

## Gases in the Home

Homes are not immune to hazardous atmospheres. In fact, we use chemicals and processes everyday that are potentially dangerous. Some products commonly found in homes include:

- Aerosol cleansers
- Household paints
- Natural gas
- Pesticides
- Garden weed control products



Most chemical products you buy for use in your home will outline specific safety steps.

Sometimes natural gas can exist at high levels within your home. Obviously, you need to know if conditions in your home are hazardous.

Some less expensive gas testers may be affordable for home use. But many of these testers may not test for all necessary substances. As well, people who do gas testing on the work site are trained professionals—gas testing is nothing to fool around with.

If you suspect a hazardous atmosphere in your home or garage, get a professional to check it out.

## You Can Save Lives

Most incidents in hazardous atmospheres happen because workers don't know that the atmosphere is dangerous. These incidents can be prevented.

By careful initial and ongoing gas testing with the right equipment, you can stop incidents before they happen.

For more information, refer to current applicable Occupational Health and Safety Legislation.



**The Alberta Construction Safety Association's** mission is to provide quality advice and education for the construction industry that will reduce human suffering and financial costs associated with workplace incidents. This brochure is part of a series, **The Toolbox Brochures**, which are available on a variety of safety topics. If you have any questions or comments please contact:



**Edmonton** Tel: 780-453-3311  
Toll Free Line: 1-800-661-2272  
Fax: 780-455-1120  
Toll Free Fax: 1-877-441-0440  
E-mail: edmonton@acsa-safety.org

**Calgary** Tel: 403-291-3710  
Toll Free Line: 1-800-661-6090  
Fax: 403-250-2852  
Toll Free Fax: 1-877-258-5881  
E-mail: calgary@acsa-safety.org

**Fort McMurray**  
Tel: 780-715-2157  
Fax: 780-715-1684  
fortmcmurray@acsa-safety.org

[www.acsa-safety.org](http://www.acsa-safety.org)

To order more brochures, contact the above.

# Gas Detection



## Making Safety A Way Of Life



## The Alberta Construction Safety Association

## Recognition

What do you know about hazardous atmospheres? If you're doing gas testing, you need to know all about gases and hazardous atmospheres.

Different gases have a wide range of characteristics—some are heavier than air, others are lighter than air. Some gases have a colour, others are invisible. Some have a distinct odour, many do not.

Different processes produce different hazardous atmospheres. If you don't know what to look for, you probably won't find it. And "it" may be deadly.

## Risks

If you do not follow correct gas detection procedures, you could get false readings and let your co-workers enter an unsafe area. They could:

- Suffer permanent disabilities and/or brain damage.
- Suffer fatal injury.

## Exposure Limits

Exposure limits are measurements that describe the concentration levels of gases a person can be exposed to for a specific amount of time without adverse health effects. These include:

**8-Hour Occupational Exposure Limit**—concentration of gas which most workers can be exposed to day after day without adverse effects.

**15-Minute or Ceiling Occupational Exposure Limit**—the maximum concentration workers can be exposed to for a 15-minute maximum amount of time or a one-time exposure on a daily basis.

For additional information on exposure limits, refer to current OH&S Legislation.

## Air Currents

Assessing the direction and strength of air currents is an important step in gas testing. Your air quality testing kit should contain air current tubes. These tubes generate a flow of distinct, white, lighter-than-air smoke that helps you to determine the direction and velocity of the air current.

## Choose

There are many types of gas testers available. Each have specific applications. You need to know what type is designed for your work site. If you don't use the right equipment, you could miss detecting a deadly atmosphere.

## Inspect

Take a good look at your equipment before you use it—problems with equipment can lead to disaster. Be sure to:

- Look for signs of wear or cracks.
- Check that nuts, screws, and screw joints are firmly connected.
- Look for cracks or wear in the rubber seams on the bellows pump.
- Test the bellows pump for air leaks. Fully squeeze the pump and insert a detector tub in the inlet hole. If there is a leak, you will notice a loss of air in the bellows.



## Evaluate

Before testing, think about the entire process:

1. What workplace conditions exist that might affect the testing?
2. What substances are you testing for? Does your test include all possibilities?
3. Do you have the gas detector tube instruction sheets for the gas you are testing for? Do you understand them all?
4. What are the properties of the substances you are testing for?
5. When are you going to complete the tests?
6. How often do tests need to be performed in each area?

## Test

While you are testing:

1. Evaluate the air quality using gas detection procedures specific to your equipment.
2. Follow specified sampling times.
3. Observe tube colour changes as outlined on the detector tube instruction sheet.
4. Keep accurate records of all tests including the exact location, time of testing, and testing results.
5. Record results immediately after testing.
6. Wear the appropriate personal protective equipment.
7. Follow all safe work procedures.
8. Keep other factors in mind during testing—temperature, humidity, atmospheric pressure, and the presence of other gases or vapours.
9. Purge the gas detector with clean air following each air sampling test. (Draw air through the instrument several times to ensure effectiveness.)