

## Application Note VO-103

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### Dry Cleaning Notes

1 - The Eco Sensors C-21 and its predecessors the C-11, C-12, and C-20 all have the same calibration for the perchloroethylene ("Perc") dry cleaning fluid fumes:

20 ppm: All green  
40 ppm: all yellow  
50 ppm: one red  
100 ppm two red  
140 ppm: all red

*Only the C-21 is manufactured now.*

2 - Perc is a heavy, low vapor-pressure gas, so its concentration will vary greatly at various points in the room.

3 - In the US, the continuous exposure limit is generally 50 ppm (varies by locality), so that is where our bargraph readout enters the red zone.

4 - The newer dry cleaning machines don't create as much perc exposure because the clothes are treated and dried in the same machines. In the older system, when clothes were transferred from one machine to another, perc would vaporize off the just-treated clothes.

5 - The C-21 has an audio alarm and data logger output. We offer a data logger that displays its data through your PC and is calibrated in Perc units - This is the DL-3.

6 - Besides general machine area monitoring, our perc monitors are used to check the saturation of the carbon filters that remove the perc from the machine exhaust. These are usually canisters on top of the dry cleaning machines. When the carbon is saturated, it freely transmits perc which is easily detected by our instruments.

7 - The C-21 has a built-in NiMH rechargeable battery which recharges overnight and which can power the instrument for about 2 hours. The purpose of the battery mode is if a high perc level is detected, then the instrument can be unplugged from its adapter and hand-carried around the maze of plumbing found connected to the dry cleaning machine to "sniff" for the leak location.

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Some of the larger institutional laundries such as at hotels and hospitals are adding ozone to the wash water which reduces the amount of detergent needed (so the water can be discharged in city sewers) and the amount of electrical or gas energy needed because cooler water is just as effective if it has ozone. Eco Sensors is the leading supplier of ozone monitors for work place monitoring in North America and increasingly overseas.