptoms occur at much lower levels of exposure than those which first caused sensitisation.
- it may arise from high exposures to a particular substance over a short period or very low exposures over a longer period of time.
- most sensitisation occurs during the first two years of exposure.

Statutory Framework

The Control of Substances Hazardous to Health Regulations (COSHH) set out the general requirements of control. A Code of Practice for Occupational Asthma was published in December 2002 (as Appendix 3 to the main ACOP).

Control Strategies

As a general rule exposure to airborne dusts and fumes should be reduced to the lowest level possible.

Identification of Possible Sensitisers

Enquiry should be made as to possible sensitising risks whenever activities create dust or fumes. A number of information sources are available including:

- manufacturers’ data sheets where phrases such as "May cause sensitisation by inhalation" are required for sensitisers.
- Health and Safety Executive Guidance Note EH40 which contains lists of known or possible sensitisers together with the workplace exposure limits.
- statutory schemes such as the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) and the Industrial Injuries Scheme.

Measurement of Dust or Fume Levels

This may be necessary both to identify the level of risk and subsequently to monitor the adequacy of control measures.

Elimination, Reduction or Control of Exposure

Where possible, exposure should be prevented or eliminated by substituting a less risky material or a safer form of the same substance, or by modifying the process or method of work to eliminate exposure. Where this is not possible other strategies must be considered such as total enclosure of the process; limiting the number of employees working with or affected by the material; local exhaust extraction; improved systems of work to minimise the risk of spills, leaks or escapes.

Provision of Personal Protective Equipment (PPE)

PPE may be provided as a last resort but it is essential that any respiratory protection provided is suitable for the expected exposure, there is adequate training in its use and usage is monitored on a regular basis by supervision.
Medical Surveillance
Where known sensitisers are used, a pre-employment medical or questionnaire is essential to ensure that applicants with pre-existing respiratory complaints are not recruited for employment with these materials.

Employees who work with known sensitisers should be routinely monitored for adverse health effects - preferably by an occupational health nurse or physician. Records of such monitoring should be held indefinitely.

Where no formal medical surveillance exists, employers must be alert to symptoms of asthma or rhinitis developing and ensure that early medical advice is sought.

Policy on Affected Employees
Where there is a risk that employees will be affected and unable to continue at their previous employment, thought should be given to what can be done with them before the problem arises, e.g.

- is there alternative employment?,
- will there be loss of wages?,
- at what stage do employees become medically unfit to work?

Additional Information Sources
Health and Safety Executive Publications:
Respiratory Sensitisers & COSHH – an employer’s leaflet on preventing occupational asthma. INDG95 - Free

Preventing asthma at work: how to control respiratory sensitisers L55 HSE Books ISBN 0 7176 0661 9

Breathe freely - a worker’s information card on respiratory sensitisers INDG172 HSE Books. Single copies free. Also available in priced packs ISBN 0 7176 0771 2

COSHH: A new brief guide to the Regulations: What you need to know about the Control of Substances Hazardous to Health Regulations 2005 (or 2002 (as amended)) INDG136

7 Steps to successful substitution of hazardous substances HSG110

Medical aspects of occupational asthma MS25 HSE Books ISBN 0 7176 1547 2

Workplace exposure limits Guidance Note EH40 (revised annually)

Check out the HSE website: www.open.gov.uk/hse/hsehome.htm
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These and other Risk Management Guidelines addressing a wide variety of risk control issues are freely available from: www.rsabroker.com/risk-management

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