ems

creating confidence in the workplace

laser printers as a potential health hazard

There has been a great deal of recent media coverage regarding a study that suggests *"printers are as bad as cigarettes"*. This has included claim, and counter claim from printer manufactures, the report writer and other interested parties.

In response to a number of **ems** clients who have expressed their concern about this, **ems** would make the following comments:

Please note: The **ems** response has been formulated after reviewing the report by Lidia Morawska of Queensland University of Technology, Brisbane and taking into account over 20 years of experience **ems** has as a leading independent UK expert for environmental workplace management consultancy.

At this time, **ems** would state that while this report does raise concerns, based on current evidence, it does not believe there is an irrefutable and significant health hazard from laser printers.

The reasoning for this current position is based upon the assessments listed overleaf.

However, should those responsible for printers in the workplace still have concerns, **ems** would suggest some of the following precautions:

- Ensure adequate and appropriate maintenance of all printers (with replacement where necessary)

- Use of high quality consumables

- Relocation of suspect printers to well-ventilated areas away from staff.

Should re-assurance regarding this matter still be required, **ems** would be happy to conduct a suitable air quality audit.

ems own in-house UKAS accredited laboratory for processing environmental samples.

For more information or to discuss environmental monitoring services please contact

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The reasoning for ems' current comments is based after consideration of the points listed below:

The report does NOT say "*printers as bad as cigarettes*". It does state "*The highest printer particle number emission rate found ….. is close to the median value of emission rates for activities, such as cigarette smoking occurring in residential houses*".

Ms Morawska has stated more research is needed to prove whether or not there is a health risk.

During 21 years of professional experience with air quality in corporate environments in which **ems** has not identified results or trends that would corroborate the conclusions of the study.

The study compares particle levels in the vicinity of printers in an office with particle levels from the outside open air

The study was conducted on just 1 building.

The building (6 floors, A/C, HVAC, non-smoking) was in Brisbane, Australia, surrounded by roads carrying low to medium traffic flows and at a distance of approximately 120m from a busy motorway.

Paper dust was not considered in the study

60% of the investigated printers did not emit submicrometer particles

Only 27% of the 40% of printers that did emit particles were high particle emitters

Sometimes the same make and model of printer appeared as both a non-emitter and a high-emitter.

The study concluded that toner coverage and cartridge age could be the most significant factors affecting the emission rates of a particular printer.

The study does not consider the maintenance of the printers, paper quality or toner cartridge quality.

The exact composition of the ultra-fine emissions is yet to be ascertained and it has not been confirmed if they are harmful or not.

Experts have noted that the types of particles identified by the researchers can also be generated from simple activities such as burning a candle or making toast.

The tiny sample of data may be considered by the strict rules of epidemiology, as not "statistically significant".

The final paragraph of the study states "*Many factors, such as printer model, printer age, cartridge model, and cartridge age **may** affect the particle emission process and all of these factors require further study*".

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