

In this issue we highlight:

- New Hazard Alerts
- Amended Occupational Safety General Regulations Reference Guide
- Recent Incidents
- New CSA Standard, CAN/CSA-Z1610 *"Protection of First Responders from Chemical, Biological, Radiological and Nuclear Events"*
- Landscaping and OHS

Features

Hazard Alerts

The Division has recently posted 3 new Hazard Alerts on its OHS Knowledge Base site. The alerts deal with the hazards of Silica, Vibration and the chemical Diazomethane and related alkylating or precursor reagents. A brief summary of the Hazard Alerts are presented below, for the full alert go to [OHS Knowledge Base](#).

Silica

Silica is a very common hazard in many workplaces and many activities create dust that can expose workers to airborne silica. Nova Scotia has an occupational exposure limit of 0.025 milligrams per cubic meter (mg/m³), which is the maximum amount of crystalline silica that workers may be exposed to during an eight-hour work shift.

Examples of workplace activities that could expose workers to silica are:

- Chipping, sawing, grinding, hammering, or drilling of rock, concrete, or masonry structures
- Façade renovation, including tuck-point work
- Power cutting or dressing stone
- Many building demolition processes
- Clean-up activities such as dry sweeping or pressurized air blowing of concrete or sand dust
- Crushing, loading, hauling, or dumping of rock
- Abrasive or hydro blasting of concrete
- Tunneling, excavation, or earth moving of soils with high silica content

It is the employer's responsibility to ensure a hazard assessment, if needed, is done to determine the exact nature of the hazard and based on the assessment implement measures to eliminate or minimize it. Some preventive actions may include:

- Building design controls – use pre-built recesses for utilities (plumbing, gas, electric) to eliminate or reduce or the need to cut or drill concrete/masonry
- Engineering controls such as local exhaust ventilation or water spray systems to reduce dust levels, barriers to restrict access by unprotected workers
- Provide appropriate personal protective equipment (PPE) such as respirators and protective clothing
- In sand blasting operations substitute silica with another material
- Train workers on silica exposure dangers and how to use control measures and PPE

[Full Alert](#)

Vibration Exposure

Many people are exposed to vibration in the workplace. Exposure to certain types of vibration can cause health effects that range from discomfort and interference with the ability to perform work, to acute or chronic illness.

There are two main types of vibration that persons may be exposed to in the workplace: whole body vibration, which enters the body through a seat or the floor; and segmental vibration, which primarily affects one part of the body.

The most common type of segmental vibration exposure is hand-arm vibration from the use of vibrating hand tools. With both types of exposure, the health impacts will depend on the characteristics of the vibration (including frequency, amplitude, and acceleration), the part of your body that is exposed, the daily exposure time, and the total number of years that you are exposed.

Manufacturers of tools recognize the risk associated with vibration and incorporate anti-vibration technology to minimize or eliminate the risks. Employers and employees who purchase or use equipment that may induce vibration are encouraged to consult the manufacturer specifications/instructions, or the supplier to ensure that appropriate measures are taken to eliminate or reduce the transmission of harmful levels of vibration to the body.

It is important to limit your exposure to vibration; some good work practices for preventing hand-arm vibration:

- Reduce vibration exposure to levels below the ACGIH TLVs®
- Use anti-vibration tools as per manufacturers' specifications/instructions
- Maintain equipment to minimize vibration
- Keep warm and dry
- Use anti-vibration gloves
- Use a light hand grip that is sufficient to operate the tool safely

Good work practices for minimizing whole-body vibration exposure include:

- Using equipment, machinery, and vehicles that do not vibrate excessively
- Providing vehicle operators with air-ride or suspended seats in order to isolate the operator from vibration
- Mechanically isolating vibrating machines from the floor
- Maintaining equipment to minimize unnecessary vibration
- Avoiding lifting heavy objects or bending immediately following exposure

[Full Alert](#)

Diazomethane and Trimethylsilyldiazomethane

Persons who operate and work in laboratories are reminded that working with methylating and other alkylating or precursor reagents can be hazardous and require proper precautions. These compounds often present high risks of explosion and/or toxicity.

Diazomethane and Trimethylsilyldiazomethane are two popular methylating agents used in commercial and academic laboratories.

Diazomethane is known to be highly explosive and will explode by interacting with the slightest imperfections on glassware surfaces. Special precautions should be implemented and the material should only be produced as needed and used immediately. Aside from its highly explosive nature, it is also highly toxic by inhalation and absorption by contact with skin or eyes. Symptoms include: chest discomfort, headaches and weakness, which may be delayed. In one instance, a laboratory worker died four days after eating near fumehood while generating a large quantity of diazomethane.

Trimethylsilyldiazomethane is widely used as a less explosive substitute for diazomethane and is often referred to as a "safer" alternative. While this lessens the risk of explosions, it should still be considered a highly toxic chemical whose inhalation may be potentially fatal.

It is the responsibility of the employer to ensure anyone using or working with such volatile and damaging reagents in the workplace is completely aware of what they are doing and to consider all possible hazards. Preventive actions may include:

- Controls to prevent and protect from possible explosions when dealing with production of diazomethane including but not limited to: ensure inspection of glassware for cracks or sharp edges before use, use of specialized kits for preparation, conduct preparation behind an explosion shield, keep away from light and minimize (or eliminate) the distillation of diazomethane.
- Engineering controls to reduce the risk of inhalation. These reagents are only to be handled under a properly designed and functioning fume hood.
- Provide appropriate personal protective equipment (PPE) such as respirators and protective clothing.
- Train workers on the risk of exposures and how to use control measures and PPE.

[Full Alert](#)

OSGR Reference Guide Amendment

Recently the Occupational Safety General Regulations reference guide was amended with regards to the explanatory note on “flash back arrestors” (Section 117). **Note:** the regulatory requirement **DID NOT** change, simply the explanatory note in the reference guide. The explanatory note originally offered direction on the placement of the flash back arrestor the amended reference note now highlights the employer’s responsibility to undertake an assessment of the task and risks and, in this case, the selection of the appropriate safety device and location. The new reference goes further and offers an excerpt from the CSA Standard CSA W117.2 which may assist in determining the placement of the flash back arrestor or reverse-flow check valve.

Here and There

Recent incidents

Ladder

An employee jumped and injured their ankle when the ladder they were climbing started to fall over. On investigation it was determined the employee had taken it upon themselves to replace a light bulb (height of 20 feet) even though it was not part of their duties. The employee did not properly set-up the ladder properly and when they began climbing it started to fall.

It is the employee’s duty (section 17) under the Act to: ‘take every reasonable precaution in the circumstances to protect their own health and safety and that of other persons at or near the workplace; and co-operate with the employer’ Also sections 147 – 152 of the Occupational Safety General regulations outlines requirements for both fixed and portable ladders.

Guarding

An employee sustained an eye injury when cutting a piece of steel using a grinder. The grinder did have a guard installed but it is unknown whether the employee was wearing safety glasses. In another incident an employee severed part of their thumb while operating a table saw with no guarding. Safe work procedures had been developed for this operation and it was determined the employee had not been following them.

Part 8 of the Occupational Safety General regulations has requirements for guarding, abrasive wheels and grinders; also Part 3 Personal Protective Equipment and Part 9 Tools need to be considered for additional requirements. Under the OHS Act it is the employer’s responsibility to ensure written safe work procedures are developed and that all employees are aware of, are trained in, and follow those procedures.

Fall Protection

A worker accidentally stepped off a roofing beam, approximately 5 meters (15 feet) in the air; the worker was not wearing fall protection. The Fall Protection and Scaffolding regulations require anyone working at a height of 10 or more feet to wear a fall arrest system or have some other means of fall protection (guard rails, safety net, temporary flooring, etc.)

Other

CSA has new Protective Equipment Standard for First Responders

CSA has introduced the first national standard to protect first responders attending to chemical, biological, radioactive or nuclear (CBRN) emergencies. The standard, CAN/CSA-Z1610 *“Protection of First Responders from Chemical, Biological, Radiological and Nuclear Events”*, specifies requirements for the selection, use and care of personal protective equipment for first responders to a CBRN incident, including deliberate releases and contagious outbreak events. The standard identifies requirements for protective CBRN equipment such as respiratory protection and whole body protection; it also addresses the difference between conventional hazardous material incidents and deliberate CBRN incidents in order to understand how equipment guidelines differ. (taken from *“Perspective: News from CSA”*, Spring 2011, Vol. 16 Number 1)

FYI: Landscaping and OHS

Some health and safety considerations for persons working as landscapers; depending on exact occupation or geographic location, the following are possible risks: exposure to infectious human and animal waste; Irritation or allergic reaction from plants, or from insect bites or stings; west nile virus, Lyme disease or rocky mountain spotted fever; hantavirus from mouse droppings; lifting and carrying heavy objects; noise; working with heavy machinery, manual and power tools, and ladders; working near electrical lines; and working alone.

Some good general work practices include: use safe lifting techniques; work safely with equipment, tools, and ladders (follow manufacturers' specifications); follow MSDS recommendations when working with chemicals; use, maintain and store personal protective equipment according to manufacturers' recommendations; stay hydrated to avoid heat stress; be familiar with and follow company safety rules and procedures (taken from [CCOHS OHS Answers](#)).

Links to related Agencies and Sites

- [Nova Scotia WCB](#)
- [Workers Compensation Appeals Tribunal \(WCAT\)](#)
- [Workers' Advisers Program \(WAP\)](#)
- [Workplace Safety and Insurance System \(WSIS\)](#)
- [Office of the Employer Advisor Nova Scotia](#)
- [Service Canada / Français](#)
- [Canadian Centre for Occupational Health and Safety / Français](#)
- [CanOSH \(Canada's National Workplace Health and Safety Website\) / Français](#)