

## Newspaper Article 5: Carbon Monoxide

Carbon Monoxide (CO) is an odorless, colorless gas that will cause death if exposure is long or the concentration is high.

While all burning substances produce CO, gasoline is the big concern since that is what most of us use in our engines. Hardly a boating season goes by that you don't read about a couple who ran their generator (to run the air conditioner) while they slept – and they had the sleep of all sleeps.

Often our only clue is a physical reaction to the fumes. As with most situations, there are ways to prevent exposure to CO and ways to respond to inhalation.

First, prevention. For inboards and inboard/outboards, our first task is to make sure that our engines' (both main(s) and generator) exhaust systems are intact. Any leaks should be fixed. Make this inspection at least every month. With the engine running, feel around exhaust pipe joints for escaping exhaust. (Please don't touch the pipes!) With outboards, the exhaust is vented through the lower unit into the water and since the engine is out of the boat there is less danger.

My boat is a good example. It is a small houseboat, with an outboard engine and a generator on the stern deck. One would think there is not much danger – and one would be wrong. My cabin has a front and rear door. If the wind is from the stern, it blows the exhaust gases from both the engine and generator right into the cabin. Not good! When the wind is from the stern and I'm cruising, I need to cruise fast enough for the exhaust gases to be blown well astern. The other alternative is to keep the rear door closed.

Several years ago, when Jane and I lived aboard a 55' Bluewater, we were anchored in the Bahamas. We had the generator running for air conditioning and TV. It was located below the main salon. Then the CO alarm went off. (Yes, it is loud and scary.) WE SMELLED NOTHING! I opened the hatch over the generator and there was a foot of seawater in that hold. A leak had developed in the exhaust system and, since that system handled both the exhaust and seawater cooling, we were getting exhaust fumes and seawater aboard.

CO alarms are programmed to go off when the concentration of CO is only one-fifth enough to cause harm to humans. We were able to make repairs (good old duct tape) and solve the problem until a new exhaust system was installed.

If you have a cabin, get a CO detector!!

Be very careful if you have any gasoline engine running while you're at anchor and people are swimming/playing at your stern platform. At anchor, the wind will be on your bow forcing exhaust gases toward the stern where they will form an eddy of gases around your stern. This is especially important with large houseboats with the generator running and the party going on at the stern.

Operating a propane stove or heater in a closed cabin is also a hazard. As the fire reduces the oxygen levels in the cabin, propane starts to produce CO.

Symptoms of CO poisoning include headache, irritated eyes, nausea, weakness or dizziness. Any one or all of these symptoms is a wake-up call to respond – which is to turn off whatever device is producing the gas and ventilate the area. At that, it will take some time for the symptoms to go away. Heavy concentrations require immediate professional medical help.

Finally, caution your crew and passengers about the hazards of CO, to be aware of the symptoms and to report them to the captain (you!).

