

Rosin based Solder Fumes and the link with Occupational Asthma

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Health and safety

Name of company

Our statement of general policy

- to provide adequate control
- activities:
- to consult with
- to provide and
- to ensure safe

Principles

Rosin-based (fluxes) solder fumes are one of the most important causes of occupational asthma (variable airflow limitation or sensitivity caused by agents used in the occupation).

The fume can also cause irritation to the eyes and upper respiratory tract and on contact with the skin rosin-based solder fluxes and its fume can cause dermatitis. Rosin is a solid form of pine tree resin colloquially known as 'colophony', which is used for many process materials including printing inks, varnishes, and adhesives.

The following points should be noted:

- The fume works as a sensitiser therefore it is difficult to know who will become affected and the exposure needs to be kept to a minimum.
- Sensitisation tends to occur early in the exposure therefore it is important to look for early signs. A carefully constructed set of health checks including a questionnaire, for example see: <http://www.hse.gov.uk/asthma/samplequest1.pdf>, starting with a pre-employment baseline, should be implemented followed by a further check at 6 weeks, 12 weeks and 6 months to ensure that asthma (or any other problem) is not developing.
- If all is well at that point, annual checks should then be adequate unless regulations on a control of substances hazardous to health risk assessment suggests review is necessary.
- The effects from rosin can be significant in terms of the severity of the asthma or other sensitisation. This could mean for example a night time cough causing sleep problems, night or daytime wheeze and breathlessness. Once a person becomes sensitised to rosin, they retain that sensitivity for life.
- In some cases the sensitised person may need to modify their duties or take alternative work. In severe cases they will not be able to undertake their normal work at all.
- Continued exposure to the sensitising agent can significantly worsen the health effects therefore employers may need to take advice from a suitably qualified occupational health professional about the appropriate system of health surveillance needed or about individual cases.
- An employer using rosin based flux soldering processes should provide fume exposure control.

UK Legislation and Implementation

The significance of rosin-based fluxes to UK incidence of occupational asthma can be seen in the asthma index, see: <http://www.hse.gov.uk/asthma/solderers.htm>.

To achieve adequate fume control as required by the Control of Substances Hazardous to Health regulation (COSHH <http://www.hse.gov.uk/COSHH/index.htm>), exposures to rosin based solder flux fumes should be reduced to as far below the Maximum Exposure Level (MEL see INDG248 below) as is reasonably practicable, for example, by the provision and use of a suitable local extraction ventilation system.

If after a carefully constructed set of health checks, see: 2 above, all is well, then to comply with medical guidance issued by the HSE "Health Surveillance for Occupational Asthma", an annual check should be made thereafter, see: <http://www.hse.gov.uk/pubns/guidance/g402.pdf>.

Advice on health surveillance can be obtained from the Faculty of Occupational Medicine (<http://www.facocmed.ac.uk/>) or the Royal College of Nursing (<http://www.rcn.org.uk/>) on appropriate occupational health qualifications.

Download the leaflet "Solder Fume and You" INDG248 published by the HSE, for further information on the possible health hazards of solder fume when using flux materials, and the precautions an employer has to take, see: <http://www.hse.gov.uk/PUBNS/indg248.pdf>.

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