MARCH
SAFETY TALK

Toxic Process Gases

In Municipalities, “Toxic Process Gases” include ammonia, used as a refrigerant in arenas and chlorine, used as a disinfectant in swimming pools and water systems. Some municipalities may also have ozone-generating equipment for additional pool disinfectant, although that process seems to be used less and less often.

Regardless of the toxic process gas, there are several specific procedures and safeguards that must be in place to protect workers.

RISK ASSESSMENT

A risk assessment must be completed. Factors to be considered include:

- What is the nature of the hazard?
  - How could the product harm workers?
  - What are the possible effects of exposure?
  - Are there short or long term effects?
- What is the nature of the exposure?
  - What are the specific substances workers could be exposed to?
  - How could a worker be exposed?
  - What specific work procedures could result in exposure?
  - Who and how many workers could be exposed?
- Are there control measures in place to reduce the risk of exposure?
  - Consider these in the order of hierarchy of controls: engineering, administrative and personal protective equipment

If it is determined there is risk to workers from toxic process gases, controls must be implemented, including an exposure control plan.

EXPOSURE CONTROL PLAN

The exposure control plan must contain the following elements:

1. Statement of purpose and responsibilities;
2. Risk identification, assessment and control;
3. Education and training of workers;
4. Written work procedures;
5. Hygiene facilities and decontamination procedures, when required;
6. Health monitoring, when required;
7. Documentation

Where possible, the location of toxic process gases must be:

1. in a separate room or enclosure that is designed, constructed and maintained to prevent fugitive emissions and accidental releases from entering occupied work areas;
2. provided with exhaust ventilation to ensure an effective inward air flow at all times;
3. provided with a safe means of entry and exit;
4. designated as a restricted work area; and
5. posted with signs to identify the hazards and precautions for safe entry.

In addition, the employer must ensure there is appropriate ventilation and emergency ventilation; a remote shut-off device to shut off the supply of gas either manually or by the alarm system; a continuous monitoring system; and appropriate respiratory protection for workers who must enter a restricted access enclosure.

For further information on Toxic Process Gases, see WorkSafeBC Occupational Health and Safety Regulation part 6.116 to 6.132. Information on controlling exposure, including the requirements for exposure control plans, can be found in Parts 5.48 through 5.59.

Additional resources can be found at worksafebc.com

British Columbia Municipal Safety Association

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