

# PHOTOCOPIERS



This information sheet covers potential hazards from photocopiers, laser printers and other electronic duplicating devices and what the law says about it.

Photocopiers, laser printers, and other electronic duplicating devices are a regular feature of the modern office environment.

## WHAT ARE THE POTENTIAL HAZARDS?

Modern dry toners are rarely a skin or eye hazard. The main ingredient, carbon black is mildly toxic, but modern machines with replaceable toner cartridges minimise exposure. Inhaled toner may cause respiratory irritation, but current thinking is that it is not carcinogenic (cancer causing) at exposure levels normally experienced in the office use of photocopiers. Impurities in some toners may however, be carcinogenic.

Older machines pose a greater exposure risk, because adding toner may involve transferring loose toner rather than replacing a cartridge.

Modern liquid toners also rarely irritate the skin, but exposure to solvents within them can dry and crack the skin, and mildly irritate the eyes. The same hazards apply to the various solvents used for cleaning duplicating machines. They also pose a fire risk if not stored adequately. Frequent contact with toner or other solvents may cause dermatitis or asthma.

Most modern equipment does not present a bright light hazard beyond short-term discomfort to the eyes, but it is prudent to keep the photocopier lid

down. Some have interlocking devices, which prevent photocopying taking place unless the lid is down. Ultra-violet radiation may also be released through the glass plate, but at very low levels.

Electro-magnetic fields (EMF's) are produced by electronic equipment. Research into EMF's is not conclusive either way, but standing back at least 1 metre from the photocopier when doing long runs (e.g. 15 minutes) is an easy precaution to adopt.

All laser printers are classified as class 1 laser products meaning that under normal conditions the laser radiation (beam) is inaccessible and therefore not a hazard unless the shielding or enclosure around the laser is tampered with, or removed. Only properly trained technicians following the manufacturers safe working procedures should carry out maintenance.

Older or poorly maintained machines in poorly ventilated areas may emit detectable levels of various gases including ozone. Ozone has a pleasant clove-like odour. At harmful concentrations that might produce eye and respiratory tract irritation, its odour becomes strong and poignant. Severe exposure can result in lung damage. Office environments do not generally produce significant exposure levels although the occupational exposure limit can be breached if ventilation is inadequate. Odour problems with mod-

ern copiers and fax machines usually indicate inadequate ventilation.

Excessive dry heat can build up if too many machines are placed in a small area, or where their use is frequent and ventilation insufficient. This can cause discomfort to the eyes, and the workplace can become too dry and hot.

Excessive noise may also be experienced in such circumstances, or where the machines are old or poorly maintained. Printers in frequent use and close to a workstation can impair concentration.

Clearing paper jams in printers and other duplicating machinery will expose users to hot or moving parts, sharp edges, pinch points, or exposed electrical parts. Modern machines should have such risks designed out and should turn off automatically upon opening of the machine. However, a machine must always be disconnected from the power supply before opening.

The greatest risk from paper is in its manual handling.

## WHAT DOES THE LAW SAY?

### **The Control of Substances Hazardous to Health**

Employers need to carry out assessments under the Control of Substances Hazardous to Health (COSHH) on all chemicals used in the workplace. If a hazard is identified, the process must be avoided, where this not reasonably practical a less hazardous substance must be used. If this is not reasonably practicable, control methods such as local exhaust ventilation, and as a last resort personal protective equipment must be used. Employers must meet the exposure limits set for any substance used in the workplace.

### **The Management of Health and Safety at Work Regulations**

Employers must assess all potential risks to employees and take steps to avoid them. Where avoidance is not reasonably

practical, they must reduce and control them as far as possible. Employees must be provided with information on the risks identified, and on the measures taken, or to be taken to avoid these.

### **The Provision and Use of Work Equipment Regulations**

These regulations require employers to ensure that the equipment workers use at work is suitable for the purpose for which it is used or provided, and thereby does not cause a risk to health and safety. Equipment must be maintained in an efficient and good working order. All who use or supervise it must have adequate information and training on the equipment and on health and safety. For example in clearing jams. Specific risks must be eliminated where possible and controlled where not.

### **The Display Screen Equipment Regulations**

Employers must make an assessment of the risks to health from workstations so those risks can be reduced to the lowest level reasonably practical. This would include ensuring that the noise and heat emitted by equipment such as desk top printers are taken into account when planning the workstation, and that they are not at levels which would cause discomfort or distract the user.

### **The Manual Handling Operations Regulations**

Employers must ensure that employees avoid hazardous manual handling operations so far as possible. For example, by providing stable trolleys for delivering paper in bulk, ensuring that it is stored near to the machines, and training employees on how to lift correctly.

### **The Personal Protective Equipment at Work Regulations**

Employers must provide personal protective equipment (PPE) to employees as the last resort, whenever health and safety risks cannot be adequately protected by other means. For example, providing ap-



propriate gloves for changing toner.

## HOW CAN THE RISK OF HAZARDS BE AVOIDED OR REDUCED?

Employers must identify and assess any risks, and then take steps to avoid them wherever possible, and reduce them so far as possible where not.

Employers must obtain the material safety data sheets (MSDS's) for any chemical used by a photocopier or other piece of machinery, including toner and glass cleaners and take all recommended precautions. MSDSs' must be made available to safety reps.

When replacing toners or using solvents, users should wear rubber or vinyl coated protective gloves and if a liquid toner is used, safety goggles or a face shield. After adding toner, hands and face should be washed immediately.

The manufacturer's recommendations for siting, ventilation, cleaning, servicing, maintenance, and frequency of filter changes must be obtained and followed. Filters that are in working order catch paper dust and destroy ozone.

There must be a clear system outlining what cleaning and repairs employees are expected to carry out, such as clearing a minor paper jam, and those for which a specialist technician should be contacted. Staff who carry out minor cleaning and repairs must be given full training and information on technical issues and on health and safety.

Noise problems can be avoided by placing equipment in a separate room from workers. Where this is not possible, acoustic hoods can be placed over noisy printers, which can also be placed on absorbent surfaces to help reduce noise and vibration. However, beware of false claims made for numerous other devices and gadgets that supposedly reduce or prevent a whole range of hazards, real or otherwise, such as the £70 metal attachment

that "works to restore the bodies natural alpha rhythms." At best they will do no real harm apart from encourage complacency, but it may make the problem worse by preventing proper action being taken.

As a general rule, the more frequently a copier is used or the more duplicating machinery there are, the more important is a separate room with local (separate) mechanical exhaust ventilation. Properly maintained modern machines placed in well ventilated areas, and with the appropriate but simple precautions taken, are rarely a hazard.

