## RISK ASSESSMENT

### ACTIVITY
Use of Photocopiers/Laser Printers

<table>
<thead>
<tr>
<th>Hazards Identified</th>
<th>Severity</th>
<th>Likelihood</th>
<th>Estimated risk rating</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3 Major</td>
<td>2 Serious</td>
<td>1 Slight</td>
</tr>
<tr>
<td>Toner</td>
<td></td>
<td></td>
<td>P</td>
</tr>
<tr>
<td>Carbon Black</td>
<td></td>
<td></td>
<td>P</td>
</tr>
<tr>
<td>Polymer Resin</td>
<td></td>
<td></td>
<td>P</td>
</tr>
<tr>
<td>Ozone</td>
<td></td>
<td></td>
<td>P</td>
</tr>
<tr>
<td>Ultraviolet Light</td>
<td></td>
<td></td>
<td>P</td>
</tr>
<tr>
<td>Noise and Heat</td>
<td></td>
<td></td>
<td>P</td>
</tr>
<tr>
<td>Laser beams</td>
<td></td>
<td></td>
<td>P</td>
</tr>
</tbody>
</table>

**Planning Procedures:**

Much can be done to alleviate employee concerns about photocopiers and laser printers by giving careful consideration to the location of the machine in relation to the employee workstations.

Large machines which are capable of collating, or are used regularly for long copy runs should ideally be sited in dedicated copy rooms with adequate natural or mechanical ventilation. If this is not possible, they should be placed well away from staff workstations and long runs of printing or copying carried out at times when the minimum of stress will be caused to staff e.g. break times.

Smaller machines which are not capable of collating, etc, and are not used regularly for long runs, may be housed within the room occupied by staff, however, it is prudent to observe the following points:

1. Air vented from the machine into the room should be filtered (NB: most modern machines incorporate such filters to reduce ozone emission).
2. Machines should be sited such that exhaust emissions do not travel over workstations or personnel.
3. Ensure regular servicing of the machine.
4. Consideration should be given as to the adequacy of the ventilation in the room i.e. size of room, natural or mechanical ventilation.
5. Refilling techniques for toner in dry (xerographic) machines should be given special attention avoiding spillage wherever possible.
6. Toner spillages should be cleaned up with care and ideally if persons are known to have compromised respiratory systems they should not be asked to carry out this task.
7. Spent toner from a machine should be placed in sealed bags for disposal.

**Training:**

All office employees will be trained in the use of these machines. The following points should be noted and personnel informed:

- **Toner** - Photocopiers and laser printers use toner as part of the printing process. The toner is an extremely fine powder, which in itself is not classed as a substance hazardous to health, but any dust in substantial concentration is, as it may cause respiratory tract irritation resulting in coughing and sneezing.
Toner dust may become airborne for a variety of reasons; toner dust spilled inside the machine becomes airborne by passing through the ventilation fans into the room, the waste toner compartment fills up and causes toner to back up inside the machine, or the most common, careless renewal of the toner cartridge causes a spill of toner into the room. Toner dust is considered a nuisance dust and should have no health effects other than those noted above. However, persons who have an already compromised respiratory system (e.g. suffer from asthma, bronchitis, etc) should avoid changing toner cartridges. If this is not practicable then the operation should be carried out with extreme caution to avoid generating a dust cloud.

Should any toner be spilt, it is best to vacuum up, rather than brush off, as much as possible to avoid raising a dust cloud. The remainder should be removed using a damp cloth rinsed in cold water. Hot water should be avoided as it may cause the toner to partially melt and become sticky. Toner may be disposed of as normal waste, though it should be placed in a sealed bag to contain the fine powder.

**Carbon Black** - The small content of carbon black is not a cause for concern

**Polymer Resin** - The image fixing of the final copy uses a low melt polymer resin; this varies in its composition dependant on the manufacturer. The heat required for this process is just sufficient to melt the resin and vapour produced is minimal and insignificant.

**Ozone** – There may be a small exposure to ozone but the risks to health are slight - and in general any symptoms shown will be irritation of the respiratory tract. However, it is possible in certain cases to build up levels of ozone in excess of Workplace Exposure Limits (WELs) in inadequately ventilated rooms.

**Light and Ultra-Violet** - The lamps in photocopiers emit light in both the visible and ultraviolet ranges. In general, the ultraviolet light does not pass beyond the glass plate in which the original is placed. Estimated operator exposure to visible light is minimal and is well below the permissible exposure level. Nevertheless, as an additional safety measure, keep the cover closed whilst copying. Should the cover have to remain partially open, e.g. to copy a book, look away from the light source.

**Noise and Heat** - Noise and heat production vary considerably according to the manufacturer and model of the copier machine. Copiers with collating abilities can be particularly noisy and high speed copiers that are heavily used can generate considerable heat. Excessive noise and heat are fatiguing, distracting and stressful to employees. This in turn may lead to inaccuracies in work. In an office environment, noise levels at or below 50 to 55 decibels are preferable.

**Control Measures:**

Large machines which are capable of collating, or are used regularly for long copy runs should ideally be sited in dedicated copy rooms with adequate natural or mechanical ventilation. If this is not possible, they should be placed well away from staff workstations and long runs of printing or copying carried out at times when the minimum of stress will be caused to staff e.g. break times.

Smaller machines which are not capable of collating, etc, and are not used regularly for long runs, may be housed within the room occupied by staff if the procedures outlined in the planning section above are followed.