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**Ozone
Monitoring in
Laundries**

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1. INTRODUCTION

As requested a visit was made to the laundry rooms of a residential home in Bury and a hotel in Blackpool to undertake atmospheric monitoring for ozone.

2. MONITORING

Monitoring for ozone was carried out using dosimeter tubes which react with ozone by converting nitrite to nitrate. The tube is subsequently analysed for nitrate.

3. RESULTS

The results are appended to the report.

4. DISCUSSION

Ozone is produced in situ in the laundries and fed directly to the washing machines.

Ozone is being used as a disinfectant and a bleaching agent.

The atmospheric limits for ozone are given in HSE publication EH 40 "Occupational Exposure Limits". For ozone the limit given is for short term exposure of 15 minutes. This is due to the fact that ozone is highly reactive and acute (short term) symptoms, especially irritation of the respiratory tract and eyes, will occur rapidly if high concentrations are encountered. This exposure limit will apply through the working day.

5. CONCLUSIONS

From the results it can be seen that the concentrations of ozone are within the limits as given in EH 40. The exposure at the front of the washing machines is higher due to residual ozone in the machines being released when doors are opened following washing.

6. RECOMMENDATIONS

To ensure that the systems remain sealed from the production area to the washing machine pipework should be check on a regular basis to ensure it is intact.

7. DISTRIBUTION LIST

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APPENDIX A
RESULTS

APPENDIX A - RESULTS

Table 1

Sample No	Sample Description	Ozone Detected On Tube (μg)	Airborne Concentration ($\mu\text{g}\text{m}^{-3}$)	Airborne Concentration (ppm)
DOH05074/01	Nursing Home –Personal	0.04	101	0.05
DOH05074/02	Nursing Home – Personal	0.04	101	0.05
DOH05074/03	Hotel – Personal	0.08	196	0.098
DOH05074/04	Hotel – Adjacent Machines	0.07	167	0.084
<i>Occupational Exposure Standard (OES)</i>	<i>8 Hour Time Weighted Average</i>		<i>400</i>	<i>0.2</i>
	<i>15 Minute Time Weighted Average</i>		<i>400</i>	<i>0.2</i>