

## **Photocopiers and Ozone**

There has been much publicity in recent years regarding the ill effects of ozone in the workplace. Articles have claimed that photocopiers, computers, fax machines and printers emit ozone which can make staff unwell. Ozone has therefore been linked to the workplace ailment Sick Building Syndrome.

Ozone, a colourless gas which consists of 3 oxygen atoms, is toxic and, in sufficient concentration, can cause headaches, coughing, eye, nose and throat irritation. Some of these symptoms have been linked to Sick Building Syndrome. However Sick Building Syndrome is not a recognised illness and there is debate as to what extent it exists or not.

Most modern office equipment is already fitted with filters which limit the amount of ozone released into the environment. So even when equipment is operating in the minimum specified environmental conditions i.e. the machine is situated in the smallest siting location recommended with natural ventilation only, it meets all the national and international occupational exposure limits for ozone.

The Health and Safety Executive (HSE) has set an exposure standard for ozone as 0.20ppm over a 15 minute reference period. Many thousands of tests conducted have very rarely found levels that exceeded the HSE occupational exposure limit.

There are products on the market, such as vaporizers, which claim to reduce ozone levels. However, there appears to be little conclusive evidence to show that these products are effective. Therefore their use is not recommended.

If a school or department is concerned about ozone levels, the following measures can help minimise exposures.

- Ensure that equipment such as photocopiers, laser printers and faxes are situated in a well ventilated area.
- Following good fire safety management, these machines are not allowed to occupy corridors or means of escape because of the increased fire risk and impedance of escape routes.
- All office equipment should be regularly serviced and maintained to ensure it is in good working order.

If there are further concerns, Health and Safety Services can take measurement using a draeger pump and ozone detection tube.

Air is drawn through the pump at a specified rate which is given in the instruction booklet and the presence of ozone in high concentrations will cause the detection tube to change colour and it is also possible to determine the concentration of ozone by reading off from the detection tube.

This test can be valuable in allaying any concerns that exist.