



# SHIP SAFETY BULLETIN

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Ship Safety Bulletins provide safety-related information to the marine community.

All bulletins are available at: [www.tc.gc.ca/marinesafety](http://www.tc.gc.ca/marinesafety)

## Subject:

## **CARBON MONOXIDE Preventive Measures and Recognition of Danger**

### **Purpose**

A recent incident in British Columbia highlights the risks of Carbon Monoxide (CO) poisoning. Four of eight people on a small passenger vessel suffered the effects of exposure to CO when fumes from a damaged rubber bellows surrounding the outside portion of the vessel's inboard/outboard engine migrated forward over the transom and into the cabin. Although there were no fatalities, one victim continues to suffer severe impairment of motor skills and cognitive ability. The deaths by CO poisoning of four recreational boaters in Idaho highlight the potential dangers of CO for operators of pleasure craft and non-pleasure craft alike.

This Bulletin will help vessel owners and operators understand how to take steps to protect themselves and others on board and how to recognize the symptoms.

### **How Do I Protect Myself?**

Install a marine grade CO detector in accordance with the manufacturer's instructions so that you'll be alerted if CO is present.

Be aware of the warning signs and get anyone who complains of these symptoms to fresh air immediately.

Become familiar with and avoid situations that cause CO to build up. Make sure others on board know not to sit or swim in areas where CO can accumulate.

### **Keywords:**

1. Carbon Monoxide
2. Poisoning
3. CO

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Owners of commercial vessels automatically receive Bulletins.

## **Recognizing Carbon Monoxide (CO) and its Dangers**

Carbon Monoxide (CO) is a colourless, odourless, and tasteless gas produced during the incomplete combustion of fossil fuels. Any device that burns fossil fuel (internal combustion engine, cooking appliances, heaters, etc.) can produce CO. Because it has almost the same density as air, CO doesn't rise or fall but spreads evenly throughout an enclosed space. CO may accumulate when travelling at slow speed (the station wagon effect), if the engine exhaust leaks or is blocked, or if your air vents are near another vessel's exhaust outlets.

CO cuts off your body's oxygen supply and, as a result, can make you seriously ill, cause heart and brain damage, and even kill you. Because you can't see, smell or taste CO, you will not be aware that you are breathing it in and must be alert to its effects.

CO's effects are commonly mistaken for flu and cold symptoms - shortness of breath on mild exertion, mild headaches and nausea. With higher levels of poisoning, the symptoms become more severe - dizziness, mental confusion, severe headaches, nausea, fainting on mild exertion.

To learn more about recommended practices to prevent CO from accumulating in the first place, visit the following link: <http://www.tc.gc.ca/BoatingSafety/news/co2.htm>.