

# MAYNE ISLAND INTEGRATED WATER SYSTEMS SOCIETY

website: [miiwss.com](http://miiwss.com)

## HYDROGEN SULFIDE (H<sub>2</sub>S)\*\*\*\*\* **WHAT IS IT ????** **RAINWATER COLLECTION TANKS ARE CONFINED SPACES** ***H<sub>2</sub>S is classed as a chemical asphyxiant!***

Rotting vegetation within your water collection tanks produces hydrogen sulphide--H<sub>2</sub>S. Since H<sub>2</sub>S is about 20% heavier than air, it collects in depressions and confined spaces.

If you can smell H<sub>2</sub>S coming from your water taps, it is not a problem, and your kitchen does not qualify as a confined space.

Free H<sub>2</sub>S in the blood reduces its oxygen carrying capacity, is similar to carbon monoxide and cyanide gases. It acts, at higher levels, by 'numbing' the olfactory gland, hence your nose can no longer act as your safety indicator. Odours become detectable in concentrations as low as .008 ppm but the sense of smell is lost after 2 to 15 minutes at 100 ppm!

At **50 to 100 ppm**, symptoms include headache, dizziness, nausea, breathing difficulty. Higher levels at **500- 700 ppm**, loss of consciousness and possibly death in 30 to 60 minutes. At the **1000 to 2000 ppm** level there is unconsciousness at once and death within a few minutes.

**MAINTENANCE:**When cleaning tanks, use the buddy system. If the partner outside the tank senses a problem, call 911 immediately and ***do not enter or put your head into the tank to see if you can help before first responders arrive!***

One recommendation for tank cleaning is to use a sump pump to clean the debris off the bottom. The best alternative is to filter vegetation out of the rainwater BEFORE it goes into the tank.

Tank placement can also be important. Install your tanks in a shady location and filtered for vegetation. Consider installing black tanks rather than the lighter coloured ones.

At the Confined Spaces workshop facilitated by MIIWSS in 2008, our Fire Chief stated that a call out of this nature would be considered a 'recovery' and not a 'rescue'. That in itself should be an eye opening alert! A few years ago, 3 workers in the BC interior were asphyxiated when they entered a water pumping station for maintenance. Two of the three entered the shed to see why their co-worker(s) had not returned.

MIIWSS, in encouraging installation of more rainwater collection tanks, and with hundreds already installed across the islands, decided safety education was needed and held a Confined Spaces workshop. In the main, it was our Small Water Systems Operators in attendance, from 5 islands.

Since our fellow islanders seemed to not be aware of the relationship between big collection tanks and possible life threatening confined space issues, we have since attempted to reach out via advertising, articles & handouts. We hope tank owners will use the information thoughtfully within the content offered. When MIIWSS puts on a course/seminar, please believe we have given due consideration to the relevance of the content in relation to island lifestyles. **Our workshops are always open to everyone!**

Please use due diligence, the buddy system, your shop vac to pump air into the tank while cleaning, and let someone else know when you are cleaning your tanks.

Our goal is to alert you to the fact that any confined space such as your collection tanks must be treated with respect, and enjoy revelling in the freedom from summer water issues.

Visit our Technical page on our website [miiwss.com](http://miiwss.com)

Contact us at [watersociety@shaw.ca](mailto:watersociety@shaw.ca)

**CARING FOR WATER RESOURCES = PROTECTION OF PROPERTY VALUES**