

# Re: Oxygen percent in a room

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- *From:* "akapen" <foom@xxxxxxxxxxxxxx>
  - *Date:* Sun, 08 Jul 2007 01:57:32 GMT
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"zxcvbob" <zxcvbob@xxxxxxxxxxxxxx> wrote in message  
[news:5farj9F3bfkldU1@xxxxxxxxxxxxxxxxxxxxxxxx](mailto:news:5farj9F3bfkldU1@xxxxxxxxxxxxxxxxxxxxxxxx)

Jim wrote:

I need some help in trying to calculate the percentage of oxygen existing in a closed room. This is partly just for my interest, but there is a practical side to my question also.

I live in a recently built house that is one of these "super-insulated" structures with little outside air exchange except what is forced via fans. During the winter months I live primarily in a couple of rooms closed off from the main house to save on heating bills.

I have equipment that very accurately measures the carbon dioxide level in real time, that is located in my main living area. I live at 3000 feet elevation, and the house is all electric; no oxygen consuming heating, not even a wood burning stove. I don't have any way of directly measuring o2 in the house.

The measured co2 in my living area ranges from approximately 500 ppm to over 2000 ppm. The higher concentrations generally occur during the winter months when I am spending more of my time indoors, and am preserving the heat by running the forced air intake fans less. (This will be changing in the future, as I will be forcing air from a solar heated porch into the house during some winter daylight hours)

My question is, from knowing the co2 concentration (and humidity percent also) in a closed space, how can I calculate the oxygen concentration? I know that the o2 concentration of normal dry air is around 20.95 percent, but

Re: Oxygen percent in a room

suspect that the relationship is not perfectly direct between the increase in CO<sub>2</sub> and the decrease of O<sub>2</sub>.

Any help on this math problem would be appreciated.

Thanks  
Jim

Is Al Gore in that room? That's the only way I see it being a problem.

Bob

Standard Problem in submarines.

They never "run out of air", there is always plenty of O<sub>2</sub>.

They accumulate an excess of CO<sub>2</sub>, big problem.

One solution for commercial subs is a simple "air hood" which is nothing more than a plastic bag which one wears over the head, with a small CO<sub>2</sub> scrubber canister incorporated.

It is said that a sub with this equipment has an emergency submerge time of up to 72 hr.!

I agree that Al Gore would be a problem, but perhaps manageable, under the circumstances.

Cheers,  
Tony