

COPYING BEST PRACTICE

Introduction

A previous Reps' Bulletin, "Promoting Office Health & Safety"¹ looked at general office hazards and welfare issues. This bulletin² examines in more detail an ever present feature of all offices, photocopiers and laser printers, and also provides a revised 'office hazards checklist' that TSSA safety reps' may find useful when conducting office based inspections.

Photocopier & laser printer hazards

Photocopiers and laser printers are potentially hazardous to health if operated in a manner that ignores there:

1. Location – to allow adequate ventilation and to minimise noise
2. Maintenance – poor maintenance can increase the emission of toxic chemicals
3. Usage – large print 'runs' will exacerbate the above factors

A major Danish study on copier pollution found that ozone and other chemicals could exceed the 'occupational exposure limit' (OEL) when the room where a photocopier is situated is:

- Too small
- Ventilation is poor; and
- Usage is too high

Chemicals

Ozone: this gas is produced during the high voltage electrical discharge in photocopiers and laser printers. It is highly toxic³ and possesses a sweet smelling odour and if you can detect its

presence then the level is too high. Though ozone can degrade quite rapidly in the atmosphere, this process can be inhibited by high humidity, temperature and by some effects of office furnishings.

Selenium & cadmium sulphide: some copiers use a drum impregnated with these chemicals. The gas they emit, especially when hot, can cause throat irritation and sensitisation to exposed workers. This is mostly a risk to maintenance staff when cleaning or grinding the surface of the drum.

Nitrogen oxide⁴: this gas may be produced when there is a spark in electrostatic photocopiers – its effects on people are similar to those produced by carbon monoxide.

Carbon monoxide⁵: this gas is produced when toner (containing Carbon Black) is heated in an inadequate air supply. In an insufficient ventilated environment this can induce headaches, drowsiness, faintness and increased pulse rate and carbon monoxide can cross the placenta and affect the unborn child.

Toners: they are usually a combination of synthetic resin and Carbon Black frequently with other supplements. Carbon Black is categorised as a 'nuisance dust', (it is only mildly toxic in itself) but will contain impurities that are carcinogenic. *Toners should be handled with caution, protective gloves should be used, dust release minimised and instructions carefully observed.* Exposure to bare skin can cause itchiness and other health effects can include headaches and

¹ TSSA Reps' Bulletin - H&S/002/AUG1999

² Information based on TUC Hazards / chapter 24 – Office Hazards

³ OEL = 0.1ppm (part per million)

⁴ OEL = 25ppm

⁵ OEL = 50ppm

irritated eyes. Maintenance staff are at risk from repeated contact which can result in skin and eye sensitisation.

Other hazards

Ultra violet light: the photocopier lid should be kept fully depressed when the machine is being operated. UV light can cause eye irritation and burns.

Noise levels: can reach up to 65dB(A) for standard photocopiers. Copiers with noisy collaters should be positioned as far from staff as possible.

Fire potential: excessive dust in electrical equipment will cause sparking. The availability of carbon dioxide fire extinguishers near machines is essential.

Jams: even though the majority of machines cut out when opened, they should be switched off before attempting to extract jammed paper. Avoid contact with surfaces that can be very hot and remember to wash hands immediately after paper removal.

Laser Printers

Unlike photocopiers they are usually placed on desktops beside workers. However, they produce ozone like conventional copiers. There must be regular inspections of filters which may need replacing as often as once a month.

However, tests on the effectiveness of filters under factory conditions do not reflect the deterioration in performance under heavy use in the workplace.

SAFETY REP PHOTOCOPIER CHECKLIST

1. **Investigate:** Check any health effects by questioning your colleagues. Request that management measure levels of chemicals by conducting appropriate tests. Any symptoms should be reported in the accident

book and medical tests performed if serious symptoms displayed.

2. **Control:** check the service/maintenance history records – is the machine serviced and the filters changed regularly? If the machine is old and prone to breakdowns, request a new one!
3. **Position & ventilation:** The area where the machine is sited should have a complete change of air every hour, has an unobstructed exhaust vent and that no-one is situated next to the exhaust vent of the machine. Ideally, no-one should work in the same room as a copier – where this is not possible no-one should be within 3m of the machine. Machines should not be located in rooms with less than 25 cubic metres of space.
4. **Vet new laser printers & photocopiers:** Request that in advance, that you receive details of filter changing and servicing. Inform management that new equipment is only acceptable if it has clear maintenance guidelines and easy change filter systems.
5. **Equipment renewal:** when changing toner, insist that instructions are carefully adhered to, that gloves are worn and that hands and face are washed immediately afterwards.
6. **Legal duties:** The general duties of the HSWA (1974) cover the maintenance of plant, and the provision of information, instruction and training. The Office, Shops and Railway Premises Act 1963 stipulates that an adequate supply of fresh air must be circulated in all workrooms and rooms with no direct access to fresh air must be provided with mechanical ventilation. COSHH requires employers to conduct an assessment of all chemicals on their premises. This means that your photocopiers should have safety data sheets covering what chemicals they use and what the recommended precautions needed for safe operation.