

Industrial sector plan 2017-2018

The plan lists health and safety priorities, describes the planned inspection blitzes and enforcement initiatives, and explains what inspectors will focus on during inspections at industrial workplaces.

Introduction

[Safe At Work Ontario](#) is a Ministry of Labour (MOL) initiative to raise awareness of and increase compliance with Ontario's [Occupational Health and Safety Act](#) (OHSA) and its regulations.

As part of *Safe At Work Ontario*, the MOL develops annual sector-specific enforcement plans related to workplace hazards and describes the focus of inspectors.

This Sector Plan outlines the ministry's enforcement initiatives to protect Ontario's workers from occupational injury and illness.

Note that employers have the prime responsibility for ensuring compliance with the OHSA and its regulations.

Every year the ministry holds consultations to shape and improve its occupational health and safety compliance strategy and build closer partnerships with its stakeholders. These sessions:

- help the ministry to improve its approach to better meet the public's needs
- provide an opportunity to learn from the ministry's partners
- obtain feedback on how well the program is working
- increase support for new directions and
- identify areas for improvement.

The Sector Plans for 2017-2018 describe sector-specific hazards and compliance issues, and the MOL's enforcement focus for inspections in each sector for the upcoming fiscal year.

The plan also acknowledges recent changes to the OHSA that will affect:

- occupational health and safety
- workplace parties and
- the ministry's enforcement practices.

As of September 8, 2016, employers have additional duties with respect to workplace harassment, including a requirement to appropriately investigate workplace harassment incidents and complaints. The MOL has a Dedicated Harassment Enforcement Team (DHET) of Inspectors enforcing this new amended legislation.

[New resources](#) are available on the MOL site to assist employers and workers with the workplace harassment requirements under OHSA. A [Code of Practice](#) under OHSA has been developed to help employers in developing their own workplace-specific harassment policies and programs to comply with the law.

Effective July 1, 2016, [Noise Regulation \(O. Reg. 381/15\)](#) under the [Occupational Health and Safety Act](#) (OHSA) replaced the noise protection requirements set out in the regulations for [Industrial Establishments](#).

[Mines and Mining Plants](#), and [Oil and Gas-Offshore](#) and extends noise protection requirements to all provincially regulated workplaces.

This Sector Plan contains a brief description of some of the main issues that an inspector may address in the workplace. It provides a general overview of the ministry's focus. However, each workplace is unique and the circumstances found by an inspector may result in a different inspection focus. It also contains additional background information on hazards as well as tools and resources relevant for those hazards.

Additionally, there is an overview of the number of critical injuries and fatalities reported to the ministry for each sector in Ontario. Also included are the number of work refusals and complaints reported to the Ministry of Labour's Health and Safety Contact Centre and the number of field visits and orders issued by Ministry of Labour inspectors for each sector.

You are encouraged to familiarize yourself with this plan and share it with others in your workplace.

Ontario provides a toll free province-wide telephone number to report unsafe work practices and workplace health and safety incidents. Call the MOL Health & Safety Contact Centre at 1-877-202-0008 .

- Call any time to report critical injuries, fatalities or work refusals.
- Contact the ministry from 8:30 a.m. to 5 p.m., Monday to Friday, for general inquiries about workplace health and safety.
- In an emergency, always call 911 immediately.

The industrial program

The industrial program

The Industrial Health and Safety Program (IHSP) is the largest and most diverse of five MOL occupational health and safety programs. This program is responsible for enforcing the OHSA and applicable regulations in 29 complex sectors. Most workers in Ontario at provincially regulated workplaces are covered by the IHSP.

Most of these workplaces are covered by specific regulatory requirements made under the OHSA , such as the [Regulation for Industrial Establishments](#).

In general, hazards that are not covered by a regulation and hazards in workplaces not covered by a sector-specific regulation are addressed through the application of the “general duty” clause 25(2)(h) of the [Occupational Health and Safety Act](#) (OHSA).

Employers are required to take every precaution reasonable in the circumstances for the protection of workers from workplace hazards.

Farming is covered by the [Regulation for Farming Operations](#) (O. Reg. 414/05 made under the OHSA). These regulations set out which OHSA provisions and other regulations apply to farming operations.

In some cases, certain activities may be covered by other sector-specific regulations such as Ontario's [Regulation for Construction Projects](#) (O. Reg. 213/91) or [Regulation for Mines and Mining Plants](#) (R.R.O. 1990, Reg. 854).

Workplace parties are also reminded that there are several hazard-based regulations that may also apply at workplaces. These regulations may impose requirements beyond the sector-specific regulations.

The IHSP's 29 sectors are listed below.

Industrial program

- Agriculture Services
- Automotive
- Ceramics, Glass and Stone
- Chemical, Rubber and Plastics
- Construction Premises
- Education
- Electrical and Electronics
- Farming Operations
- Film and TV
- Fire Service
- Fisheries
- Food, Beverage and Tobacco
- Government
- Industrial Services
- Live Performance
- Logging and Sawmills
- Office and Related Services
- Police Service
- Primary Metals
- Pulp and Paper
- Restaurants
- Retail
- Textiles and Printing
- Tourism, Hospitality and Recreation
- Transportation
- Utilities
- Vehicle Sales and Service
- Wholesale
- Wood and Metal Fabrication

Industrial enforcement statistics

Ministry of Labour (MOL) inspectors enforce the [*Occupational health and safety Act*](#) (OHSA) and its regulations at provincially regulated workplaces across the province. As part of the Safe At Work Ontario strategy, they focus on specific sectors where there are:

- high injury rates
- history of non-compliance, or
- certain workplace hazards.

Occupational health and safety inspectors:

- conduct proactive and reactive field visits, in either a lead or a support role
- investigate each reported event, in part by conducting reactive field visits and issuing orders, as required. This may include multiple field visits, including workplaces not categorized within their own Occupational Health and Safety program.

The ministry maintains a database where inspectors record their visits to workplaces in conducting inspections, consultations and investigations, along with orders issued. Events that are reported to the ministry, including fatalities, critical injuries, complaints, work refusals, etc., are also recorded.

The MOL analyzes available data when planning for enforcement initiatives and blitzes such as those outlined in this sector plan. A breakdown of the field visit activities conducted by inspectors and key categories of reported events for the past 5 fiscal years are presented in the tables below.

A summary of activities of inspectors within this program, including those conducted as part of the Safe At Work Ontario blitzes and initiatives, is provided in Table 1.

Table 1. IHSP inspector field visit activities and orders issued

This table provides the Ministry of Labour's program activities for the industrial sector.

Program inspector activities	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
Proactive – consultations	385	273	276	375	377
Proactive – inspections	19,315	16,376	13,864	17,901	15,013
Total proactive field visit activities	19,700	16,649	14,140	18,276	15,390
Total reactive field visit activities – investigations	17,820	18,006	16,497	19,897	21,282
Total field visit activities	37,520	36,655	30,637	38,173	36,672
Orders issued	63,200	54,944	55,499	68,567	54,862

Notes:

- Proactive field visits are either inspections or consultations.
- Reactive field visits are investigations made in response to events reported to the MOL. Events and injuries are listed in Table 2.
- Orders issued represent all those issued by ministry inspectors within this Occupational Health and Safety program.
- Data are subject to change due to updates in the enforcement database.

Occupational health and safety events and injuries reported to the Ministry of Labour are summarized in Table 2. Only events reported to the ministry are included here. Except for fatalities, event categories in the ministry's data set are based on what was assigned at the time of the initial report to the ministry. The reported event category may not represent what actually occurred at the workplace.

Table 2. IHSP events and injuries

This table provides the events and injuries for the industrial sector

OHS events and injuries	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
Complaints	6,329	6,796	6,706	7,404	8,633
Work refusals	157	114	197	213	159
Fatalities	26	44	31	24	32
Critical injuries	823	820	721	580	806
Other injuries (i.e., non-critical)	2,844	2,652	2,344	2,440	2,483

Notes:

- Fatalities: The Ministry of Labour tracks and reports fatalities at workplaces covered by the *Occupational health and safety Act* (OHSA). This excludes death from natural causes, death of non-workers at a workplace, suicides, death as a result of a criminal act or traffic accident (unless the OHSA is applicable) and death from occupational exposures that occurred many years ago.
- Critical injuries: The critical injury numbers represent critical injuries reported to the ministry and not necessarily critical injuries as defined by [Regulation 834](#) under the OHSA. Non-workers who are critically injured may also be included in the ministry's data.
- Data are subject to change due to updates in the enforcement database.

Priorities

System priorities

The [Healthy and Safe Ontario Workplaces Strategy](#) guides the efforts of the:

- Workplace safety and insurance board (WSIB)
- Health and Safety Associations (HSAs), and
- Ministry of Labour (MOL) enforcement staff.

Safe At Work Ontario:

- is aligned with the priorities in the Healthy and Safe Ontario Workplaces Strategy, and
- delivers on the Healthy and Safe Ontario Workplaces Strategy's overall goals, which are to target the areas of greatest need and to enhance service delivery.

The priorities set out in the Healthy and Safe Ontario Workplaces Strategy are:

1. Assist the most vulnerable workers
2. Support occupational health and safety improvements in small businesses
3. Address the highest hazards that result in occupational injuries, illnesses or fatalities
4. Build collaborative partnerships
5. Integrate service delivery and system-wide planning
6. Promote a culture of health and safety.

To support the Safe At Work Ontario strategy, what follows is a brief overview of 2017-2018 enforcement focus areas for inspectors who will visit workplaces.

Enforcement focus

Assist the most vulnerable workers

During the ministry's annual Safe At Work Ontario consultation sessions, stakeholders stressed the importance of improving general Occupational Health and Safety OHS awareness and communication to workplaces. They highlighted the challenges facing vulnerable groups such as new immigrants and young workers, and raised concerns surrounding changing workplaces, including the aging workforce and precarious employment.

The ministry's Healthy and Safe Ontario Workplaces Strategy includes activities to target those at greatest risk. While all workers are vulnerable to injury, illness and fatality, some workers are at greater risk than

others. Those who are at greatest risk may experience vulnerability through a combination of individual, workplace and work activity characteristics.

The ministry's Prevention Division led the development of a comprehensive Vulnerability in the Workplace Action Plan to:

- address recommendations of the Vulnerable Worker Task Group, and
- support the needs of vulnerable workers in Ontario's workplaces.

The Vulnerable Worker Task Group provided advice on how to improve outreach to increase awareness of the [*Occupational health and safety Act*](#) (OHSA) and its regulations among vulnerable workers and their employers.

The Occupational Health and Safety Branch at the Ministry of Labour collaborates with the Prevention Division. As part of this Vulnerability in the Workplace Action Plan, the ministry will continue to place a strong emphasis on assisting workplaces to:

- maintain a functioning internal responsibility system (IRS)
- provide training to all workers, and
- ensure workers understand their rights under the OHSA.

Resources/compliance support

- [New and Young Workers – Keep Them Safe](#)
- [Health and safety awareness training for workers and supervisors](#)

Support occupational health and safety improvements in small businesses

Small businesses face unique occupational health and safety challenges.

The ministry's Healthy and Safe Ontario Workplaces Strategy includes a Small Business Action Plan that contains activities to support health and safety improvements at small businesses. The plan was developed in collaboration with the ministry's occupational health and safety partners and a Small Business Task Group.

An update on the plan is included in the [Occupational Health and Safety in Ontario 2015-2016 Annual Report](#).

During annual Safe At Work Ontario consultations, stakeholders noted that small businesses may be less aware of the legislation and may have fewer resources for complying with the legislation. They suggested that the ministry should continue developing simple resources and tools to assist small businesses.

The Small Business Task Group provided advice on how to improve small business outreach to help create healthy and safe workplaces. Emphasizing outreach and awareness, their report focuses on small businesses that lack the necessary knowledge to comply with the OHSA and its regulations.

The ministry will continue to support the Small Business Action Plan.

Resources/compliance support

The MOL and the occupational health and safety (OHS) system partners have many resources available to assist small businesses on a variety of topics.

The ministry continues to work with its system partners to develop new fact sheets, online tools and information guides. For updates on small business products and resources, please refer to the [Small Business](#) Topic section on the MOL website.

- [Health and Safety Checklist](#)
- [Small Business Resources and Tools](#)
- [Health and Safety System Partners](#)

Address the highest hazards that result in occupational injuries, illnesses or fatalities

Regardless of size, almost all Ontario workplaces employ workers who may be at risk of serious injury, illness or fatality.

Every year, the ministry plans provincial blitzes and enforcement initiatives based on stakeholder consultations, analysis of WSIB information and internal enforcement data. These planned activities are intended to raise awareness among workplace parties and mobilize the ministry's inspectorate to target workplace hazards in Ontario.

When blitzes or other enforcement initiatives are not under way, inspectors will still inspect workplaces for high hazards and workplace parties' compliance with the OHSA at provincially regulated workplaces.

Enforcement initiatives

Enforcement initiatives

[Enforcement initiatives](#) are part of the province's *Safe At Work Ontario* compliance strategy.

They may be announced to sectors in advance although individual workplaces are not identified in advance.

Results from province-wide initiatives are posted on the ministry's website. The initiatives are intended to raise awareness of workplace hazards and promote compliance with the [Occupational health and safety Act](#) (OHSA) and its regulations.

Inspectors' findings may influence the frequency and level of future inspections of individual workplaces. Inspectors may also refer employers to health and safety associations for compliance assistance and training.

Noise hazards provincial enforcement initiative

The ministry will be conducting a one-year provincial enforcement initiative on noise hazards in workplaces across the province. The initiative takes place between April 1, 2017 and March 31, 2018.

Why focus on "noise?"

Noise is a serious health hazard. Over time, if worker exposure to noise from machinery, processes and equipment is not properly eliminated or controlled, it may cause permanent hearing loss, a leading cause of occupational disease in Ontario workplaces.

Exposure to high levels of noise in the workplace may also reduce productivity, interfere with communication and contribute to accidents and injuries by making it difficult to hear moving equipment, other workers and warning signals. Furthermore, hearing loss can have a significant impact on quality of life for workers and their families.

In addition to the negative health effects for workers, noise-induced hearing loss is costly for Ontario's health and safety system. Between 2009 and 2014 the annual costs for noise-induced hearing loss claims for all sectors exceeded \$50 million per year according to the Workplace Safety and Insurance Board (WSIB). During this period, the costs of noise-induced hearing loss claims for the construction sector alone were close to \$7 million dollars per year.

There is no cure for noise-induced hearing loss; however, it can be prevented by eliminating or controlling noise exposures.

In 2017-18, inspectors will check on employer compliance with the [*Noise Regulation \(O. Reg. 381/15\)*](#) under OHSA. Employers have a duty to take all measures reasonably necessary in the circumstances to protect workers from exposure to hazardous sound levels.

The regulation requires that every employer shall ensure that no worker is exposed to a sound level greater than a time-weighted average exposure limit of 85 dBA (decibels measured on the A-weighting network of a sound-level meter) measured over an eight-hour work day.

Where it is practicable to do so, employers must post a clearly visible warning sign at every approach to an area in the workplace where the sound level regularly exceeds 85 dBA.

Employers must comply with this limit following the "hierarchy of controls," which emphasizes the use of engineering controls and work practices to protect workers and places restrictions on the use of hearing protection devices (HPDs) by workers.

When the prescribed exposure limit would be exceeded, employers are required to put in place protective measures to proactively reduce workers' noise exposure. These measures include:

- engineering controls to reduce noise at the source or along the path of transmission
- work practices such as equipment maintenance (to keep it quieter) or scheduling to limit a worker's exposure time
- personal protective equipment (PPE) in the form of hearing protection devices (HPDs), subject to the restrictions stated in the regulation.

Employers who provide workers with HPDs must provide them with adequate training and instruction on their care and use.

The training and instruction must address:

- limitations of the device(s)
- proper fit
- inspection and maintenance, and, if applicable
- cleaning and disinfection.

The regulation requires HPDs to be selected with regard to:

- sound levels to which a worker is exposed
- attenuation or reduction in sound level provided by the HPD
- the manufacturer's information about its use and limitations.

The regulation also requires HPDs to be used and maintained in accordance with the manufacturer's instructions.

Key focus for inspectors

In the industrial health and safety program, the initiative will include but not be limited to:

- workplaces in manufacturing (including wood product manufacturing and metal fabrication)
- municipal operations (including operators of powered equipment, heavy equipment and maintenance shops) and
- workplaces involved in automotive repair and service.

Inspectors will focus on:

- sources of noise
- signage
- engineering controls
- PPEs and HPDs
- the condition of HPDs
- HPD worker training.

Resources/compliance support:

- [A Guide to the Noise Regulation \(O. Reg. 381/15\) under the Occupational health and safety Act](#)
- [Noise Measurement Equipment](#)
- [Selection of Hearing Protection Devices and De-Rating Schemes](#)

Preventing “struck by” injuries provincial enforcement initiative

From April 1, 2017 to March 31, 2018 Ministry of Labour inspectors will conduct an enforcement focus on activities that result in “struck by” injuries. The initiative will have two streams:

- struck by materials/equipment
- struck by moving vehicles / mobile equipment.

Why focus on “struck by” hazards?

Workers being struck by objects and equipment accounted for 16 per cent of allowed lost time claims received by the WSIB in 2015 for lost-time injuries, according to the 2015 WSIB Statistical Report, Schedule 1.

The initiative may include but not be limited to visits to the following types of workplaces:

- automotive
- logging
- ceramics, glass and stone
- chemical, rubber and plastics
- wholesalers including building supply centres
- wood and metal fabrication

Visits to the workplace may include but not be limited to warehouses, loading docks and shipping and receiving areas with a focus on pedestrian and traffic safety in interior and exterior areas of workplaces.

Key focus for inspectors

Ministry of Labour inspectors will check for hazards that could result in worker injuries and deaths. They will check that employers are taking appropriate action to assess and address these hazards, as required by law:

- [Occupational Health and Safety Act Regulation for Industrial Establishments](#)
- [Occupational Health and Safety Awareness and Training Regulation](#)

Internal Responsibility System (IRS): Inspectors will check that employers, supervisors and workers are aware of their OHS rights and responsibilities. They will also check that required health and safety representatives or joint health and safety committees (JHSCs) are in place, where appropriate, and are functioning as required.

Worker training: Inspectors will check that employers are providing information and instruction to workers to perform tasks safely, including providing mandatory basic awareness occupational health and safety training.

Workplace supervision: Inspectors will check that employers have appointed competent supervisors and the supervisors have completed the mandatory occupational health and safety awareness training.

Pre-start reviews (PSRs): Inspectors will check that employers have a written PSR report where it may be required (e.g. for racking, if required in accordance with Table 7 of the *Industrial Establishments Regulation*).

Lift-trucks and other lifting devices: Inspectors will check that employers have lift-trucks and other lifting devices (including associated hardware and rigging equipment) examined for their load capacity and check that employers maintain them in good condition.

Maintenance of vehicles and mobile equipment: Inspectors will check that employers maintain vehicles and mobile equipment in good condition.

Pedestrian/vehicular traffic plan: Inspectors will check that employers are providing safe and appropriate access and egress to work areas. They will also check that employers ensure workers/pedestrians are not endangered by vehicles, mobile equipment or the movement of materials at the workplace. This includes looking at the lighting in the workplace and seeing what barriers, warning signs or other safeguards for the protection of workers are present.

Material storage: Inspectors will check that employers ensure materials are placed or stored in a safe manner and can be removed or withdrawn without endangering a worker.

Racking/storage systems: Inspectors will check that employers are maintaining their racking systems and where required by the *Industrial Establishments Regulation* a pre-start health and safety review has been completed.

Automated systems (robots): Inspectors will check that employers have safe work procedures in place for the use of automated systems (robots) and, where required by the *Industrial Establishments Regulation* that a pre-start health and safety review has been completed.

Resources/compliance support:

[Guidelines for Pre-start Health and Safety Reviews](#)

[Vehicle / mobile equipment and visibility hazards at iIndustrial workplaces](#)

[Storage and material handling](#)

[Lifting equipment](#)

[Mobile equipment](#)

[Videos available at:](#)

- [Loading Dock Safety](#)
- [Forklift Safety](#)

Regional workplace inspection initiatives

Each [MOL region](#) may conduct its own [local initiative\(s\)](#) to raise awareness of and help address health and safety issues that:

- are specific to particular geographic areas of Ontario and/or
- have a higher rate of occurrence than the rest of the province.

The table below outlines planned regional enforcement initiatives for April 1, 2017 to March 31, 2018.

Region	Name of initiative	Date
Central West	Industrial (and Construction) : • Temporary Labour Agencies– joint industrial and construction initiative– focus on worker training and hazard exposure	June 1, 2017 – March 31, 2018
Central West	Industrial : • Food and Beverage Manufacturing – focus on sector hazards	October 1, 2017 – December 31, 2018
Western	Industrial : • Golf Courses – joint education and outreach initiative with employment standards officers	April 1, 2017 – March 31, 2018
Western	Industrial : • Temporary Foreign Workers on Farms – joint initiative with the Worker Safety and Insurance Board	April 1, 2017 – March 31, 2018

Inspection blitzes

MOL inspectors are responsible for enforcing the [Occupational Health and Safety Act](#) and its regulations at workplaces across the province. As part of the [Safe At Work Ontario](#) (OHSA) strategy, they focus on specific industry sectors where there are high injury rates, a history of non-compliance and specific workplace hazards. They will also continue to verify overall compliance with the OHSA and its regulations. Inspectors

are not limited to inspecting the issues identified in this document as Safe At Work Ontario areas of focus, and will take enforcement action as appropriate to the situation at each workplace inspected.

Note: Injury and illness trends: The program uses Workplace Safety and Insurance Board (WSIB) data to identify injury and illness trends. Trend analyses of the number of fatalities, critical injuries, lost-time injuries (LTIs), LTI rates and the costs associated with WSIB claims for each sector are used by the program to identify sectors for blitz initiatives. In addition to this information, inspectors also review the compliance history and known hazards inherent to the type of work to select which workplaces to visit.

In addition to their general inspection duties, industrial inspectors will conduct three province-wide, blitz campaigns in 2017-2018.

Month, Year	Enforcement campaign/blitz topic	Key points
May 1, 2017 - August 31, 2017	New and young workers	Two focus groups in this blitz: • new young worker 14-24 • new worker, older than 25 who has been on the job for less than 6 months or reassigned to a new job New and young workers continue to have higher rates of injuries than other workers. Inspectors will check to ensure that employers and supervisors are taking steps to ensure the protection of new and young workers.
October 2, 2017 - November 24, 2017	Falls – including slips and trips	• Many injuries continue to occur due to slips, trips and falls, including workers falling on ice and/or snow in parking lots or exterior walkways • Focus on housekeeping, the safe use of ladders and maintenance at the workplaces to reduce slipping hazards.
January 15, 2018 - February 28, 2018	Machine guarding and electrical hazards	• Machine guarding focus - including pre-start health and safety reviews as appropriate. • Electrical hazards focus - workers performing electrical work within an industrial establishment (i.e. industrial electrician and exemption, training, not working live, etc.)

Tips on how to prepare for an MOL blitz/initiative inspection

Before the inspector's visit

- Check your accident experience in relation to the blitz/initiative topic.
- Review OHS/A sections and regulations that may apply based on the Blitz's/initiative's focus.
- Determine whether you are currently meeting or exceeding the minimum legal requirements in those areas.

- Consult with MOL [Health and Safety Partners](#) for specific information and services that may help you prepare.
- Review the ministry's blitz-related material.
- Discuss compliance strategies with your Joint Health and Safety Committee (JHSC) or Health and Safety Representative (HSR).

During the visit

- Ensure all required documentation is available to the ministry inspector.
- Ensure supervisor and worker health and safety representative are available.
- Ensure the workplace parties co-operate with the ministry inspector.

The inspector will focus on:

- Compliance with the [OHSA](#) and its regulations
- Health and safety programs and policies related to the blitz topic, if applicable
- Internal Responsibility System (IRS) training requirements and any deficiencies
- Record of injuries, including blitz/initiative related issues/hazards
- Workplace specific hazards related to the blitz/initiative.

Note: Inspectors can legally enter a project or workplace at any time without warrant or prior notice (OHSA section 54(1)(a)). An inspector will identify himself/herself by means of ministry identification. No person shall hinder, obstruct, molest or interfere with or attempt to hinder, obstruct, molest or interfere with an inspector in the exercise of a power or the performance of a duty under this act or the regulations or in the execution of a warrant issued under this act or the [Provincial Offences Act](#) with respect to a matter under this act or the regulations.

New and young worker blitz

Date: May 01 to August 31, 2017

Type: Industrial provincial

Ministry inspectors will focus on new and young workers at workplaces in selected sectors.

Rationale

Why focus on the new and young worker?

Any new worker, of any age, is up to three times more likely to be injured during the first month of a new job than at any other time performing that job, according to the [Institute for Work and Health](#).

This applies to any worker who is “new” to the work he or she is performing, such as a new job with the same employer. For this blitz, new and young workers are defined as:

- young workers aged 14 to 24 and
- new workers who are on the job for less than six months or assigned to a new job. This includes both “young workers” and those 25 and older.

New workers include:

- any new hire, either permanent or temporary, including supervisors, with or without experience in the industry where they are working
- current workers who are assigned new jobs
- student workers, co-op placements or apprentices
- seasonal workers.

Trends: WSIB statistics

Lost-time claims

According to the 2015 WSIB Statistical Report (Schedule 1), workers between the age groups of 20 - 24 and 50 - 54 represented the largest groups for all allowed lost-time claims.

- Over the past 10 years, sprains and strains has continued to be the leading nature of injury and in 2015 represented 39 per cent of all allowed lost time claims
- The leading injuries in the age group 15 - 24 involved being struck by equipment or objects and they experienced mostly hand injuries
- The leading injuries in the age group 25 - 54 involved overexertion and they experienced mostly back injuries.
- The leading injuries in the age group 55+ involved falls on the same level and they experienced mostly back injuries.

Selected sectors

Ministry inspectors will focus on new and young worker safety in the following sectors:

- retail
- restaurants
- tourism, Hospitality and Recreational Services
- food, Beverage and Tobacco

Inspectors may also visit workplaces, based on regional knowledge, in other sectors where new and young workers may work.

Blitz focus

Inspectors will focus on the following key priorities:

Training, orientation and supervision – Inspectors will verify that employers have completed basic mandatory supervisor and worker awareness training and that workers have received information and instruction about the employer's workplace violence and harassment programs. They will also check that employers have Workplace Hazardous Materials Information System (WHMIS) training in place, and that employers provide supervision to workers.

Internal Responsibility System – Inspectors will check on the IRS, check if the HSRs or JHSCs are in place and functioning as required under the OHSA.

Policies and programs – Inspectors will check that employers have policies and programs in place to address workplace violence and harassment.

Minimum age requirements – Inspectors will check that employers are employing workers who meet the minimum age requirements for industrial establishments, where applicable.

Safe work practices – Inspectors will check that employers have safe work practices, including practices for assessing for hazards in the workplace and taking appropriate action to prevent worker injury.

Personal protective equipment (PPE) and safety devices- Inspectors will check that employers ensure PPE is properly selected, used and maintained for tasks. Inspectors will also check that workers wear the appropriate PPE required by the employer.

Resources/compliance support:

Tips

- [Tips for Young Workers](#)
- [Tips for Parents](#)
- [Tips for Employers](#)

Guides

- [A Guide to the *Occupational Health and Safety Act*](#)
- [A Guide for Joint Health and Safety Committees and Health and Safety Representatives in the Workplace](#)
- [Workplace Hazardous Materials Information System \(WHMIS\): A Guide to the Legislation](#)

Tools

- [Health and Safety Awareness Training for Workers and Supervisors](#)
- [How to Prepare an Occupational Health and Safety Policy](#)
- [Storage and Material Handling](#)
- [Prevent Workplace Pains & Strains! It's Time to Take Action!](#)
- [Workplace Violence and Harassment: Understanding the Law.](#)
- [Information Resources about Reprisals](#)

Hazard alerts

- [General](#)
- [Industrial](#)

Health and safety partners

The ministry works closely with its [workplace health and safety partners](#) to protect workers' health and safety on the job.

Slips, trips and falls blitz

Date: October 2, 2017 to November 24, 2017

Type: Industrial provincial

Ministry inspectors will focus on the safe use of ladders, housekeeping and including maintenance at the workplaces to reduce slipping risks.

Rationale

Why focus on falls?

- Many injuries continue to occur due to slips, trips and falls.
- Over the 10-year period from 2005 to 2014, falls accounted for 17.1 per cent of the traumatic fatalities in all programs for Schedule 1 employers.
- In 2014, fall on same level accounted for 15 per cent of the injury events in all programs for Schedule 1 employers.
- In 2014, fall on same level accounted for 21 per cent of the injury events in all programs for Schedule 2 employers.
- Between April 1, 2014, and March 1, 2015, there were 4 work-related deaths and 20 critical injuries from falls involving ladders in industrial establishments.

Selected sectors:

In particular, ministry inspectors will focus on falls in the following sectors:

- TBD

Blitz focus

Inspectors will focus on the following key priorities:

Worker and Supervisor Health and Safety Awareness Training – Inspectors will verify that employers have completed basic mandatory supervisor and worker awareness training.

Policies and programs – Inspectors will check that employers have taken steps to protect workers from falls such as requirements for safely using ladders.

Access and egress – Inspectors will check that employers are providing appropriate access and egress to work areas.

Safe work practices – Inspectors will check that employers have safe work practices, including practices for assessing hazards in the workplace and taking appropriate action to prevent worker injury. They will also check that employers have safe work practices when workers are using ladders, mobile stands and platforms.

Falls from ladders, mobile stands and platforms – Inspectors will check that employers have assessed ladders, stands and platforms for hazards and that this equipment is maintained and placed on firm footing when in use.

Same level slips and trips – Inspectors will check that employers keep floors and other work surfaces free of obstructions and other hazards (such as oily or greasy floors). Special attention will be paid to walkways, aisles and other areas where there is pedestrian traffic.

Falls from trucks/loads – Inspectors will check that employers ensure workers are using safe work practices where they may be exposed to the hazard of falling from the beds of trucks, trailers or the top of loads.

Ergonomics – Inspectors will check that employers ensure workers are performing tasks in a manner that prevents falls. This may include factors such as workers' posture, use of force and other ergonomic factors.

Worker training – Inspectors will check that employers provide information, instruction and supervision to workers to prevent injuries and deaths from fall hazards.

Resources/compliance support:

Ontario Ministry of Labour

Guides

- [A Guide to the *Occupational Health and Safety Act*](#)
- [A Guide for Joint Health and Safety Committees and Health and Safety Representatives in the Workplace](#)
- [Workplace Hazardous Materials Information System \(WHMIS\): A Guide to the Legislation](#)

Tools

- [Health and Safety Awareness Training for Workers and Supervisors](#)
- [Workplace Violence and Harassment: Understanding the Law.](#)

Hazard alerts

- [General](#)
- [Industrial](#)

Health and safety partners

The ministry works closely with its [workplace health and safety partners](#) to protect workers' health and safety on the job.

Machine guarding and electrical hazards

Date: January 15, 2018 to February 28, 2018

Type: Industrial provincial

Ministry inspectors will focus protection of workers from hazards related to unguarded machines and electrical hazards in workplaces.

Rationale

Why focus on machine guarding and electrical hazards?

Workers can be exposed to a number of hazards when machines are not properly guarded or locked out during maintenance, repair and other activities in industrial sector workplaces. These hazards can result in serious injuries such as amputation of limbs or death.

Hazards can include:

- exposure to in-running nip hazards, i.e. getting caught up in machinery and moving parts if equipment is not properly guarded.
- exposure to hazardous motion, such as rotating machine parts, if equipment is not properly locked and blocked during maintenance and repair.
- exposure to live electrical components, i.e. machinery not locked out prior to electrical work being conducted.

Blitz focus

From January 15 to February 28, 2018, Ministry of Labour inspectors will visit the following sectors:

- wood and metal fabrication
- manufacturing
- chemical and plastics
- automotive plants.

The blitz will also target workplaces known to have machinery or hazardous processes and or equipment and where complaints have been received.

The inspections will focus on:

- **Worker and Supervisor Health and Safety Awareness Training:** Inspectors will verify that employers have their supervisors and workers complete basic mandatory supervisor and worker awareness training.
- **Guarding:** Inspectors will check that employers have ensured that pinch points and other hazardous locations on equipment have guarding devices.
- **Locking and blocking:** Inspectors will check that employers have ensured that workers are following lockout procedures to prevent machines from starting when the machines are opened or when guarding devices are removed and blocked to prevent accidental movement when required.
- **Electrical hazards:** Inspectors will check that employers are ensuring the power supply to electrical installations, equipment or conductors is disconnected, locked out of service and tagged before or during any work done, on or near live exposed parts of installations, equipment or conductors.
- **Power line contact:** Inspectors will check that employers are taking every reasonable precaution to protect workers who are at risk of coming in contact with an overhead power line while performing maintenance work on a roof or a roof repair.
- **Musculoskeletal disorders (MSDs):** Inspectors will check that employers are taking adequate measures to address activities that could lead to MSDs. This includes addressing an increase in awkward postures and/or increased use of force to perform required duties due to the installation or removal of a machine guard.
- **Internal Responsibility System (IRS):** Inspectors will check the workplaces' IRS to see if a health and safety representative or JHSC, if required, is in place and that they were functioning as required under the OHSA.
- **Policies and programs:** Inspectors will check that employers have policies and programs in place to protect workers from hazards in the workplace.

Resources/compliance support:

Ontario Ministry of Labour

Guides

- [A Guide to the Occupational Health and Safety Act](#)
- [A Guide for Joint Health and Safety Committees and Health and Safety Representatives in the Workplace](#)
- [Workplace Hazardous Materials Information System \(WHMIS\): A Guide to the Legislation](#)

Tools

- [Health and Safety Awareness Training for Workers and Supervisors](#)
- [Workplace Violence and Harassment: Understanding the Law](#)

Hazard alerts

- [General](#)
- [Industrial](#)

Health and safety partners

The ministry works closely with its [workplace health and safety partners](#) to protect workers' health and safety on the job.

General resources

Legislation Publications

- [Occupational health and safety Act \(OHSA\)](#)
- [Industrial Establishments, R.R.O. 1990, Reg. 851](#)
- [Farming Operations, O. Reg. 414/05](#)
- [Critical Injury Defined, R.R.O. 1990, Reg. 834](#)
- [Firefighters – Protective Equipment, O. Reg. 714/94](#)
- [Roll-Over Protective Structures, R.R.O. 1990, Reg. 856](#)
- [Asbestos on Construction Projects and in Buildings and Repair Operations, O. Reg. 278/05](#)
- [Designated Substances, O. Reg. 490/09](#)
- [Teachers, R.R.O. 1990, Reg. 857](#)
- [University Academics and Teaching Assistants, R.R.O. 1990, Reg. 858](#)
- [Joint Health and Safety Committees – Exemption from Requirements, O. Reg. 385/96](#)
- [Control of Exposure to Biological or Chemical Agents, R.R.O. 1990, Reg. 833](#)
- [Confined Spaces, O. Reg. 632/05](#)
- [Occupational Health and Safety Awareness and Training, O. Reg. 297/13](#)
- [Inventory of Agents or Combinations of Agents for the Purpose of Section 34 of the Act, R.R.O. 1990, Reg. 852](#)
- [Workplace Hazardous Materials Information System \(WHMIS\), R.R.O. 1990, Reg. 860](#)
- [Needle Safety, O. Reg. 474/07](#)
- [Oil and Gas - Offshore, R.R.O. 1990, Reg. 855](#)
- [Noise, O. Reg. 381/15](#)

Note: Regulations made under the *Occupational health and safety Act*, Revised Statutes of Ontario, 1990, Chapter O.1 as amended. For the complete Table of Regulations reference, please see:

- [Ontario.ca e-Laws](#)
- [The Ontario Gazette](#)

Publications

Ministry of Labour

- [Publications by topic](#)
- [List of publications](#)

Industry groups – section 21 and other advisory committees

Section 21 committees (appointed by the Minister of Labour pursuant to OHSA section 21)

- Fire service
- Police service
- Film and Television
- Emergency medical services (EMS) subcommittee (of the Health Care Section 21 Committee)

Other advisory committees

- Technical advisory committee for farming operations
- Live performance advisory committee
- Provincial forestry tripartite committee
- Arborist safe practice committee
- Agricultural & horticultural advisory committee (WSPS)
- Landscaping safety council
- Education and culture advisory committee (PSHSA)
- Municipal and community affairs advisory council (PSHSA)
- Public services prevention network (PSHSA)
- Petrochemical forum
- Provincial labour-management safety committee – utilities

Health and safety system partners

- [Ministry of Labour](#) (MOL)
- [Workplace safety and insurance board](#) (WSIB)
- [Occupational health clinics for Ontario workers](#)
- [Workers health and safety centre](#) (WHSC)
- [Institute for work and health](#) (IWH)
- [Infrastructure health and safety association](#) (IHSA)
- [Public services health and safety association](#) (PSHSA)
- [Workplace safety north](#) (WSN)
- [Workplace safety and prevention services](#) (WSPS)

Key hazards and trends by subsector

The Industrial Program consists of a number of subsectors. This chapter covers common hazards, incident and enforcement trends, and applicable regulations for each one.

- [Agricultural services](#)
- [Automotive](#)
- [Ceramics, glass, and stone](#)

- [Chemical, rubber and plastics](#)
- [Construction premises](#)
- [Education](#)
- [Electrical and electronics](#)
- [Farming operations](#)
- [Film and television](#)
- [Fire](#)
- [Fishing sector](#)
- [Food, beverage and tobacco](#)
- [Government](#)
- [Industrial services](#)
- [Live performance](#)
- [Logging and sawmills](#)
- [Office and related services](#)
- [Police service](#)
- [Primary metals](#)
- [Pulp and paper](#)
- [Restaurants](#)
- [Retail](#)
- [Textiles and printing](#)
- [Tourism, hospitality and recreational services](#)
- [Transportation](#)
- [Utilities](#)
- [Vehicle sales and service](#)
- [Wholesalers](#)
- [Wood and metal fabrication](#)

Agricultural services

Sector summary

The agricultural services sector comprises soil preparation, planting, crop dusting and spraying, tree surgery and removal, farm machinery, equipment and supplies, veterinary services, agricultural management and other services.

Key hazards

The following list represents hazards to which workers are commonly exposed in the sector:

- activities that may lead to musculoskeletal disorders (MSDs)
- machine (and powered equipment) hazards such as improper lock-out and unguarded equipment
- material handling hazards (such as workers being struck by objects, caught or crushed between objects)
- slips, trips and falls
- noise.

In general, hazards that are not covered by a regulation and hazards in workplaces not covered by a sector-specific regulation are addressed through the application of the “general duty” clause 25(2)(h) of the [Occupational health and safety Act](#) (OHSA).

Workplace parties should refer to the narrative portion of the field visit report, if they have received one, for further information or contact their [health and safety association](#) for guidance.

In addition to any other hazards which may be present in a workplace, all employers covered by the OHSA must comply with the requirements for workplace violence and harassment. The act sets out requirements for workplace violence and harassment in sections 32.0.1 to 32.0.8.

Further information regarding the requirements related to workplace violence can be found in the Ministry of Labour guide [Workplace violence and harassment: Understanding the law](#).

Additional information, including more information about new workplace harassment provisions, can be found on the Ministry of Labour (MOL) topic webpages for [Workplace Violence and Workplace Harassment](#).

Employers may wish to consider the use of the ministry's [Code of Practice to Address Workplace Harassment](#) under the OHSA.

Musculoskeletal disorders (MSDs)

Workplace pains and strains can be serious and disabling for workers, causing pain and suffering ranging from discomfort to severe disability.

MSD is not a medical diagnosis; it is an umbrella term for a group of injuries. Some of these injuries include: back pain (low back strain, etc.), muscle strain, tendonitis, carpal tunnel syndrome (CTS), rotator cuff syndrome, tennis elbow and shoulder pain.

- Identify and assess job-related MSD risk factors (i.e. identify tasks and activities involving manual material handling, use of ladders, static or repetitive movements etc.).
- Review training on job-specific MSD risk factors.
- Assess controls to reduce worker exposure to MSDs.
- Contact your health and safety association for guidance in assessments and prevention of MSDs.

Machine hazards

Machine or transmission start-up (improper lockout)

Injuries experienced by accidental machine start-up can include lacerations, crushing and amputations. In some circumstances these injuries can cause permanent disability or death.

The Regulation for Industrial Establishments ([Regulation 851](#)) applies to industrial establishments (such as an office building, factory, arena, shop or office or any land, buildings and structures pertaining thereto) and sets out requirements for worker protection against machine start-up in sections 75 and 76.

- Review repair/maintenance of machinery [section 75].
- Ensure requirement/compliance with lockout procedures [sections 75 and 76].
- Ensure that instruction and information is provided to a worker on the hazard and the requirements to isolate and lockout hazardous energy [OHSA clauses 25(2)(a) and 25(2)(d)].

Unguarded equipment

Injuries to workers can include lacerations, amputations, crush by entanglement and loss of consciousness. Serious injuries can lead to permanent disability or death.

Hazards due to unguarded equipment include worker exposure to pinch points, moving (rotating) equipment, and in-running nip hazards. Equipment that has exposed moving parts such as cutting operations, conveyors, augers, equipment using power take-off (PTO) and exposed drive-motor assemblies used to power compressors and/ or ventilation fans will endanger a worker. *Regulation 851* sets out requirements for guarding of equipment in sections 24, 25, 26, 28, 31 and 32.

- Ensure that the requirements for the guarding of prime movers or transmission equipment are followed [section 24].
- Ensure that pinch points are guarded [section 25].

Material handling hazards: struck by objects, caught between or crushed by objects

Injuries associated with material handling can include workers being struck by objects, caught between objects and/or crushed by mechanical compression. Manual material handling may also lead to MSDs.

Regulation 851 sets out requirements for material handling in sections 45, 46, 47, 48, 49 and 50. Section 51 contains requirements regarding mechanical lifting devices.

- Review operations/processes involving the movement of raw material and product from receiving area to production line and from production line to shipping area [section 45].
- Review operations/processes involving assembly line or similar style of raw material or product movement [clause 45(a)].
- Review warehousing/storage operations [clause 45(b)].
- Ensure that mechanical lifting devices are maintained in good condition, are operated by a competent person and are capable of handling loads [section 51].

Slips, trips and falls

Slips, trips and falls hazards include hazards that result in workers falling onto the same surface or falling from a height.

Injuries to workers can include fractures, lacerations and loss of consciousness. In extreme circumstances, injuries caused from a fall can lead to permanent disability or death.

The Regulation for Industrial Establishments ([*Regulation 851*](#)) sets out a number of requirements for worker protection against slips, trips, and falls, including but not limited to sections 11, 13, 14, 15, 73 and 85.

- Floors and other surfaces used by workers must be free of obstructions, hazards, accumulations of ice and snow and not have a slippery surface [section 11].
- Review requirements for guardrails to protect from falls [sections 13 and 14].
- Review fall protection equipment required when working from heights [section 85].
- Ensure that training is provided to a worker on the use of protective clothing and equipment (i.e. fall arrest equipment [section 79]).
- In areas requiring ladder use, review compliance with section 73.
- Employers must provide information, instruction and supervision to protect workers from slips, trips and falls and acquaint workers with the hazards [OHSA clauses 25(2)(a) and 25(2)(d)].

Noise

Injuries to workers can include varying degrees of noise-induced hearing loss.

The Noise Regulation [*O. Reg. 381/15*](#) sets out workplace requirements regarding noise.

- Review the engineering controls and administrative (work practices) controls in place to reduce noise levels and exposures (mufflers on air exhausts, mechanical damping, vibration isolators, enclosures, limiting worker's exposure time) [subsection 2(2)].
- Review the availability and use of hearing protection [subsection 2(6)].
- Review the type of hearing protection provided [subsection 4(1)].
- Review placement of warning signs at approaches to noisy areas [subsection 2(7)].
- Review the training provided to workers [section 3].
- Personal protective equipment is to be used only as a last resort. Engineering controls and work practices must be used where practicable [subsection 2(5)].

Trends

Table 1: Fatalities and critical injuries in agriculture services sector by fiscal year

Events	2012-13	2013-14	2014-15	2015-16	2016-17
Fatalities	0	3	1	0	2
Critical injuries	16	14	11	11	4

- Only critical injury events reported to the ministry are included here.
- This represents data that was reported to the ministry and may not represent what actually occurred at the workplace.
- The critical injury numbers represent critical injuries reported to the ministry and not necessarily critical injuries as defined by the [Occupational health and safety Act](#).
- Non-workers who are **critically injured** may also be included in the ministry's data.
- The Ministry of Labour tracks and reports **fatalities** at workplaces covered by the OHSA. This excludes death from natural causes, death of non-workers at a workplace, suicides, death as a result of a criminal act or traffic accident (unless the OHSA is also implicated) and death from occupational exposures that occurred many years ago.
- Data is subject to change because of inspectors' updates to the database.

Table 2: Events and activities in agriculture by fiscal year

Events and activities	2012-13	2013-14	2014-15	2015-16	2016-17
Field visits	386	395	497	493	510
Orders	442	713	497	929	804
Complaints	63	62	88	80	98
Work refusals	1	0	0	0	0

Most common orders issued under the OHSA

From April 1, 2016 to March 31, 2017 the most common orders issued by the Ministry of Labour under the OHSA were:

- An employer shall, take every precaution reasonable in the circumstances for the protection of a worker [clause 25(2)(h)].
- An employer shall ensure that, the equipment, materials and protective devices provided by the employer are maintained in good condition [clause 25(1)(b)].

- An employer shall provide information, instruction and supervision to a worker to protect the health or safety of the worker [clause 25(2)(a)].
- Orders issued to an employer related to workplace violence and harassment provisions [sections 32.0.1 through 32.0.8].

Most common orders issued under the industrial establishments Regulation

From April 1, 2016 to March 31, 2017 the most common orders issued by the Ministry of Labour under the Ontario *Regulation 851* were:

- Where a worker is exposed to a potential hazard of injury to the eye due to contact with a biological or chemical substance, an eyewash fountain shall be provided [section 124].
- A floor or other surface used by any worker shall, be kept free of (i) obstructions, (ii) hazards, and (iii) accumulations of refuse, snow or ice [clause 11 (a)].
- An in-running nip hazard or any part of a machine, device or thing that may endanger the safety of any worker shall be equipped with and guarded by a guard or other device that prevents access to the pinch point [section 25].
- A lifting device shall, be thoroughly examined by a competent person to determine its capability of handling the maximum load as rated, prior to being used for the first time, and thereafter as often as necessary but not less frequently than recommended by the manufacturer and in any case, at least once a year, and a permanent record shall be kept, signed by the competent person doing the examination [clause 51(1)(b)].

Applicable sections of the Regulation for Industrial Establishments

Where the [Regulation for Industrial Establishments](#) apply, some of the sections of the regulation which inspectors may use to issue orders (as appropriate) are:

- Section 11 – safe work surfaces
- Sections 13 and 14 – guardrails
- Sections 22 and 23 – flammable liquids
- Sections 24, 25, 26, 28 and 32 – guarding of equipment
- Section 34 – conveyor guarding
- Section 45 – material handling and storage
- Section 49 – compressed gas cylinders
- Clause 51(1)(a) – examination of lifting device
- Clause 51(1)(b) – maximum rated load plainly marked on lifting device
- Section 73 – portable ladder
- Section 76 – machine lockout
- Section 79 – personal protective equipment instruction
- Section 80 – head protection
- Section 81 – eye protection
- Section 82 – foot protection
- Section 85 – fall arrest

Applicable regulations

- The following regulations may apply to workplaces in the sector:
- Critical Injury – Defined [Regulation 834](#)
- Confined Spaces [O. Reg. 632/05](#)

- Control of Exposure to Biological or Chemical Agents [Regulation 833](#)
- Designated Substances [O. Reg. 490/09](#)
- Designated Substance – Asbestos on Construction Projects and in Building Repair Operations Regulation [O. Reg. 278/05](#)
- Noise Regulation [O. Reg. 381/15](#)
- Occupational Health and Safety Awareness and Training [O. Reg. 297/13](#)
- Regulation for Industrial Establishments [Regulation 851](#)
- Roll-Over Protective Structures [Regulation 856](#)
- Workplace Hazardous Materials Information System () [Regulation 860](#)

Construction projects Regulation

Employers should be aware that in situations where construction work is undertaken, the Construction Projects Regulation ([O. Reg. 213/91](#)), may apply.

Construction work can be described as new work, additions, alterations or maintenance and repairs. The *Occupational health and safety Act* defines “construction” as including erection, alteration, repair, dismantling, demolition, structural maintenance, painting, land clearing, earth moving, grading, excavating, trenching, digging, boring, drilling, blasting, or concreting, the installation of any machinery or plant and any work or undertaking in connection with a project but does not include any work or undertaking underground in a mine.

General resources

[Publications | Ministry of Labour](#)

For information and guides, fact sheets, information bulletins, guidelines, alerts, engineering data sheets, extracts, reports, consultations, codes and standards.

[Videos and photos | Ministry of Labour](#)

To view Ministry of Labour videos and photos.

[Health and safety partners](#)

To learn about sector-assigned health and safety associations.

[By the numbers: WSIB statistical report](#)

To review Workplace safety and insurance board (WSIB) injury experience data.

Automotive

Sector summary

This sector comprises establishments primarily engaged in the manufacturing of motor vehicles, including establishments that manufacture only motor vehicle chassis (including truck cabs), such as motor vehicle, truck body and trailer and automotive parts manufacturers.

Key hazards

The following list represents hazards to which workers are commonly exposed in the automotive sector:

- activities that may lead to musculoskeletal disorders (MSD)
- machine (and powered equipment) hazards such as improper lock-out and unguarded equipment
- material handling hazards (such as workers being struck by objects, caught or crushed between objects)
- slips, trips and falls
- exposures (such as chemicals, fumes and environmental conditions)
- noise
- transportation equipment and vehicle traffic
- fire and explosion
- confined spaces.

In general, hazards that are not covered by a regulation and hazards in workplaces not covered by a sector-specific regulation are addressed through the application of the “general duty” clause 25(2)(h) of the [Occupational health and safety Act](#) (OHSA).

Workplace parties should refer to the narrative portion of the field visit report, if they have received one, for further information, or contact their [health and safety association](#) for guidance.

In addition to any other hazards which may be present in a workplace, all employers covered by the OHSA must comply with the requirements for workplace violence and harassment. The act sets out requirements for workplace violence and harassment in sections 32.0.1 to 32.0.8. Further information regarding the requirements related to workplace violence can be found in the Ministry of Labour guide [Workplace violence and harassment: Understanding the law](#).

Additional information, including more information about new workplace harassment provisions, can be found on the MOL topic webpages for [Workplace Violence and Workplace Harassment](#). Employers may wish to consider the use of the ministry’s [Code of Practice to Address Workplace Harassment](#) under the OHSA.

Musculoskeletal disorders (MSDs)

Workplace pains and strains can be serious and disabling for workers, causing pain and suffering ranging from discomfort to severe disability.

MSD is not a medical diagnosis; it is an umbrella term for a group of injuries. Some of these injuries include: back pain (low back strain, etc.), muscle strain, tendonitis, carpal tunnel syndrome (CTS), rotator cuff syndrome, tennis elbow and shoulder pain.

- Identify and assess job-related MSD risk factors (i.e. identify tasks and activities involving manual material handling, use of ladders, static or repetitive movements etc.)
- Review training on job-specific MSD risk factors.
- Assess controls to reduce worker exposure to MSD.
- Contact your health and safety association for guidance in assessments and prevention of MSD.

Machine hazards

A Pre-start health and safety review may be required (as per section 7 of *Regulation 851*) if new equipment (or modifications to equipment) are installed that interface with certain electrical safeguarding devices. Please see the section “Pre-start health and safety review” found later in this document for more information.

Machine or transmission start-up (improper lockout)

Injuries experienced by accidental machine start-up can include lacerations, crushing and amputations. In some circumstances these injuries can cause permanent disability or death.

The Regulation for Industrial Establishments ([*Regulation 851*](#)), applies to industrial establishments (such as an office building, factory, arena, shop or office or any land, buildings and structures pertaining thereto) and sets out requirements for worker protection against machine start-up in sections 75 and 76.

- Review repair/maintenance of machinery [section 75].
- Ensure requirement/compliance with lockout procedures [sections 75 and 76].
- Ensure that instruction and information is provided to a worker on the hazard and the requirements to isolate and lockout hazardous energy [OHSA clauses 25(2)(a) and 25(2)(d)].

Unguarded equipment

Injuries to workers can include lacerations, amputations, crush by entanglement and loss of consciousness. Serious injuries can lead to permanent disability or death.

Hazards due to unguarded equipment include worker exposure to pinch points, moving (rotating) equipment, and in-running nip hazards. Equipment that has exposed moving parts such as cutting operations, conveyors, augers, equipment using power take-off (PTO) and exposed drive-motor assemblies used to power compressors and, or ventilation fans will endanger a worker. *Regulation 851* sets out requirements for guarding of equipment in sections 24, 25, 26, 28, 31 and 32.

- Ensure that the requirements for the guarding of prime movers, or transmission equipment are followed [section 24].
- Ensure that pinch points are guarded [section 25].

Material handling hazards: struck by objects, caught between or crushed by objects

Injuries associated with material handling can include workers being struck by objects, caught between objects and/or crushed by mechanical compression. Manual material handling may also lead to MSD.

Regulation 851 sets out requirements for material handling in sections, 45, 46, 47, 48, 49 and 50. Section 51 contains requirements regarding mechanical lifting devices.

- Review operations/processes involving the movement of raw material and product from receiving area to production line and from production line to shipping area.
- Review operations/processes involving assembly line or similar style of raw material or product movement [section 45].
- Ensure safe warehousing/storage operations [clause 45(b)].
- Ensure that mechanical lifting devices are maintained in good condition, are operated by a competent person and are capable of handling loads [section 51].

Slips, trips and falls

Slips, trips and falls hazards include hazards that result in workers falling onto the same surface or falling from a height.

Injuries to workers can include fractures, lacerations and loss of consciousness. In extreme circumstances injuries caused from a fall can lead to permanent disability or death.

The Regulation for Industrial Establishments ([Regulation 851](#)) sets out a number of requirements for worker protection against slips, trips and falls, including but not limited to sections 11, 13, 14, 16, 73 and 85.

- Floors and other surfaces used by workers must be free of obstructions, hazards, accumulations of ice and snow and not have a slippery surface [section 11].
- Review requirements for guardrails to protect from falls [section 13 and 14].
- Review fall protection equipment required when working from heights [section 85].
- Ensure that training is provided to a worker on the use of protective clothing and equipment (i.e. fall arrest equipment) [section 79].
- In areas requiring ladder use, review compliance with section 73.
- Employers must provide information, instruction and supervision to protect workers from slips, trips and falls and acquaint workers with the hazards [OHSa clauses 25(2)(a) and 25(2)(d)].

Exposures

Chemical exposures

Chemicals can present hazards to workers by a variety of different mechanisms such as causing chemical burns to skin, irritation to eyes and airways and by absorption or ingestion into the body.

- Review the use of chemicals used in the workplace such as common acids. (hydrochloric acid, sulfuric acid, nitric acid, chromic acid, acetic acid and hydrofluoric acid), common bases (ammonium hydroxide, potassium hydroxide (caustic potash) and sodium hydroxide (caustic soda), and any other chemicals used.
- Ensure compliance with requirement for skin protection [[Regulation 851](#), section 84].
- Ensure compliance with requirement for eye protection [section 81].
- Ensure compliance with requirement for emergency eyewash facilities [section 124].
- Ensure compliance with requirement for emergency shower facilities [section 125].
- Ensure that workers are trained about precautions to take, use of protective equipment and emergency procedures [section 130].
- Ensure that the requirements outlined in the Workplace Hazardous Materials Information System (WHMIS) ([Regulation 860](#)) and the requirements to monitor and control exposure limits as identified in the Control of Exposure to Biological or Chemical Agents ([Regulation 833](#)) are followed.

General workplace environment

Workplace hazards related to the general workplace environment may include exposure to fumes and other contaminants related to poor or inadequate ventilation. Exposure to cold or heat may also be a hazard to worker health and safety.

- Ensure workplace ventilation is adequate [[Regulation 851](#), sections 127 and 128].
- Ensure that a workplace is adequately heated where appropriate [section 129].

- Review sources of heat or excessive temperatures in the workplace and ensure that adequate controls are in place to protect workers.

Noise

Injuries to workers can include varying degrees of noise-induced hearing loss.

The Noise Regulation [*O. Reg. 381/15*](#) sets out workplace requirements regarding noise.

- Review the engineering controls and administrative (work practices) controls in place to reduce noise levels and exposures (mufflers on air exhausts, mechanical damping, vibration isolators, enclosures, and limiting worker's exposure time).
- Review the availability and use of hearing protection [subsection 2(6)].
- Review the type of hearing protection provided [subsection 4(1)].
- Review placement of warning signs at approaches to noisy areas [subsection 2(7)].
- Review the training provided to workers [section 3].
- Personal protective equipment is to be used only as a last resort. Engineering controls and work practices must be used where practicable [subsection 2(5)].

Transportation equipment and vehicle traffic

Injuries can occur when workers are struck by or come into contact with motorized equipment or vehicles in a workplace.

Where vehicles or motorized equipment are present:

- review locations where pedestrians and vehicles may be present in a workplace.
- ensure that controls are in place to adequately protect workers from vehicles and motorized equipment [*Regulation 851*, section 20].

A comprehensive program to protect workers may include an assessment of the risks and implementation of measures and procedures appropriate in the circumstances, such as warning lights, signs, signallers, barriers and worker training. The use of reflective clothing appropriate for the circumstances is also important. Workplace parties may wish to refer to the Canadian Standards Association's standard CSA Z96-15 which contains performance criteria for high visibility garments. CSA Standard Z96-15 - *High-visibility safety apparel* is available through the [Canadian Standards Association](#) (CSA).

Fire and Explosion

Flammable liquids

Injuries from fire and, or explosion can include burns, lacerations, fractures, and loss of consciousness. Serious injuries can lead to permanent disability or death.

- Ensure the safe use of solvents in the workplace such as acetone and toluene.
- Review requirements for flammable liquids such as the requirements for:
 - grounding and bonding [clause 22(4)(b)]
 - proper storage of flammable liquids [section 22]
 - ventilation and work area protection [sections 22 and 63].
- Review the requirements outlined in the WHMIS/*Regulation 860* and the requirements to monitor and control exposure limits as identified in *Regulation 833*.

Fire and explosion: dust collectors

Industrial dust collectors, hoppers and bins can contain combustible dusts, including metal shavings.

[Regulation 851](#) sets out requirements for dust collectors in sections 63, 64 and 65.

Confined space

A “confined space” means a fully or partially enclosed space that is not both designed and constructed for continuous human occupancy, and in which atmospheric hazards may occur because of its construction, location or contents or because of work that is done in it.

Injuries to workers can include loss of consciousness and collateral injuries sustained as a result of loss of consciousness.

In some circumstances such as oxygen depletion, toxic substance inhalation or explosive atmosphere, injuries to workers can lead to permanent disability or death.

The Regulation for Confined Spaces ([O. Reg. 632/05](#)) sets out workplace requirements regarding confined spaces.

- Review work locations that meet the definition of “confined space.”
- Ensure compliance with the requirement to have a program in place for confined spaces [section 5].
- Ensure compliance with the requirement to have adequate assessments of confined spaces carried out [section 6].
- Ensure compliance with requirement to have an adequate plan developed and implemented for confined space entry [section 7].
- Review compliance with requirement for worker training [section 9].

Trends

Table 1: Fatalities and critical injuries in automotive sector by fiscal year

Events	2012-13	2013-14	2014-15	2015-16	2016-17
Fatalities	0	0	2	1	0
Critical injuries	35	35	34	31	45

- Only critical injury events reported to the ministry are included here.
- These represent data that were reported to the ministry and may not represent what actually occurred at the workplace.
- The critical injury numbers represent critical injuries reported to the ministry and not necessarily critical injuries as defined by the [Occupational health and safety Act](#).
- Non-workers who are **critically injured** may also be included in the ministry’s data.
- The Ministry of Labour tracks and reports **fatalities** at workplaces covered by the OHSA. This excludes death from natural causes, death of non-workers at a workplace, suicides, death as a result of a criminal act or traffic accident (unless the OHSA is also implicated) and death from occupational exposures that occurred many years ago.
- Data are subject to change because of inspectors’ updates to the database.

Table 2: Events and activities in automotive by fiscal year

Events and activities	2012-13	2013-14	2014-15	2015-16	2016-17
Field visits	1,165	1,461	1,268	1,568	1441
Orders	1,782	2,153	2,404	2,618	2,065
Complaints	15	13	311	399	429
Work refusals	15	13	9	10	10

Most common orders issued under the OHSA

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under the OHSA were:

- An employer shall ensure that, the equipment, materials and protective devices provided by the employer are maintained in good condition [clause 25(1)(b)].
- An employer shall, take every precaution reasonable in the circumstances for the protection of a worker [clause 25(2)(h)].
- An employer shall provide information, instruction and supervision to a worker to protect the health or safety of the worker [clause 25(2)(a)].
- An employer shall post in the workplace a copy of this act and any explanatory material prepared by the ministry, both in English and the majority language of the workplace, outlining the rights, responsibilities and duties of workers [clause 25(2)(i)].
- Orders issued to an employer related to workplace violence and harassment provisions [sections 32.0.1 through 32.0.8].

Most common orders issued under the Industrial Establishments Regulation

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under *Regulation 851* were:

- A lifting device shall, be thoroughly examined by a competent person to determine its capability of handling the maximum load as rated, prior to being used for the first time, and thereafter as often as necessary but not less frequently than recommended by the manufacturer and in any case, at least once a year, and a permanent record shall be kept, signed by the competent person doing the examination [clause 51(1)(b)].
- Where a machine or prime mover or transmission equipment has an exposed moving part that may endanger the safety of any worker, the machine or prime mover or transmission equipment shall be equipped with and guarded by a guard or other device that prevents access to the moving part [section 24].
- Where a worker is exposed to a potential hazard of injury to the eye due to contact with a biological or chemical substance, an eyewash fountain shall be provided [section 124].
- A floor or other surface used by any worker shall be kept free of obstructions, hazards, and accumulations of refuse, snow or ice; and not have any finish or protective material used on it that is likely to make the surface slippery [section 11].
- An in-running nip hazard or any part of a machine, device or thing that may endanger the safety of any worker shall be equipped with and guarded by a guard or other device that prevents access to the pinch point [section 25].

Applicable sections of the Regulation for Industrial Establishments

Where the [Regulation for Industrial Establishments](#) apply, some of the sections of the regulation which inspectors may use to issue orders (as appropriate) are:

- Section 7 – pre-start health and safety review
- Section 11 – safe work surfaces
- Sections 13 and 14 – guardrails
- Sections 22 and 23 – flammable liquids
- Sections 24, 25, 26, 28 and 32 – guarding of equipment
- Section 34 – conveyor guarding
- Section 45 – material handling and storage
- Section 49 – compressed gas cylinders
- Clause 51(1)(a) – examination of lifting device
- Clause 51(1)(b) – maximum rated load plainly marked on lifting device
- Section 73 – portable ladder
- Section 76 – machine lockout
- Section 79 – personal protective equipment instruction
- Section 81 – eye protection
- Section 82 – foot protection
- Section 124 – eyewash
- Section 125 – deluge shower

Pre-start health and safety review

A pre-start review (PSR) may be required by section 7 of [Regulation 851](#). Section 7 applies to a factory as defined by the OHSA and is intended to ensure that hazards are removed or controlled before an apparatus or process is started up. If required, the PSR must be completed before the complete installation (in-service and operating) of any apparatus, structure, or protective element.

Information about pre-start reviews can be found in the Ministry of Labour [Guidelines for Pre-Start Health and Safety Reviews: How to Apply Section 7 of the Industrial Establishments Regulation](#).

For further information contact your health and safety association or the Professional Engineers of Ontario (PEO) for guidance in conducting a PSR or contact a professional engineer or engineering company that performs PSRs.

Applicable Regulations

- The following regulations may apply to workplaces in the sector:
- Critical Injury – Defined [Regulation 834](#)
- Confined Spaces [O. Reg. 632/05](#)
- Control of Exposure to Biological or Chemical Agents [Regulation 833](#)
- Designated Substances [O. Reg. 490/09](#)
- Designated Substance – Asbestos on Construction Projects and in Building Repair Operations [Regulation O. Reg. 278/05](#)
- Noise Regulation [O. Reg. 381/15](#)
- Occupational Health and Safety Awareness and Training [O. Reg. 297/13](#)
- Regulation for Industrial Establishments [Regulation 851](#)
- Workplace Hazardous Materials Information System (WHMIS) [Regulation 860](#)

Construction Regulation

Employers should be aware that in situations where construction work is undertaken, the Construction Projects Regulation ([O. Reg. 213/91](#)) may apply.

Construction work can be described as new work, additions, alterations or maintenance and repairs. The OHSA defines “construction” as including “erection, alteration, repair, dismantling, demolition, structural maintenance, painting, land clearing, earth moving, grading, excavating, trenching, digging, boring, drilling, blasting, or concreting, the installation of any machinery or plant, and any work or undertaking in connection with a project but does not include any work or undertaking underground in a mine.”

General Resources

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To learn about sector-assigned health and safety associations.

[By the numbers: WSIB statistical report](#)

To review [Workplace safety and insurance board](#) (WSIB) injury experience data.

Ceramics, glass, and stone

Sector summary

This sector includes various forms of glass, concrete and non-metallic mineral products producers. Examples include clay product and refractory manufacturing, cement product manufacturing, ready-mix concrete and lime and gypsum product manufacturing.

Key hazards

The following list represents hazards to which workers are commonly exposed in the ceramics, glass, and stone sector:

- activities that may lead to musculoskeletal disorders (MSDs)
- machine (and powered equipment) hazards such as improper lock-out and unguarded equipment
- material handling hazards (such as workers being struck by objects, caught or crushed between objects)
- exposures (such as chemicals, fumes and environmental conditions)
- slips, trips and falls
- noise
- confined spaces.

In general, hazards that are not covered by a regulation and hazards in workplaces not covered by a sector-specific regulation are addressed through the application of the “general duty” clause 25(2)(h) of the [Occupational health and safety Act](#) (OHSA).

Workplace parties should refer to the narrative portion of the field visit report, if they have received one, for further information or contact their [health and safety association](#) for guidance.

In addition to any other hazards which may be present in a workplace, all employers covered by the OHSA must comply with the requirements for workplace violence and harassment. The act sets out requirements for workplace violence and harassment in sections 32.0.1 to 32.0.8. Further information regarding the requirements related to workplace violence can be found in the Ministry of Labour (MOL) Guide, [Workplace violence and harassment: Understanding the law](#).

Additional information, including more information about new workplace harassment provisions, can be found on the MOL topic webpages for [Workplace Violence and Workplace Harassment](#). Employers may wish to consider the use of the ministry’s [Code of Practice to Address Workplace Harassment](#) under the *Occupational health and safety Act*.

Musculoskeletal disorders (MSDs)

Workplace pains and strains can be serious and disabling for workers, causing pain and suffering ranging from discomfort to severe disability.

MSD is not a medical diagnosis; it is an umbrella term for a group of injuries. Some of these injuries include: back pain (low back strain, etc.), muscle strain, tendonitis, carpal tunnel syndrome (CTS), rotator cuff syndrome, tennis elbow and shoulder pain.

- Identify and assess job-related MSD risk factors (i.e. identify tasks and activities involving manual material handling, use of ladders, static or repetitive movements etc.).
- Review training on job-specific MSD risk factors.
- Assess controls to reduce worker exposure to MSD.
- Contact your health and safety association for guidance in assessments and prevention of MSD.

Machine hazards

A Pre-start health and safety review may be required (as per section 7 of *Regulation 851*) if new equipment (or modifications to equipment) are installed that interface with certain electrical safeguarding devices. Please see the section “Pre-start health and safety review” found later in this document for more information.

Machine or transmission start-up (improper lockout)

Injuries experienced by accidental machine start-up can include lacerations, crushing and amputations. In some circumstances these injuries can cause permanent disability or death.

The Regulation for Industrial Establishments ([Regulation 851](#)) applies to industrial establishments (such as an office building, factory, arena, shop or office or any land, buildings and structures pertaining thereto) and sets out requirements for worker protection against machine start-up in sections 75 and 76.

- Review repair/maintenance of machinery [section 75].
- Ensure requirement/compliance with lockout procedures [sections 75 and 76].
- Ensure that instruction and information is provided to a worker on the hazard and the requirements to isolate and lockout hazardous energy [OHSA clauses 25(2)(a) and 25(2)(d)].

Unguarded equipment

Injuries to workers can include lacerations, amputations, crush by entanglement and loss of consciousness. Serious injuries can lead to permanent disability or death.

Hazards due to unguarded equipment include worker exposure to pinch points, moving (rotating) equipment, and in-running nip hazards. Equipment that has exposed moving parts such as cutting equipment, conveyors, augers and exposed drive-motor assemblies used to power compressors and/or ventilation fans may endanger a worker. *Regulation 851* sets out requirements for guarding of equipment in sections 24, 25, 26, 28, 31 and 32.

- Ensure that the requirements for the guarding of prime movers or transmission equipment are followed [section 24].
- Ensure that pinch points are guarded [section 25].

Material handling hazards: struck by objects, caught between or crushed by objects

Injuries associated with material handling can include workers being struck by objects, caught between objects, and/or crushed by mechanical compression. Manual material handling may also lead to MSDs.

Regulation 851 sets out requirements for material handling in sections 45, 46, 47, 48, 49 and 50. Section 51 contains requirements regarding mechanical lifting devices.

- Review operations/processes involving the movement of raw material and product from receiving area to production line and from production line to shipping area [section 45].
- Review operations/processes involving assembly line or similar style of raw material or product movement [clause 45(a)].
- Review warehousing/storage operations [clause 45(b)].
- Ensure that mechanical lifting devices are maintained in good condition, are operated by a competent person and are capable of handling loads [section 51].

Exposures

Chemical exposures

Chemicals can present hazards to workers by a variety of different mechanisms such as causing chemical burns to skin, irritation to eyes and airways and by absorption or injection into the body.

Dusts in workplaces may cause respiratory hazards. Silica, in particular, is a respiratory hazard that can result in serious occupational illness called silicosis.

- Review the use of chemicals used or processed in the workplace such as common acids (hydrochloric acid, sulfuric acid, nitric acid, chromic acid, acetic acid and hydrofluoric acid), common bases (ammonium hydroxide, potassium hydroxide (caustic potash) and sodium hydroxide (caustic soda), and any other chemicals which may be present.
- Ensure compliance with requirement for skin protection [*Regulation 851*, section 84].
- Ensure compliance with requirement for eye protection [section 81].
- Ensure compliance with requirement for emergency eyewash facilities [section 124].
- Ensure compliance with requirement for emergency shower facilities [section 125].
- Ensure that workers are trained about precautions to take, use of protective equipment and emergency procedures [section 130].

- Ensure that the requirements outlined in the Workplace Hazardous Materials Information System (WHMIS) ([Regulation 860](#)) and the requirements to monitor and control exposure limits as identified in the Control of Exposure to Biological or Chemical Agents ([Regulation 833](#)) are followed.
- Silica is a designated substance. If silica dust (or dust containing silica) is present in the workplace and may be breathed in, the requirements of the Designated Substances Regulation ([O. Reg. 490/09](#)) must be complied with.

General workplace environment

Workplace hazards related to the general workplace environment may include exposure to fumes and other contaminants related to poor or inadequate ventilation. Exposure to cold or heat may also be a hazard to worker health and safety.

- Ensure workplace ventilation is adequate [[Regulation 851](#), sections 127 and 128].
- Ensure that a workplace is adequately heated where appropriate [section 129].
- Review sources of heat or excessive temperatures in the workplace and ensure that adequate controls are in place to protect workers.

Slips, trips and falls

Slips, trips and falls hazards include hazards that result in workers falling onto the same surface or falling from a height.

Injuries to workers can include fractures, lacerations, and loss of consciousness. In extreme circumstances injuries caused from a fall can lead to permanent disability or death.

The Regulation for Industrial Establishments ([Regulation 851](#)) sets out a number of requirements for worker protection against slips, trips, and falls, including but not limited to sections 11, 13, 14, 15, 73 and 85.

- Floors and other surfaces used by workers must be free of obstructions, hazards, accumulations of ice and snow and not have a slippery surface [section 11].
- Review requirements for guardrails to protect from falls [sections 13 and 14].
- Review fall protection equipment required when working from heights [section 85].
- Ensure that training is provided to a worker on the use of protective clothing and equipment (i.e. fall arrest equipment [section 79].
- In areas requiring ladder use, review compliance with section 73.
- Employers must provide information, instruction and supervision to protect workers from slips, trips and falls and acquaint workers with the hazards [OHS clauses 25(2)(a) and 25(2)(d)].

Noise

Injuries to workers can include varying degrees of noise-induced hearing loss.

The Noise Regulation [O. Reg. 381/15](#) sets out workplace requirements regarding noise.

- Review the engineering controls and administrative (work practices) controls in place to reduce noise levels and exposures (mufflers on air exhausts, mechanical damping, vibration isolators, enclosures, limiting worker's exposure time) [subsection 2(2)].
- Review the availability and use of hearing protection [subsection 2(6)].
- Review the type of hearing protection provided [subsection 4(1)].
- Review placement of warning signs at approaches to noisy areas [subsection 2(7)].
- Review the training provided to workers [section 3].

- Personal protective equipment is to be used only as a last resort. Engineering controls and work practices must be used where practicable [subsection 2(5)].

Confined space

A “confined space” means a fully or partially enclosed space that is not both designed and constructed for continuous human occupancy, and in which atmospheric hazards may occur because of its construction, location or contents or because of work that is done in it.

Injuries to workers can include loss of consciousness and collateral injuries sustained as a result of loss of consciousness.

In some circumstances such as oxygen depletion, toxic substance inhalation or explosive atmosphere, injuries to workers can lead to permanent disability or death.

The Regulation for Confined Spaces ([O. Reg. 632/05](#)) sets out workplace requirements regarding confined spaces.

- Review work locations that meet the definition of “confined space.”
- Ensure compliance with the requirement to have a program in place for confined spaces [section 5].
- Ensure compliance with the requirement to have adequate assessments of confined spaces carried out [section 6].
- Ensure compliance with requirement to have an adequate plan developed and implemented for confined space entry [section 7].
- Review compliance with requirement for worker training [section 9].

Trends

Table 1: Fatalities and critical injuries in ceramics, glass, and stone sector by fiscal year

Events	2012-13	2013-14	2014-15	2015-16	2016-17
Fatalities	1	0	0	0	1
Critical injuries	7	7	13	8	8

- Only critical injury events reported to the ministry are included here.
- These represent data that were reported to the ministry and may not represent what actually occurred at the workplace.
- The critical injury numbers represent critical injuries reported to the ministry and not necessarily critical injuries as defined by the [Occupational health and safety Act](#).
- Non-workers who are **critically injured** may also be included in the ministry’s data.
- The Ministry of Labour tracks and reports **fatalities** at workplaces covered by the OHSA. This excludes death from natural causes, death of non-workers at a workplace, suicides, death as a result of a criminal act or traffic accident (unless the OHSA is also implicated) and death from occupational exposures that occurred many years ago.
- Data are subject to change because of inspectors’ updates to the database.

Table 2: Events and activities in ceramics, glass, and stone sector by fiscal year

Events and activities	2012-13	2013-14	2014-15	2015-16	2016-17

Events and activities	2012-13	2013-14	2014-15	2015-16	2016-17
Field visits	341	487	457	438	512
Orders	685	796	945	1,068	978
Complaints	50	78	74	60	103
Work refusals	0	0	0	0	1

Most common orders issued under the OHSA

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under the OHSA were:

- An employer shall ensure that, the equipment, materials and protective devices provided by the employer are maintained in good condition [clause 25(1)(b)].
- An employer shall, take every precaution reasonable in the circumstances for the protection of a worker [clause 25(2)(h)].
- An employer shall provide information, instruction and supervision to a worker to protect the health or safety of the worker [clause 25(2)(a)].
- Orders issued to an employer related to workplace violence and harassment provisions [sections 32.0.1 through 32.0.8].

Most common orders issued under the Industrial Regulations

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under the *Regulation 851* were:

- A lifting device shall, be thoroughly examined by a competent person to determine its capability of handling the maximum load as rated, prior to being used for the first time, and thereafter as often as necessary but not less frequently than recommended by the manufacturer and in any case, at least once a year, and a permanent record shall be kept, signed by the competent person doing the examination [clause 51(1)(b)].
- Where a machine or prime mover or transmission equipment has an exposed moving part that may endanger the safety of any worker, the machine or prime mover or transmission equipment shall be equipped with and guarded by a guard or other device that prevents access to the moving part [section 24].
- An in-running nip hazard or any part of a machine, device or thing that may endanger the safety of any worker shall be equipped with and guarded by a guard or other device that prevents access to the pinch point [section 25].
- A floor or other surface used by any worker shall, be kept free of (i) obstructions, (ii) hazards, and (iii) accumulations of refuse, snow or ice [clause 11 (a)].
- Where a worker is exposed to a potential hazard of injury to the eye due to contact with a biological or chemical substance, an eyewash fountain shall be provided [section 124].

Industrial Regulations identified by section

Inspectors may issue orders in the ceramics, glass and stone sector under the following sections of the [Regulation for Industrial Establishments](#) where appropriate.

- Section 7 – pre-start health and safety review requirement
- Section 11 – safe work surfaces

- Sections 13 and 14 – guardrails
- Sections 22 and 23 – flammable liquids
- Sections 24, 25, 26, 28 and 32 – guarding of equipment
- Section 34 – conveyor guarding
- Section 45 – material handling and storage
- Section 49 – compressed gas cylinders
- Clause 51(1)(a) – examination of lifting device
- Clause 51(1)(b) – maximum rated load plainly marked on lifting device
- Section 73 – portable ladder
- Section 76 – machine lockout
- Section 79 – personal protective equipment instruction
- Section 81 – eye protection
- Section 82 – foot protection
- Section 84 – protection from noxious gas, liquid fume or dust
- Section 85 – fall arrest
- Section 124 – eyewash
- Section 125 – deluge shower

Pre-start health and safety review

A pre-start review (PSR) may be required by section 7 of [Regulation 851](#). Section 7 applies to a factory as defined by the OHSA and is intended to ensure that hazards are removed or controlled before an apparatus or process is started up. If required, the PSR must be completed prior to the complete installation (in-service and operating) of any apparatus, structure or protective element.

Information about pre-start reviews can be found in the Ministry of Labour [Guidelines for Pre-Start Health and Safety Reviews: How to Apply Section 7 of the Industrial Establishments Regulation](#).

For further information contact your health and safety association or the Professional Engineers of Ontario (PEO) for guidance in conducting a PSR or contact a professional engineer or engineering company that performs PSRs.

Applicable regulations

- Critical Injury – Defined [Regulation 834](#)
- Confined Spaces [O. Reg. 632/05](#)
- Control of Exposure to Biological or Chemical Agents [Regulation 833](#)
- Designated Substances [O. Reg. 490/09](#)
- Designated Substance – Asbestos on Construction Projects and in Building Repair Operations Regulation [O. Reg. 278/05](#)
- Noise Regulation, [O. Reg. 381/15](#)
- Occupational Health and Safety Awareness and Training [O. Reg. 297/13](#)
- Regulation for Industrial Establishments [Regulation 851](#)
- Workplace Hazardous Materials Information System (WHMIS) [Regulation 860](#)

Construction regulation

Employers should be aware that in situations where construction work is undertaken, the Construction Projects Regulation ([O. Reg. 213/91](#)) may apply.

Construction work can be described as new work, additions, alterations, or maintenance and repairs. The *Occupational health and safety Act* defines “construction” as including “erection, alteration, repair, dismantling, demolition, structural maintenance, painting, land clearing, earth moving, grading, excavating, trenching, digging, boring, drilling, blasting, or concreting, the installation of any machinery or plant, and any work or undertaking in connection with a project but does not include any work or undertaking underground in a mine.”

General resources

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[By the numbers: WSIB statistical report](#)

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Chemical, rubber and plastics

Sector summary

The chemical, rubber and plastics sector is made up of manufacturing facilities for the production of organic and inorganic chemicals, synthetic resins, paints, varnishes, refined petroleum products and rubber products:

- production of refined petroleum products including fuels and blended oils and greases
- production of industrial organic chemicals and products (e.g., aliphatic acids, alcohols, glycols)
- production of industrial inorganic chemicals and products (e.g., acids, alkalis, compressed gases and other inorganic compounds)
- production of synthetic resins (e.g., powders, granules, flakes or liquids)
- production of pesticide, fertilizer and other agricultural chemicals
- pharmaceutical and medicine manufacturing
- production of soap, cleaning compound and toilet preparation manufacturing
- paint and varnish industry; other chemical industries (primarily engaged in manufacturing chemicals not elsewhere classified)
- tire and rubber industry
- plastic film and sheets.

Organic and inorganic defined

The industrial organic chemical industries produce organic compounds such as methane, ethanol, gasoline and toluene. Organic compounds are carbon-based and contain a carbon to hydrogen bond. They are often

used as solvents, propellants and fuels and in the manufacturing of plastics and other polymers. Petrochemicals are organic.

The industrial inorganic chemical industry produces inorganic chemicals including titanium dioxide, chlor-alkali products and carbon black. Inorganic compounds include all compounds that are not organic. Carbon may be included but only when there is no carbon to hydrogen bond (e.g. carbon dioxide, carbon black, cyanide). Inorganic compounds have unlimited uses in manufacturing and industrial processes. Examples include pickling and plating operations, welding, soldering, metallurgical processes, swimming pool maintenance, abrasive blasting, etc.

Key hazards

The following list represents some of the hazards to which workers may be exposed in the sector:

- activities that may lead to musculoskeletal disorders (MSDs)
- machine (and powered equipment) hazards such as improper lock-out and unguarded equipment
- slips, trips and falls
- exposures (such as chemicals, fumes, designated substances and environmental conditions)
- noise
- fire and explosion
- confined spaces.

In general, hazards that are not covered by a regulation and hazards in workplaces not covered by a sector-specific regulation are addressed through the application of the “general duty” clause 25(2)(h) of the [Occupational health and safety Act](#) (OHSA).

Workplace parties should refer to the narrative portion of the field visit report, if they have received one, for further information or contact their [health and safety association](#) for guidance.

In addition to any other hazards which may be present in a workplace, all employers covered by the OHSA must comply with the requirements for workplace violence and harassment. The act sets out requirements for workplace violence and harassment in sections 32.0.1 to 32.0.8. Further information regarding the requirements related to workplace violence can be found in the Ministry of Labour (MOL) guide [Workplace violence and harassment: Understanding the law](#).

Additional information, including more information about new workplace harassment provisions, can be found on the MOL topic webpages for [Workplace Violence and Workplace Harassment](#). Employers may wish to consider the use of the ministry’s [Code of Practice to Address Workplace Harassment](#) under the *Occupational health and safety Act*.

Musculoskeletal disorders (MSDs)

Workplace pains and strains can be serious and disabling for workers, causing pain and suffering ranging from discomfort to severe disability.

MSD is not a medical diagnosis; it is an umbrella term for a group of injuries. Some of these injuries include: back pain (low back strain, etc.), muscle strain, tendonitis, carpal tunnel syndrome (CTS), rotator cuff syndrome, tennis elbow and shoulder pain.

- Identify and assess job-related MSD risk factors (i.e. identify tasks and activities involving manual material handling, use of ladders, static or repetitive movements etc.).
- Review training on job-specific MSD risk factors.

- Assess controls to reduce worker exposure to MSDs.
- Contact your health and safety association for guidance in assessments and prevention of MSDs.

Machine hazards

A Pre-start health and safety review may be required (as per section 7 of *Regulation 851*) if new equipment (or modifications to equipment) are installed that interface with certain electrical safeguarding devices. Please see the section “Pre-start health and safety review” found later in this document for more information.

Machine or transmission start-up (improper lockout)

Injuries caused by accidental machine start-up can include lacerations, crushing and amputations. In some circumstances these injuries can cause permanent disability or death.

The Regulation for Industrial Establishments ([*Regulation 851*](#)) applies to industrial establishments (such as an office building, factory, arena, shop or office or any land, buildings and structures pertaining thereto) and sets out requirements for worker protection against machine start-up in sections 75 and 76.

- Review repair/maintenance of machinery.
- Ensure requirement/compliance with lockout procedures [sections 75 and 76].
- Ensure that instruction and information is provided to a worker on the hazard and the requirements to isolate and lockout hazardous energy [OHSA clauses 25(2)(a) and 25(2)(d)].

Unguarded equipment

Injuries to workers can include lacerations, amputations, crush by entanglement and loss of consciousness. Serious injuries can lead to permanent disability or death.

Hazards due to unguarded equipment include worker exposure to pinch points, moving (rotating) equipment and in-running nip hazards. Equipment that has exposed moving parts such as cutting equipment, conveyors and exposed drive-motor assemblies used to power compressors and/or ventilation fans may endanger a worker. *Regulation 851* sets out requirements for guarding of equipment in sections 24, 25, 26, 28, 31 and 32.

- Ensure that the requirements for the guarding of prime movers, or transmission equipment are followed [section 24].
- Ensure that pinch points are guarded [section 25].

Slips, trips and falls

Slips, trips and falls hazards include hazards that result in workers falling onto the same surface or falling from a height.

Injuries to workers can include fractures, lacerations and loss of consciousness. In extreme circumstances injuries caused from a fall can lead to permanent disability or death.

The Regulation for Industrial Establishments ([*Regulation 851*](#)) sets out a number of requirements for worker protection against slips, trips and falls, including but not limited to sections 11, 13, 14, 15, 73 and 85.

- Floors and other surfaces used by workers must be free of obstructions, hazards, accumulations of ice and snow and not have a slippery surface [section 11].
- Review requirements for guardrails to protect from falls [section 13 and 14].
- Review fall protection equipment required when working from heights [section 85].

- Ensure that training is provided to a worker on the use of protective clothing and equipment (i.e. fall arrest equipment) [section 79].
- In areas requiring ladder use, review compliance with section 73.
- Employers must provide information, instruction and supervision to protect workers from slips, trips and falls and acquaint workers with the hazards [OHSА clauses 25(2)(a) and 25(2)(d)].

Exposures

Chemical exposures

Chemicals can present hazards to workers by a variety of different mechanisms such as causing chemical burns to skin, irritation to eyes and airways and by absorption or injection into the body.

- Review the use of chemicals used in the workplace such as common acids (hydrochloric acid, sulfuric acid, nitric acid, chromic acid, acetic acid and hydrofluoric acid), common bases (ammonium hydroxide, potassium hydroxide (caustic potash) and sodium hydroxide (caustic soda), and any other chemicals used.
- Ensure compliance with requirement for skin protection [*Regulation 851*, section 84].
- Ensure compliance with requirement for eye protection [section 81].
- Ensure that workers required to wear or use protective clothing or equipment are provided instruction and training on the protective device or equipment [section 79].
- Ensure compliance with requirement for emergency eyewash facilities [section 124].
- Ensure compliance with requirement for emergency shower facilities [section 125].
- Ensure that workers are trained about precautions to be take, use of protective equipment and emergency procedures [section 130].
- Ensure that the requirements outlined in the Workplace Hazardous Materials Information System (WHMIS) ([Regulation 860](#)) and the requirements to monitor and control exposure limits as identified in the Control of Exposure to Biological or Chemical Agents ([Regulation 833](#)) are followed.

Designated substances

Designated substances are a group of chemical agents that are prescribed by regulation. There are 11 “designated substances” including materials such as asbestos, acrylonitrile, isocyanates, vinyl chloride and others. Workplaces where designated substances are present must ensure that they comply with the Designated Substances Regulation ([O. Reg. 490/09](#)).

General workplace environment

Workplace hazards related to the general workplace environment may include exposure to fumes and other contaminants related to poor or inadequate ventilation. Exposure to cold or heat may also be a hazard to worker health and safety.

- Ensure workplace ventilation is adequate [*Regulation 851*, sections 127 and 128].
- Ensure that a workplace is adequately heated where appropriate [section 129].
- Review sources of heat or excessive temperatures in the workplace and ensure that adequate controls are in place to protect workers.

Noise

Injuries to workers can include varying degrees of noise-induced hearing loss.

The Noise Regulation [*O. Reg. 381/15*](#) sets out workplace requirements regarding noise.

- Review the engineering controls and administrative (work practices) controls in place to reduce noise levels and exposures (mufflers on air exhausts, mechanical damping, vibration isolators, enclosures, limiting worker's exposure time) [subsection 2(2)].
- Review the availability and use of hearing protection [subsection 2(6)].
- Review the type of hearing protection provided [subsection 4(1)].
- Review placement of warning signs at approaches to noisy areas [subsection 2(7)].
- Review the training provided to workers [section 3].
- Personal protective equipment is to be used only as a last resort. Engineering controls and work practices must be used where practicable [subsection 2(5)].

Fire and explosion

Injuries from fire and/or explosion can include burns, lacerations, fractures and loss of consciousness. Serious injuries can lead to permanent disability or death.

Flammable liquids

Flammable liquids are defined in *Regulation 851* as “a liquid having a flash point below 37.8°C [100°F] and vapour pressure below 275 kilopascals absolute [40 psi] at 37.8°C.” While this definition covers flammable liquids in general, those that have a “flash point below 22.8°C [73°F] and a boiling point below 37.8°C” are highly volatile and therefore require greater control.

- Ensure the safe use of solvents in the workplace such as acetone and toluene.
- Review requirements for flammable liquids such as the requirements for:
 - grounding and bonding [clause 22(4)(b)].
 - proper storage of flammable liquids [section 22].
 - ventilation and work area protection [sections 22 and 63].
- Review the requirements outlined in the WHMIS/*Regulation 860* and the requirements to monitor and control exposure limits as identified in *Regulation 833*.

Confined space

A “confined space” means a fully or partially enclosed space that is not both designed and constructed for continuous human occupancy and in which atmospheric hazards may occur because of its construction, location or contents or because of work that is done in it.

Injuries to workers can include loss of consciousness and collateral injuries sustained as a result of loss of consciousness.

In some circumstances such as oxygen depletion, toxic substance inhalation or explosive atmosphere, injuries to workers can lead to permanent disability or death.

The Regulation for Confined Spaces ([*O. Reg. 632/05*](#)) sets out workplace requirements regarding confined spaces.

- Review work locations that meet the definition of “confined space.”
- Ensure compliance with the requirement to have a program in place for confined spaces [section 5].
- Ensure compliance with the requirement to have adequate assessments of confined spaces carried out [section 6].

- Ensure compliance with requirement to have an adequate plan developed and implemented for confined space entry [section 7].
- Ensure compliance with requirement for worker training [section 9].

Trends

Table 1: Fatalities and critical injuries in chemical, rubber, and plastics sector by fiscal year

Events	2012-13	2013-14	2014-15	2015-16	2016-17
Fatalities	1	2	1	1	0
Critical injuries	24	25	20	23	22

- Only critical injury events reported to the ministry are included here.
- These represent data that were reported to the ministry and may not represent what actually occurred at the workplace.
- The critical injury numbers represent critical injuries reported to the ministry and not necessarily critical injuries as defined by the [Occupational health and safety Act](#).
- Non-workers who are **critically injured** may also be included in the ministry's data.
- The Ministry of Labour tracks and reports **fatalities** at workplaces covered by the OHSA. This excludes death from natural causes, death of non-workers at a workplace, suicides, death as a result of a criminal act or traffic accident (unless the OHSA is also implicated) and death from occupational exposures that occurred many years ago.
- Data are subject to change because of inspectors' updates to the database.

Table 2: Events and activities in chemical, rubber and plastics sector by fiscal year

Events and activities	2012-13	2013-14	2014-15	2015-16	2016-17
Field visits	1,232	1,057	1,216	1,116	1,066
Orders	2,047	1,750	2,161	2,075	1,573
Complaints	194	177	203	222	234
Work refusals	3	3	4	5	3

Most common orders issued under the OHSA

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under the OHSA:

- An employer shall, take every precaution reasonable in the circumstances for the protection of a worker [clause 25(2)(h)].
- An employer shall ensure that, the equipment, materials and protective devices provided by the employer are maintained in good condition [clause 25(1)(b)].
- An employer shall provide information, instruction and supervision to a worker to protect the health or safety of the worker [clause 25(2)(a)].
- An employer shall prepare and review at least annually a written occupational health and safety policy and develop and maintain a program to implement that policy [clause 25(2)(j)].
- Orders issued to an employer related to workplace violence and harassment provisions [sections 32.0.1 through 32.0.8].

Most common orders issued under the applicable Industrial Regulations

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under *Regulation 851*:

- Where a machine or prime mover or transmission equipment has an exposed moving part that may endanger the safety of any worker, the machine or prime mover or transmission equipment shall be equipped with and guarded by a guard or other device that prevents access to the moving part [section 24].
- An in-running nip hazard or any part of a machine, device or thing that may endanger the safety of any worker shall be equipped with and guarded by a guard or other device that prevents access to the pinch point [section 25].
- A lifting device shall, be thoroughly examined by a competent person to determine its capability of handling the maximum load as rated, prior to being used for the first time, and thereafter as often as necessary but not less frequently than recommended by the manufacturer and in any case, at least once a year, and a permanent record shall be kept, signed by the competent person doing the examination [clause 51(1)(b)].
- Material, articles or things shall be transported, placed or stored so that the material, articles or things, will not tip, collapse or fall, and can be removed or withdrawn without endangering the safety of any worker [clause 45(b)].
- A floor or other surface used by any worker shall be kept free of obstructions, hazards, and accumulations of refuse, snow or ice; and not have any finish or protective material used on it that is likely to make the surface slippery [section 11].

Applicable regulations identified by section

Regulation for Industrial Establishments, [*Regulation 851*](#)

- Section 7 – pre-start health and safety review
- Section 11 – safe work surfaces
- Sections 13 and 14 – guardrails
- Sections 22 and 23 – flammable liquids
- Sections 24, 25, 26, 28 and 32 – guarding of equipment
- Section 34 – conveyor guarding
- Section 45 – material handling and storage
- Section 49 – compressed gas cylinders
- Clause 51(1)(a) – examination of lifting device
- Clause 51(1)(b) – maximum rated load plainly marked on lifting device
- Section 73 – portable ladder
- Section 76 – machine lockout
- Section 79 – personal protective equipment instruction
- Section 81 – eye protection
- Section 82 – foot protection
- Section 84 – protection from noxious gas, liquid fume or dust
- Section 124 – eyewash
- Section 125 – deluge shower

Pre-start health and safety review

A pre-start review (PSR) may be required by section 7 of [Regulation 851](#). Section 7 applies to a factory as defined by the OHSA and is intended to ensure that hazards are removed or controlled before an apparatus or process is started up. If required, the PSR must be completed prior to the complete installation (in-service and operating) of any apparatus, structure or protective element.

Information about pre-start reviews can be found in the Ministry of Labour [Guidelines for Pre-Start Health and Safety Reviews: How to Apply Section 7 of the Industrial Establishments Regulation](#).

For further information contact your health and safety association or the Professional Engineers of Ontario (PEO) for guidance in conducting a PSR or contact a professional engineer or engineering company that performs PSRs.

Applicable regulations

- The following regulations may apply to workplaces in the sector:
- Critical Injury – Defined [Regulation 834](#)
- Confined Spaces [O. Reg. 632/05](#)
- Control of Exposure to Biological or Chemical Agents [Regulation 833](#)
- Designated Substances [O. Reg. 490/09](#)
- Designated Substance – Asbestos on Construction Projects and in Building Repair Operations [Regulation O. Reg. 278/05](#)
- Inventory of Agents (for section 34 of the OHSA) [Regulation 852](#)
- Noise Regulation [O. Reg. 381/15](#)
- Occupational Health and Safety Awareness and Training [O. Reg. 297/13](#)
- Regulation for Industrial Establishments [Regulation 851](#)
- Roll-Over Protective Structures [Regulation 856](#)
- Workplace Hazardous Materials Information System (WHMIS) [Regulation 860](#)

Construction

Employers should be aware that in situations where construction work is undertaken, the Construction Projects Regulation ([O. Reg. 213/91](#)), may apply.

Construction work can be described as new work, additions, alterations or maintenance and repairs. The *Occupational health and safety Act* defines “construction” as including “erection, alteration, repair, dismantling, demolition, structural maintenance, painting, land clearing, earth moving, grading, excavating, trenching, digging, boring, drilling, blasting, or concreting, the installation of any machinery or plant, and any work or undertaking in connection with a project but does not include any work or undertaking underground in a mine.”

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Construction premises

Sector summary

This sector includes refrigeration and air conditioning installation and maintenance, commercial refrigeration work, environmental control work, dry and wet heating and gas piping work, process piping work, insulation work, thermal insulation work, duct work, mechanical specialty work, other industrial construction and other services incidental to construction. This sector also includes offices of the premise, maintenance garages, warehouses and equipment storage/yards, transportation of equipment and machinery to projects from the yard.

Key hazards

The following list represents hazards to which workers are commonly exposed in the sector:

- material handling hazards (such as workers being struck by objects, caught or crushed between objects)
- machine (and powered equipment) hazards such as improper lock-out and unguarded equipment
- flammable liquids
- slips, trips and falls
- noise.

In general, hazards that are not covered by a regulation, and hazards in workplaces not covered by a sector-specific regulation, are addressed through the application of the “general duty” clause 25(2)(h) of the [Occupational health and safety Act](#) (OHSA).

Workplace parties should refer to the narrative portion of the field visit report, if they have received one, for further information or contact their [health and safety association](#) for guidance.

In addition to any other hazards which may be present in a workplace, all employers covered by the OHSA must comply with the requirements for workplace violence and harassment. The act sets out requirements for workplace violence and harassment in sections 32.0.1 to 32.0.8. Further information regarding the requirements related to workplace violence can be found in the Ministry of Labour (MOL) Guide, [Workplace violence and harassment: Understanding the law](#).

Additional information, including more information about new workplace harassment provisions, can be found on the MOL topic webpages for [Workplace Violence and Workplace Harassment](#). Employers may wish to consider the use of the ministry’s [Code of Practice to Address Workplace Harassment](#) under the OHSA.

Material handling hazards: struck by objects, caught between or crushed by objects

Injuries associated with material handling can include workers being struck by objects, caught between objects and/or crushed by mechanical compression. Manual material handling may also lead to musculoskeletal disorders (MSDs).

Regulation 851 sets out requirements for material handling in sections 45, 46, 47, 48, 49 and 50. Section 51 contains requirements regarding mechanical lifting devices.

- Review operations/processes involving the movement of raw material and product from receiving area to production line and from production line to shipping area [section 45].
- Review operations/processes involving assembly line or similar style of raw material or product movement [clause 45(a)].
- Review warehousing/storage operations [clause 45(b)].
- Ensure that mechanical lifting devices are maintained in good condition, are operated by a competent person and are capable of handling loads [section 51].

Machine hazards

Machine or transmission start-up (improper lockout)

Injuries experienced by accidental machine start-up can include lacerations, crushing and amputations. In some circumstances these injuries can cause permanent disability or death.

The Regulation for Industrial Establishments ([*Regulation 851*](#)) applies to industrial establishments (such as an office building, factory, arena, shop or office or any land, buildings and structures pertaining thereto) and sets out requirements for worker protection against machine start-up in sections 75 and 76.

- Review repair/maintenance of machinery [section 75].
- Ensure requirement/compliance with lockout procedures [sections 75 and 76].
- Ensure that instruction and information is provided to a worker on the hazard and the requirements to isolate and lockout hazardous energy [OHSА clauses 25(2)(a) and 25(2)(d)].

Unguarded equipment

Injuries to workers can include lacerations, amputations, crush by entanglement and loss of consciousness. Serious injuries can lead to permanent disability or death.

Hazards due to unguarded equipment include worker exposure to pinch points, moving (rotating) equipment and in-running nip hazards. Equipment that has exposed moving parts such as cutting equipment, conveyors, augers, equipment using power take-off (PTO), and exposed drive-motor assemblies used to power compressors and/or ventilation fans may endanger a worker. *Regulation 851* sets out requirements for guarding of equipment in sections 24, 25, 26, 28, 31 and 32.

- Ensure that the requirements for the guarding of prime movers, or transmission equipment are followed [section 24].
- Ensure that pinch points are guarded [section 25].

Flammable liquids: storage and dispensing

Flammable liquids are defined in *Regulation 851* as “a liquid having a flash point below 37.8°C [100°F] and vapour pressure below 275 kilopascals absolute [40 psi] at 37.8°C.” While this definition covers flammable liquids in general, those that have a “flash point below 22.8°C [73°F] and a boiling point below 37.8°C” are highly volatile and therefore require greater control.

Injuries from fire and, or explosion can include burns, lacerations, fractures and loss of consciousness. Serious injuries can lead to permanent disability or death.

- Ensure the safe use of solvents in the workplace such as acetone and toluene.
- Review requirements for flammable liquids such as the requirements for:
 - grounding and bonding [clause 22(4)(b)].
 - proper storage of flammable liquids [section 22].
 - ventilation and work area protection [sections 22 and 63].
- Review the requirements outlined in the WHMIS, *Regulation 860* and the requirements to monitor and control exposure limits as identified in *Regulation 833*.

Slips, trips and falls

Slips, trips and falls hazards include hazards that result in workers falling onto the same surface or falling from a height.

Injuries to workers can include fractures, lacerations and loss of consciousness. In extreme circumstances injuries caused from a fall can lead to permanent disability or death.

The Regulation for Industrial Establishments ([*Regulation 851*](#)) sets out a number of requirements for worker protection against slips, trips and falls, including but not limited to sections 11, 13, 14, 15, 73 and 85.

- Floors and other surfaces used by workers must be free of obstructions, hazards, accumulations of ice and snow and not have a slippery surface [section 11].
- Review requirements for guardrails to protect from falls [section 13 and 14].
- Review fall protection equipment required when working from heights [section 85].
- Ensure that training is provided to a worker on the use of protective clothing and equipment i.e. fall arrest equipment [section 79].
- In areas requiring ladder use, review compliance with section 73.
- Employers must provide information, instruction and supervision to protect workers from slips, trips and falls and acquaint workers with the hazards [OHSА clauses 25(2)(a) and 25(2)(d)].

Noise

Injuries to workers can include varying degrees of noise-induced hearing loss.

The Noise Regulation [*O. Reg. 381/15*](#), sets out workplace requirements regarding noise.

- Review the engineering controls and administrative (work practices) controls in place to reduce noise levels and exposures (mufflers on air exhausts, mechanical damping, vibration isolators, enclosures, limiting worker's exposure time) [subsection 2(2)].
- Review the availability and use of hearing protection [subsection 2(6)].
- Review the type of hearing protection provided [subsection 4(1)].
- Review placement of warning signs at approaches to noisy areas [subsection 2(7)].
- Review the training provided to workers [section 3].
- Personal protective equipment is to be used only as a last resort. Engineering controls and work practices must be used where practicable [subsection 2(5)].

Trends

Table 1: Fatalities and critical injuries in construction premises
by fiscal year

Events	2012-13	2013-14	2014-15	2015-16	2016-17
Fatalities	1	0	0	1	2
Critical injuries	7	31	29	19	16

- Only critical injury events reported to the ministry are included here.
- These represent data that were reported to the ministry and may not represent what actually occurred at the workplace.
- The critical injury numbers represent critical injuries reported to the ministry and not necessarily critical injuries as defined by the [Occupational health and safety Act](#).
- Non-workers who are **critically injured** may also be included in the ministry's data.
- The Ministry of Labour tracks and reports **fatalities** at workplaces covered by the OHSA. This exclude death from natural causes, death of non-workers at a workplace, suicides, death as a result of a criminal act or traffic accident (unless the OHSA is also implicated) and death from occupational exposures that occurred many years ago.
- Data are subject to change because of inspectors' updates to the database.

Table 2: Events and activities in construction premises by fiscal year

Events and activities	2012-13	2013-14	2014-15	2015-16	2016-17
Field visits	642	3,057	3,274	1,781	1,001
Orders	1,215	8,373	9,899	3,880	1,825
Complaints	615	549	620	407	278
Work refusals	1	1	1	0	1

Most common orders issued under the OHSA

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under the OHSA were:

- An employer shall ensure that, the equipment, materials and protective devices provided by the employer are maintained in good condition [clause 25(1)(b)].
- An employer shall, take every precaution reasonable in the circumstances for the protection of a worker [clause 25(2)(h)].
- An employer shall provide information, instruction and supervision to a worker to protect the health or safety of the worker [clause 25(2)(a)].
- An employer shall post, in the workplace, a copy of this act and any explanatory material prepared by the ministry, both in English and the majority language of the workplace, outlining the rights, responsibilities and duties of workers [clause 25(2)(i)].
- Orders issued to an employer related to workplace violence and harassment provisions [sections 32.0.1 through 32.0.8].

Most common orders issued under the Industrial Regulations (*Regulation 851*)

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under *Regulation 851* were:

- A lifting device shall, be thoroughly examined by a competent person to determine its capability of handling the maximum load as rated, prior to being used for the first time, and thereafter as often as necessary but not less frequently than recommended by the manufacturer and in any case, at least once a year, and a permanent record shall be kept, signed by the competent person doing the examination [clause 51(1)(b)].
- An in-running nip hazard or any part of a machine, device or thing that may endanger the safety of any worker shall be equipped with and guarded by a guard or other device that prevents access to the pinch point [section 25].
- Material, articles or things shall be transported, placed or stored so that the material, articles or things, will not tip, collapse or fall, and can be removed or withdrawn without endangering the safety of any worker [clause 45(b)].
- A storage cylinder for compressed gas shall have a valve connection that prevents an inadvertent connection which would result in a hazardous mixture of gases, be secured in position during transportation, storage or use, have the valve protection cap in position when the cylinder is not in use, when containing acetylene, be in an upright position, and be protected from physical damage [section 49].

Industrial Regulations identified by section

Inspectors may issue orders in the construction sector under the following sections of the [Regulation for Industrial Establishments](#) where appropriate.

- Section 7 – pre-start health and safety review
- Section 11 – safe work surfaces
- Sections 13 and 14 – guardrails
- Sections 22 and 23 – flammable liquids
- Sections 24, 25, 26, 28 and 32 – guarding of equipment
- Section 45 – material handling and storage
- Section 49 – compressed gas cylinders
- Clause 51(1)(a) – examination of lifting device
- Clause 51(1)(b) – maximum rated load plainly marked on lifting device
- Section 73 – portable ladder
- Section 79 – personal protective equipment instruction
- Section 80 – head protection
- Section 81 – eye protection
- Section 82 – foot protection

Pre-start health and safety review

A pre-start review (PSR) may be required by section 7 of [Regulation 851](#). Section 7 applies to a factory as defined by the OHSA and is intended to ensure that hazards are removed or controlled before an apparatus or process is started up. If required, the PSR must be completed prior to the complete installation (in-service and operating) of any apparatus, structure or protective element.

Information about pre-start reviews can be found in the Ministry of Labour [Guidelines for Pre-Start Health and Safety Reviews: How to Apply Section 7 of the Industrial Establishments Regulation](#).

For further information contact your health and safety association or the Professional Engineers of Ontario (PEO) for guidance in conducting a PSR or contact a professional engineer or engineering company that performs PSRs.

Applicable regulations

- Critical Injury – Defined [Regulation 834](#)
- Confined Spaces [O. Reg. 632/05](#)
- Control of Exposure to Biological or Chemical Agents [Regulation 833](#)
- Designated Substances [O. Reg. 490/09](#)
- Designated Substance – Asbestos on Construction Projects and in Building Repair Operations Regulation [O. Reg. 278/05](#)
- Noise Regulation [O. Reg. 381/15](#)
- Occupational Health and Safety Awareness and Training [O. Reg. 297/13](#)
- Regulation for Industrial Establishments [Regulation 851](#)
- Roll-Over Protective Structures [Regulation 856](#)
- Workplace Hazardous Materials Information System (WHMIS) [Regulation 860](#)

Construction regulation

Employers should be aware that in situations where construction work is undertaken, the Construction Projects Regulation ([O. Reg. 213/91](#)) may apply.

Construction work can be described as new work, additions, alterations or maintenance and repairs. The *Occupational health and safety Act* defines “construction” as including “erection, alteration, repair, dismantling, demolition, structural maintenance, painting, land clearing, earth moving, grading, excavating, trenching, digging, boring, drilling, blasting, or concreting, the installation of any machinery or plant and any work or undertaking in connection with a project but does not include any work or undertaking underground in a mine.”

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Education

Sector summary

The education sector comprises early education centres, elementary, secondary and post-secondary schools, colleges, universities, driving schools, other educational services, libraries, driving schools and museums.

Key hazards

The following list represents hazards to which workers are commonly exposed in the education sector:

- slips, trips and falls
- activities that may lead to musculoskeletal disorders (MSDs)
- material handling hazards (such as workers being struck by objects, caught or crushed between objects)
- workplace violence and workplace harassment
- machine (and powered equipment) hazards such as improper lock-out and unguarded equipment
- exposures such as chemicals, designated substances (i.e. isocyanates, silica, asbestos) and environmental hazards (i.e. poor indoor air quality)
- exposures to infectious agents (i.e. mold, bacteria, viruses)
- exposure to noise.

In general, hazards that are not covered by a regulation and hazards in workplaces not covered by a sector-specific regulation are addressed through the application of the “general duty” clause 25(2)(h) of the [Occupational health and safety Act](#) (OHSA).

Workplace parties should refer to the narrative portion of the field visit report, if they have received one, for further information or contact their [health and safety association](#) for guidance.

Slips, trips and falls

Slips, trips and falls hazards include hazards that result in workers falling onto the same surface or falling from a height.

Injuries to workers can include fractures, lacerations and loss of consciousness. In extreme circumstances injuries caused from a fall can lead to permanent disability or death.

The Regulation for Industrial Establishments ([Regulation 851](#)) applies to industrial establishments (such as an office building, factory, arena, shop or office or any land, buildings and structures pertaining thereto) and sets out a number of requirements for worker protection against slips, trips and falls, including but not limited to sections 11, 13, 14, 15, 73 and 85.

- Floors and other surfaces used by workers must be free of obstructions, hazards, accumulations of ice and snow and not have a slippery surface [section 11].
- Review requirements for guardrails to protect from falls [section 13 and 14].
- Review fall protection equipment required when working from heights [section 85].
- Ensure that training is provided to a worker on the use of protective clothing and equipment (i.e. fall arrest equipment) [section 79].
- In areas requiring ladder use, review compliance with section 73.
- Employers must provide information, instruction and supervision to protect workers from slips, trips and falls and acquaint workers with the hazards [OHSA clauses 25(2)(a) and 25(2)(d)].

Musculoskeletal disorders (MSDs)

Workplace pains and strains can be serious and disabling for workers, causing pain and suffering ranging from discomfort to severe disability.

MSD is not a medical diagnosis; it is an umbrella term for a group of injuries. Some of these injuries include: back pain, muscle strain, tendonitis, carpal tunnel syndrome (CTS), rotator cuff syndrome, tennis elbow and shoulder pain.

- Identify and assess job-related MSD risk factors (i.e. identify tasks and activities involving manual material handling, use of ladders, static or repetitive movements etc.)
- Review training on job-specific MSD risk factors.
- Assess controls to reduce worker exposure to MSDs.
- Contact your health and safety association for guidance in assessments and prevention of MSDs.

Material handling hazards: struck by objects, caught between or crushed by objects

Injuries associated with material handling can include workers being struck by objects, caught between objects and/or crushed by mechanical compression. Manual material handling may also lead to MSDs.

Regulation 851 applies to many workplaces in the sector and sets out requirements for material handling in sections 45, 46, 47, 48, 49 and 50. Section 51 contains requirements regarding mechanical lifting devices.

- Review operations/processes involving the movement of raw material and product from receiving area to production line and from production line to shipping area [section 45].
- Review operations/processes involving material or product movement [clause 45(a)].
- Review warehousing/storage operations [clause 45(b)].
- Ensure that mechanical lifting devices are maintained in good condition, are operated by a competent person and are capable of handling loads [section 51].

Workplace violence and workplace harassment

The OHSA sets out requirements for workplace violence and harassment in sections 32.0.1 to 32.0.8.

- Ensure that appropriate workplace violence and harassment policies have been established in accordance with the OHSA [section 32.0.1].
- Conduct a workplace violence risk assessment or re-assessment [section 32.0.3].
- Ensure that workplace violence and workplace harassment programs are developed and maintained to implement the policies [sections 32.0.2 and 32.0.6].
- Ensure that workers have received information and instruction on the workplace violence and harassment policy and program [sections 32.0.5 and 32.0.7].
- Subject to some conditions, the employer must provide information, including personal information, to a worker related to the risk of workplace violence from a person with a history of violent behaviour [subsection 32.0.5(3)].
- Employers may wish to consider the use of the ministry's [Code of Practice to Address Workplace Harassment](#) under the OHSA.

Further information regarding the requirements related to workplace violence can be found in the Ministry of Labour (MOL) guide [Workplace violence and harassment: Understanding the law](#).

Additional information, including more information about new workplace harassment provisions, can be found on the MOL topic webpages for [Workplace Violence and Workplace Harassment](#).

Machine hazards

Machine or transmission start-up (improper lockout)

Injuries experienced by accidental machine start-up can include lacerations, crushing and amputations. In some circumstances these injuries can cause permanent disability or death.

The Regulation for Industrial Establishments [Regulation 851](#) where it applies, sets out requirements for worker protection against machine start-up in sections 75 and 76.

- Review repair/maintenance of machinery [section 75].
- Ensure requirement/compliance with lockout procedures [sections 75 and 76].

For all workplaces where machine hazards are present, employers must ensure that instruction and information is provided to a worker on the hazard and the requirements to isolate and lockout hazardous energy [OHSA clauses 25(2)(a) and 25(2)(d)].

Unguarded equipment

Injuries to workers can include lacerations, amputations, crush by entanglement and loss of consciousness. Serious injuries can lead to permanent disability or death.

Hazards due to unguarded equipment include worker exposure to pinch points, moving (rotating) equipment, and in-running nip hazards. Equipment that has exposed moving parts such as cutting equipment and exposed drive-motor assemblies used to power compressors and/or ventilation fans may endanger a worker.

Regulation 851 sets out requirements for guarding of equipment in sections 24, 25, 26, 28, 31 and 32.

- Ensure that the requirements for the guarding of prime movers, or transmission equipment are followed [section 24].
- Ensure that pinch points are guarded [section 25].

Exposures

Chemical exposures

Workers can be exposed to chemical hazards by a variety of different routes such as causing chemical burns to skin, irritation to eyes and airways and by absorption or injection into the body.

- Review the use of chemicals used in the workplace such as common cleaners, laboratory chemicals and chemicals used in shop classes and for maintenance operations.
- Ensure that appropriate skin protection is provided.
- Ensure that appropriate eye protection is provided to workers.
- Ensure that appropriate emergency eyewash equipment is provided.
- Ensure that appropriate emergency shower facilities are provided where necessary.
- Ensure that the requirements outlined in the Workplace Hazardous Materials Information System (WHMIS) ([Regulation 860](#)) and the requirements to monitor and control exposure limits as identified in the Control of Exposure to Biological or Chemical Agents ([Regulation 833](#)) are followed.
- Asbestos is a designated substance which has been found in a variety of building materials in many older buildings. Asbestos may also be present in after-market motor vehicle brakes. Refer to the regulatory requirements as outlined in the Designated Substance – Asbestos on Construction Projects and in Building Repair Operations Regulation ([O. Reg. 278/05](#)) and the Designated Substances Regulation ([O. Reg. 490/09](#)).
- Employers should do an inventory of all designated substances to determine their presence and develop control programs as required under the Designated Substances Regulation ([O. Reg. 490/09](#)). (Silica and isocyanates are other examples of designated substances that may be present.)

General workplace environment

Workplace hazards related to the general workplace environment may include exposure to fumes and other contaminants related to poor or inadequate ventilation. Exposure to cold or heat may also be a hazard to worker health and safety.

Exposures to infectious agents

Many infectious agents may be present in workplaces that can be a hazard to workers. Workers may encounter a variety of infectious agents from specific tasks that are performed (e.g. during cleaning or maintenance activities) or workers may encounter students or clients who are sick (e.g. norovirus, common cold, influenza).

Where there is a hazard of infection, employers must ensure that appropriate precautions are put into place.

- Ensure that workers are educated about routine infection control precautions appropriate for their work.
- Ensure that appropriate personal protective equipment is available as required.

Noise

Injuries to workers can include varying degrees of noise-induced hearing loss.

The Noise Regulation [O. Reg. 381/15](#) sets out workplace requirements regarding noise.

- Review the engineering controls and administrative (work practices) controls in place to reduce noise levels and exposures (mufflers on air exhausts, mechanical damping, vibration isolators, enclosures, limiting worker's exposure time) [subsection 2(2)].
- Review the availability and use of hearing protection [subsection 2(6)].
- Review the type of hearing protection provided [subsection 4(1)].
- Review placement of warning signs at approaches to noisy areas [subsection 2(7)].
- Review the training provided to workers [section 3].
- Personal protective equipment is to be used only as a last resort. Engineering controls and work practices must be used where practicable [subsection 2(5)].

Trends

Table 1: Fatalities and critical injuries in education by fiscal year

Events	2012-13	2013-14	2014-15	2015-16	2016-17
Fatalities	0	1	1	0	0
Critical injuries	79	82	105	69	108

- Only critical injury events reported to the ministry are included here.
- These represent data that were reported to the ministry and may not represent what actually occurred at the workplace.
- The critical injury numbers represent critical injuries reported to the ministry and not necessarily critical injuries as defined by the [Occupational health and safety Act](#).
- Non-workers who are **critically injured** may also be included in the ministry's data.

- The Ministry of Labour tracks and reports **fatalities** at workplaces covered by the OHSA. This excludes death from natural causes, death of non-workers at a workplace, suicides, death as a result of a criminal act or traffic accident (unless the OHSA is also implicated) and death from occupational exposures that occurred many years ago.
- Data are subject to change because of inspectors' updates to the database.

Table 2: Events and activities in education by fiscal year

Events and activities	2012-13	2013-14	2014-15	2015-16	2016-17
Field visits	2,133	1,628	871	999	956
Orders	4,708	2,604	760	956	683
Complaints	193	222	239	285	289
Work refusals	9	7	8	11	12

Most common orders issued under the OHSA

From April 1, 2016 to March 31, 2017 the most common orders issued by the Ministry of Labour under the OHSA were:

- An employer shall take every precaution reasonable in the circumstances for the protection of a worker [clause 25(2)(h)].
- An employer shall ensure that, the equipment, materials and protective devices provided by the employer are maintained in good condition [clause 25(1)(b)].
- An employer shall post, in the workplace, a copy of this act and any explanatory material prepared by the ministry, both in English and the majority language of the workplace, outlining the rights, responsibilities and duties of workers [clause 25(2)(i)].
- An employer shall provide information, instruction and supervision to a worker to protect the health or safety of the worker [clause 25(2)(a)].
- Orders issued to an employer related to workplace violence and harassment provisions [sections 32.0.1 through 32.0.8].

Most common orders issued under the Industrial Regulations

From April 1, 2016 to March 31, 2017 the most common orders issued by the Ministry of Labour under *Regulation 851* were:

- Where a worker is exposed to a potential hazard of injury to the eye due to contact with a biological or chemical substance, an eyewash fountain shall be provided [section 124].
- A floor or other surface used by any worker shall be kept free of obstructions, hazards, and accumulations of refuse, snow or ice; and not have any finish or protective material used on it that is likely to make the surface slippery [section 11].
- Material, articles or things shall be transported, placed or stored so that the material, articles or things, will not tip, collapse or fall, and can be removed or withdrawn without endangering the safety of any worker [clause 45(b)].

Applicable regulations

In addition to the *Occupational health and safety Act*, there are a number of regulations made under the act which may apply depending on circumstances found at the workplace.

- Critical Injury – Defined [Regulation 834](#)
- Confined Spaces [O. Reg. 632/05](#)
- Control of Exposure to Biological or Chemical Agents [Regulation 833](#)
- Designated Substances [O. Reg. 490/09](#)
- Designated Substance – Asbestos on Construction Projects and in Building Repair Operations Regulation [O. Reg. 278/05](#)
- Noise Regulation [O. Reg. 381/15](#)
- Occupational Health and Safety Awareness and Training [O. Reg. 297/13](#)
- Regulation for Industrial Establishments [Regulation 851](#)
- Workplace Hazardous Materials Information System (WHMIS) [Regulation 860](#)
- The following regulations may also apply to some of the workplaces in the sector:
- [Ontario Regulation 857 -Teachers](#) - extends the application of the OHSA to teachers, with certain modifications and/or exceptions.
- [Ontario Regulation 858 University Academics and Teaching Assistants](#) extends the application of the OHSA to every person who is employed as a member or teaching assistant of the academic staff of a university or of a related institution.

Construction regulation

Employers should be aware that in situations where construction work is undertaken, the Construction Projects Regulation ([O. Reg. 213/91](#)) may apply.

Construction work can be described as new work, additions, alterations, or maintenance and repairs. The *Occupational health and safety Act* defines “construction” as including “erection, alteration, repair, dismantling, demolition, structural maintenance, painting, land clearing, earth moving, grading, excavating, trenching, digging, boring, drilling, blasting, or concreting, the installation of any machinery or plant, and any work or undertaking in connection with a project but does not include any work or undertaking underground in a mine.”

General resources

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For information and Guides, Fact Sheets, Information Bulletins, Guidelines, Alerts, Engineering Data Sheets, Extracts, Reports, Consultations, Codes, and Standards.

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[Health and Safety Partners](#)

To learn about sector-assigned health and safety associations.

[By the numbers: WSIB statistical report](#)

To review [Workplace safety and insurance board](#) (WSIB) injury experience data.

Electrical and electronics

Sector summary

This sector includes the following industries: small electrical appliance, major electric and non-electric appliance, electronic parts and components, lighting fixture, electric lamp and shade, receiver, telecommunication equipment, electrical transformer, electrical switchgear, battery, electronic computing and peripheral equipment, electronic office, store and business machine, other communication and electronic equipment industry.

Key hazards

The following list represents hazards to which workers are commonly exposed in the electrical and electronics sector:

- machine (and powered equipment) hazards such as improper lock-out and unguarded equipment
- electrical hazards
- material handling hazards (such as workers being struck by objects, caught or crushed between objects)
- slips, trips and falls
- noise.

In general, hazards that are not covered by a regulation and hazards in workplaces not covered by a sector-specific regulation are addressed through the application of the “general duty” clause 25(2)(h) of the [Occupational health and safety Act](#) (OHSA).

Workplace parties are to refer to the narrative portion of the field visit report, if they have received one, for further information or contact their [health and safety association](#) for guidance.

In addition to any other hazards which may be present in a workplace, all employers covered by the OHSA must comply with the requirements for workplace violence and harassment. The act sets out requirements for workplace violence and harassment in sections 32.0.1 to 32.0.8. Further information regarding the requirements related to workplace violence can be found in the Ministry of Labour (MOL) Guide, [Workplace violence and harassment: Understanding the law](#).

Additional information, including more information about new workplace harassment provisions, can be found on the MOL topic webpages for [Workplace Violence and Workplace Harassment](#). Employers may wish to consider the use of the ministry’s [Code of Practice to Address Workplace Harassment](#) under the *Occupational health and safety Act*.

Machine hazards

A Pre-start health and safety review may be required (as per section 7 of *Regulation 851*) if new equipment (or modifications to equipment) are installed that interface with certain electrical safeguarding devices. Please see the section “Pre-start health and safety review” found later in this document for more information.

Machine or transmission start-up (improper lockout)

Injuries experienced by accidental machine start-up can include lacerations, crushing and amputations. In some circumstances these injuries can cause permanent disability or death.

The Regulation for Industrial Establishments ([Regulation 851](#)) applies to industrial establishments (such as an office building, factory, arena, shop or office or any land, buildings and structures pertaining thereto) and sets out requirements for worker protection against machine start-up in sections 75 and 76.

- Review repair/maintenance of machinery [section 75].
- Ensure requirement/compliance with lockout procedures [sections 75 and 76].
- Ensure that instruction and information is provided to a worker on the hazard and the requirements to isolate and lockout hazardous energy [OHSA clauses 25(2)(a) and 25(2)(d)].

Unguarded equipment

Injuries to workers can include lacerations, amputations, crush by entanglement and loss of consciousness. Serious injuries can lead to permanent disability or death.

Hazards due to unguarded equipment include worker exposure to pinch points, moving (rotating) equipment and in-running nip hazards. Equipment that has exposed moving parts such as cutting operations, conveyors and exposed drive-motor assemblies used to power compressors and/or ventilation fans will endanger a worker. *Regulation 851* sets out requirements for guarding of equipment in sections, 24, 25, 26, 28, 31 and 32.

- Ensure that the requirements for the guarding of prime movers or transmission equipment are followed [section 24].
- Ensure that pinch points are guarded [section 25].

Electrical contact (including high potential testing (“hi-pot”))

Injuries to workers can include loss of consciousness, burns, lacerations and fractures as a result of contact with the live electrical apparatus or falls to the ground from the same level, or from an elevated working height.

The lack of muscular self-control after electrical shock and the inability of workers to protect themselves, or brace for the impact, can contribute to serious head, neck and back injuries.

Severe incidents involving electrocution/electric shock can lead to permanent disability or death.

High Potential Tests, commonly known as high voltage tests (or dielectric tests) are conducted to test dielectric strength of the insulation in electrical equipment and devices. Testing is performed with the use of electrical safety testing instruments by adding high voltage to determine the amount of leakage current through the insulation of such electrical equipment and devices.

Employers should:

- inquire about high potential testing, or dielectric testing work areas and equipment
- review compliance with *Regulation 851*, section 40
- ensure electrical equipment, insulating materials and conductors are:
 - suitable for their use, and
 - certified by,
 - the Canadian Standards Association, or
 - the Electrical Safety Authority, as defined in the *Electricity Act*
- ensure worker isolation from electrical hi-pot equipment (distance, cage or room)
- ensure personal protective equipment (PPE) is used when required [section 79]
- ensure that workers required to perform testing of electrical systems and devices are qualified and trained
- ensure that all workers exposed to hazards have been provided appropriate training and instruction [OHSA clauses 25(2)(a) and 25(2)(d)]

Material handling hazards: struck by objects, caught between or crushed by objects

Injuries associated with material handling can include workers being struck by objects, caught between objects and/or crushed by mechanical compression. Manual material handling may also lead to MSDs.

Regulation 851 sets out requirements for material handling in sections, 45, 46, 47, 48, 49 and 50. Section 51 contains requirements regarding mechanical lifting devices.

- Review operations/processes involving the movement of raw material and product from receiving area to production line and from production line to shipping area [section 45].
- Review operations/processes involving assembly line or similar style of raw material or product movement [clause 45(a)].
- Review warehousing/storage operations [clause 45(b)].
- Ensure that mechanical lifting devices are maintained in good condition, are operated by a competent person and are capable of handling loads [section 51].

Slips, trips and falls

Slips, trips and falls hazards include hazards that result in workers falling onto the same surface or falling from a height.

Injuries to workers can include fractures, lacerations and loss of consciousness. In extreme circumstances injuries caused from a fall can lead to permanent disability or death.

The Regulation for Industrial Establishments ([*Regulation 851*](#)) sets out a number of requirements for worker protection against slips, trips and falls, including but not limited to sections 11, 13, 14, 15, 73 and 85.

- Floors and other surfaces used by workers must be free of obstructions, hazards, accumulations of ice and snow and not have a slippery surface. [section 11].
- Review requirements for guardrails to protect from falls [section 13 and 14].
- Review fall protection equipment required when working from heights [section 85].
- Ensure that training is provided to a worker on the use of protective clothing and equipment (i.e. fall arrest equipment) [section 79].
- In areas requiring ladder use, review compliance with section 73.
- Employers must provide information, instruction and supervision to protect workers from slips, trips and falls and acquaint workers with the hazards [OHSa clauses 25(2)(a) and 25(2)(d)].

Noise

Injuries to workers can include varying degrees of noise-induced hearing loss.

The Noise Regulation [*O. Reg. 381/15*](#) sets out workplace requirements regarding noise.

- Review the engineering controls and administrative (work practices) controls in place to reduce noise levels and exposures (mufflers on air exhausts, mechanical damping, vibration isolators, enclosures and limiting worker's exposure time) [subsection 2(2)].
- Review the availability and use of hearing protection [subsection 2(6)].
- Review the type of hearing protection provided [subsection 4(1)].
- Review placement of warning signs at approaches to noisy areas [subsection 2(7)].
- Review the training provided to workers [section 3].
- Personal protective equipment (PPE) is to be used only as a last resort. Engineering controls and work practices must be used where practicable [subsection 2(5)].

Trends

Table 1: Fatalities and critical injuries in electrical and electronics sector by fiscal year

Events	2012-13	2013-14	2014-15	2015-16	2016-17
Fatalities	1	0	0	1	0
Critical injuries	7	9	4	5	4

- Only critical injury events reported to the ministry are included here.
- These represent data that were reported to the ministry and may not represent what actually occurred at the workplace.
- The critical injury numbers represent critical injuries reported to the ministry and not necessarily critical injuries as defined by the [Occupational health and safety Act](#).
- Non-workers who are **critically injured** may also be included in the ministry's data.
- The Ministry of Labour tracks and reports **fatalities** at workplaces covered by the OHSA. This excludes death from natural causes, death of non-workers at a workplace, suicides, death as a result of a criminal act or traffic accident (unless the OHSA is also implicated) and death from occupational exposures that occurred many years ago.
- Data are subject to change because of inspectors' updates to the database.

Table 2: Events and activities in electrical and electronics sector by fiscal year

Events and activities	2012-13	2013-14	2014-15	2015-16	2016-17
Field visits	565	531	487	499	350
Orders	1,082	873	914	902	465
Complaints	82	82	86	86	86
Work refusals	1	5	2	0	1

Most common orders issued under the OHSA

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under the OHSA were:

- An employer shall prepare and review at least annually a written occupational health and safety policy and develop and maintain a program to implement that policy [clause 25(2)(j)].
- An employer shall provide information, instruction and supervision to a worker to protect the health or safety of the worker [clause 25(2)(a)].
- An employer shall ensure that, the equipment, materials and protective devices provided by the employer are maintained in good condition [clause 25(1)(b)].
- An employer shall post, in the workplace, a copy of this act and any explanatory material prepared by the ministry, both in English and the majority language of the workplace, outlining the rights, responsibilities and duties of workers [clause 25(2)(i)].
- Orders issued to an employer related to workplace violence and harassment provisions [sections 32.0.1 through 32.0.8].

Most common orders issued under the Industrial Regulations

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under *Regulation 851* were:

- Machinery, equipment or material that may tip or fall and endanger any worker shall be secured against tipping or falling [section 46].
- A lifting device shall, be thoroughly examined by a competent person to determine its capability of handling the maximum load as rated, prior to being used for the first time, and thereafter as often as necessary but not less frequently than recommended by the manufacturer and in any case, at least once a year, and a permanent record shall be kept, signed by the competent person doing the examination [clause 51(1)(b)].
- Where a machine or prime mover or transmission equipment has an exposed moving part that may endanger the safety of any worker, the machine or prime mover or transmission equipment shall be equipped with and guarded by a guard or other device that prevents access to the moving part [section 24]
- Where a worker is exposed to a potential hazard of injury to the eye due to contact with a biological or chemical substance, an eyewash fountain shall be provided [section 124].
- An in-running nip hazard or any part of a machine, device or thing that may endanger the safety of any worker shall be equipped with and guarded by a guard or other device that prevents access to the pinch point [section 25].

Industrial Regulations identified by section

Inspectors may issue orders in the electrical and electronics sector under the following sections of the [Regulation for Industrial Establishments](#) where appropriate.

- Section 7 – pre-start health and safety review
- Section 11 – safe work surfaces
- Sections 13 and 14 – guardrails
- Sections 24, 25, 26, 28 and 32 – guarding of equipment
- Section 34 – conveyor guarding
- Section 45 – material handling and storage
- Section 49 – compressed gas cylinders
- Clause 51(1)(a) – examination of lifting device
- Clause 51(1)(b) – maximum rated load plainly marked on lifting device
- Section 73 – portable ladder
- Section 76 – machine lockout
- Section 79 – personal protective equipment instruction
- Section 81 – eye protection
- Section 82 – foot protection
- Section 124 – eyewash
- Section 125 – deluge shower

Pre-start health and safety review

A pre-start review (PSR) may be required by section 7 of [Regulation 851](#). Section 7 applies to a factory as defined by the OHSA and is intended to ensure that hazards are removed or controlled before an apparatus or process is started up. If required, the PSR must be completed prior to the complete installation (in-service and operating) of any apparatus, structure or protective element.

Information about pre-start reviews can be found in the Ministry of Labour [Guidelines for Pre-Start Health and Safety Reviews: How to Apply Section 7 of the Industrial Establishments Regulation](#).

For further information contact your health and safety association or the Professional Engineers of Ontario (PEO) for guidance in conducting a PSR or contact a professional engineer or engineering company that performs PSR.

Applicable regulations

- Critical Injury – Defined [Regulation 834](#)
- Confined Spaces [O. Reg. 632/05](#)
- Control of Exposure to Biological or Chemical Agents [Regulation 833](#)
- Designated Substances [O. Reg. 490/09](#)
- Designated Substance – Asbestos on Construction Projects and in Building Repair Operations Regulation [O. Reg. 278/05](#)
- Noise Regulation [O. Reg. 381/15](#)
- Occupational Health and Safety Awareness and Training [O. Reg. 297/13](#)
- Regulation for Industrial Establishments [Regulation 851](#)
- Workplace Hazardous Materials Information System (WHMIS) [Regulation 860](#)

Construction regulation

Employers should be aware that in situations where construction work is undertaken, the Construction Projects Regulation ([O. Reg. 213/91](#)) may apply.

Construction work can be described as new work, additions, alterations, or maintenance and repairs. The *Occupational health and safety Act* defines “construction” as including “erection, alteration, repair, dismantling, demolition, structural maintenance, painting, land clearing, earth moving, grading, excavating, trenching, digging, boring, drilling, blasting, or concreting, the installation of any machinery or plant and any work or undertaking in connection with a project but does not include any work or undertaking underground in a mine.”

General resources

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Farming operations

Sector summary

Farming operations can be described as primarily the production, cultivation, growing and harvesting of agricultural commodities and any practices performed as an integral part of a farming operation.

The [*Occupational health and safety Act*](#) (OHSA) applies to farming operations, subject to certain limitations and conditions as outlined in section 1 of the Farming Operations Regulation ([O. Reg. 414/05](#)).

Generally, the OHSA and applicable regulations apply to a farming operation where there are paid workers. For example, where there is a paid worker at a farm, even for a short time, the employer and all other workplace parties (e.g., supervisors, suppliers and workers) at that farming operation must comply with all applicable requirements of the OHSA and regulations. This includes workers who are residents of Canada and workers employed in Ontario through one of the federal government's Temporary Foreign Worker Programs (TFWP) such as the Seasonal Agricultural Workers Program (SAWP).

The OHSA does not apply to a farming operation operated by a self-employed person without paid workers. For further information, please refer to the Ministry of Labour webpages on [Farming Operations | Agriculture](#).

With respect to joint health and safety committees (JHSC), the Farming Operations Regulation ([O. Reg. 414/05](#)), states that despite Section 1, subsection 9(2) of the OHSA, the requirement for a JHSC applies only to farming operations where 20 or more workers are regularly employed and have duties that include performing work related to one or more of the operations specified in subsection 2 of the regulation, which are:

- mushroom farming
- greenhouse farming
- dairy farming
- hog farming
- cattle farming
- poultry farming.

Please refer to [O. Reg. 414/05](#) for further details and application of the regulation in farming operations.

The following regulations made under the [*Occupational health and safety Act*](#) (OHSA) apply to farming operations where the OHSA applies:

- Farming Operations [O. Reg. 414/05](#) (which invokes the OHSA subject to specific conditions and limitations)
- Critical Injury – Defined [Regulation 834](#)
- Occupational Health and Safety Awareness and Training [O. Reg. 297/13](#)
- Noise Regulation [O. Reg. 381/15](#) (as of July 1, 2016).

Key hazards

- The following list represents hazards to which workers are commonly exposed in the farming operations sector:
- activities that may lead to musculoskeletal disorders (MSDs)
- machine (and powered equipment) hazards such as improper lock-out and unguarded equipment
- material handling hazards (such as workers being struck by objects, caught or crushed between objects)
- slips, trips and falls

- exposures (such as chemicals, fumes and environmental conditions)
- noise
- confined spaces (oxygen deficient atmospheres)
- fire and explosion
- tip/roll-over of farm equipment.

In general, hazards that are not covered by a regulation and hazards in workplaces not covered by a sector-specific regulation are addressed through the application of the “general duty” clause 25 (2)(h) of the OHSA.

Employers on a farming operation should be aware that in situations where construction work is undertaken, the Construction Projects Regulation ([O. Reg. 213/91](#)) may apply (e.g., building a barn on the farm); and where an industrial establishment is present, the Regulation for Industrial Establishments ([Regulation 851](#)) may apply (e.g., processing of crops in a plant on the farm).

Workplace parties should refer to the narrative portion of the field visit report, if they have received one, for further information or contact their [health and safety association](#) for guidance.

In addition to any other hazards which may be present in a workplace, all employers covered by the OHSA must comply with the requirements for workplace violence and harassment. The act sets out requirements for workplace violence and harassment in sections 32.0.1 to 32.0.8. Further information regarding the requirements related to workplace violence can be found in the Ministry of Labour (MOL) guide [Workplace violence and harassment: Understanding the law](#).

Additional information, including more information about new workplace harassment provisions, can be found on the MOL topic webpages for [Workplace Violence and Workplace Harassment](#). Employers may wish to consider the use of the ministry’s [Code of Practice to Address Workplace Harassment](#) under the OHSA.

Musculoskeletal disorders (MSDs)

Workplace pains and strains can be serious and disabling for workers, causing pain and suffering ranging from discomfort to severe disability.

MSD is not a medical diagnosis; it is an umbrella term for a group of injuries. Some of these injuries include: back pain (low back strain, etc.), muscle strain, tendonitis, carpal tunnel syndrome (CTS), rotator cuff syndrome, tennis elbow and shoulder pain.

- Identify and assess job-related MSD risk factors (i.e. identify tasks and activities involving manual material handling, use of ladders, static or repetitive movements etc.).
- Review training on job-specific MSD risk factors.
- Assess controls to reduce worker exposure to MSDs.
- Contact your health and safety association for guidance in assessments and prevention of MSDs.

Machine hazards

Machine or transmission start-up (improper lockout)

Injuries caused by accidental machine start-up can include lacerations, crushing and amputations. In some circumstances these injuries can cause permanent disability or death.

The Regulation for Industrial Establishments ([Regulation 851](#)) applies to many workplaces, and sets out requirements for worker protection against machine start-up in sections 75 and 76.

- Review the requirements related to repair/maintenance of machinery [section 75].
- Ensure requirement/compliance with lockout procedures [sections 75 and 76].
- Ensure that instruction and information is provided to a worker on the hazard and the requirements to isolate and lockout hazardous energy [OHSA clauses 25(2)(a) and 25(2)(d)].

Unguarded equipment and entanglement hazards

Injuries to workers can include lacerations, amputations, crush by entanglement and loss of consciousness. Serious injuries can lead to permanent disability or death.

Farm equipment may include any mechanical or electrical device that transmits or modifies energy to perform a variety of tasks. Examples of farm equipment include balers, conveyors, manure spreaders, bale choppers, mowers, shredders, harvesters, grinders, blowers, power washers and augers.

The [OHSA](#) requires the employer to take “every precaution reasonable in the circumstances for the protection of a worker.” In most circumstances, the most reasonable precaution would be to provide a guard or other device, or a physical barrier to prevent worker access to moving parts such as roller shafts or to the moving machines.

Other hazards due to unguarded equipment include worker exposure to pinch points, moving (rotating) equipment and in-running nip hazards. Equipment that has exposed moving parts such as cutting operations, conveyors, augers, equipment using power take-off (PTO) and exposed drive-motor assemblies used to power compressors and/or ventilation fans will endanger a worker. *Regulation 851* applies to many workplaces and sets out requirements for guarding of equipment in sections 24, 25, 26, 28, 31 and 32.

Material handling hazards: struck by objects, caught between or crushed by objects

Injuries associated with material handling can include workers being struck by objects, caught between objects and/or crushed by mechanical compression. Manual material handling may also lead to MSD.

Where applicable, *Regulation 851* sets out requirements for material handling in sections, 45, 46, 47, 48, 49 and 50. Section 51 contains requirements regarding mechanical lifting devices.

- Review operations/processes involving the movement of raw material and product from receiving area to production line and from production line to shipping area.
- Review operations/processes involving assembly line or similar style of raw material or product movement [clause 45(a)].
- Review warehousing/storage operations [clause 45(b)].
- Ensure that mechanical lifting devices are maintained in good condition, are operated by a competent person and are capable of handling loads [section 51].
- Injuries associated with handling large animals and other farm equipment may be included when workers are being struck by, caught between and/or crushed by objects.
- Employers have a duty under OHSA clause 25(2)(h) to take every precaution reasonable in the circumstances for the protection of a worker. This may include procedures to protect workers from hazards in farm environments.
- The employer must provide information, instruction and supervision to a worker handling large farm animals and must ensure that the worker is competent to do so safely.
- A worker coming into contact with an animal should wear appropriate personal protective equipment (PPE) for the assigned work.
- A worker coming into contact with an animal should be made aware of any transmissible diseases that the animal may carry and should be instructed on how to prevent transmission, to themselves and to other animals.

- An employer should ensure that workers know how to safely separate themselves from an animal while working in an enclosure occupied by animals.

Slips, trips and falls

Slips, trips and falls hazards include hazards that result in workers falling onto the same surface or falling from a height.

Injuries to workers can include fractures, lacerations and loss of consciousness. In extreme circumstances injuries caused from a fall can lead to permanent disability or death.

Where it applies, *Regulation 851* sets out a number of requirements for worker protection against slips, trips and falls, including sections 11, 13, 14, 73 and 85.

- Floors and other surfaces used by workers must be free of obstructions, hazards, accumulations of ice and snow and not have a slippery surface [section 11].
- Where work requires manual material handling over uneven working surfaces such as loading docks, platforms and mezzanines, review compliance with sections 11, 13 and 14.
- Review personal protective equipment required when working from heights [section 85].
- Ensure that training is provided to a worker on the use of fall arrest equipment [section 79].
- In areas requiring ladder access, review compliance with section 73.
- Ensure that instruction and information is provided to a worker on the hazards associated with working from heights [OHSА clauses 25(2)(a) and 25(2)(d)].

Exposures

Chemical exposures

Chemicals can present hazards to workers by a variety of different mechanisms such as causing chemical burns to skin, irritation to eyes and airways and by absorption or ingestion into the body.

- Review the use of chemicals used in the workplace such as products used for cleaning and maintenance or other purposes.
- The employer should carry out an assessment of the workplace and determine the risk that workers will be exposed to hazardous biological, chemical or physical agents and develop a plan for controlling worker exposure.
- Provide information, instruction and supervision to workers exposed to hazardous biological, chemical or physical agents.
- Where workers are exposed to hazardous biological, chemical or physical agents, and it is not possible to control exposure by means such as substituting a safer material, or re-designing the work process, the employer and supervisor should ensure the use of appropriate personal protective equipment. For chemical agents, the protective equipment required will generally be identified on either the product label or safety data sheet, where available.
- The employer should instruct workers on safe handling procedures and proper personal hygiene techniques to minimize contact with chemical or biological hazards.
- Employers have a duty under OHSА clause 25(2)(h) to take every precaution reasonable in the circumstances for the protection of a worker.
- Where it applies, ensure that the requirements outlined in the Workplace Hazardous Materials Information System (WHMIS) Regulation ([Regulation 860](#)) are followed.

General workplace environment

Workplace hazards related to the general workplace environment may include exposure to fumes and other contaminants related to poor or inadequate ventilation. Exposure to cold or heat may also be a hazard to worker health and safety.

- Ensure workplace ventilation is adequate.
- Working where it is hot or cold puts stress on the body. When heat or cold is combined with other stresses such as hard physical work, loss of fluids, fatigue or some pre-existing medical conditions, it may lead to heat- or cold-related illness, disability and even death.
- Employers have a duty under OHSA clause 25(2)(h) to take every precaution reasonable in the circumstances for the protection of a worker.

Noise

Injuries to workers can include varying degrees of noise-induced hearing loss.

The Noise Regulation ([*O. Reg. 381/15*](#)) sets out workplace requirements regarding noise.

- Review the engineering controls and administrative (work practices) controls in place to reduce noise levels and exposures (mufflers on air exhausts, mechanical damping, vibration isolators, enclosures, and limiting worker's exposure time) [subsection 2(2)].
- Review the availability and use of hearing protection [subsection 2(6)].
- Ensure that the hearing protective devices provided are adequate [subsection 4(1)].
- Place warning signs at approaches to noisy areas [subsection 2(7)].
- Ensure that workers are properly trained [section 3].
- Personal protective equipment (PPE) is to be used only as a last resort. Engineering controls and work practices must be used where practicable [subsection 2(5)].

Fire and Explosion

Flammable liquids

Injuries from fire and/or explosion can include burns, lacerations, fractures and loss of consciousness. Serious injuries can lead to permanent disability or death.

- Ensure the safe use and storage of flammable liquids.
- Review requirements for flammable liquids in *Regulation 851* such as the requirements for:
 - grounding and bonding [clause 22(4)(b)].
 - proper storage of flammable liquids [clause 22(2)(d)].
 - ventilation and work area protection [clause 22(4)(a) and section 63].
- Review the requirements outlined in the WHMIS Regulation.

Confined space

A “confined space” means a fully or partially enclosed space that is not both designed and constructed for continuous human occupancy, and in which atmospheric hazards may occur because of its construction, location or contents or because of work that is done in it.

- There are many examples of potentially dangerous confined spaces on a farm, including silos, grain bins, manure pits and spreaders, mixing or holding tanks, cisterns, valve pits and pump houses.

Farmers and workers who enter a confined space, and those who attempt a rescue in an emergency, could quickly be overcome by a hazardous atmosphere, resulting in injury or death.

Where the Regulation for Confined Spaces ([O. Reg. 632/05](#)) applies, it sets out workplace requirements regarding confined spaces.

- Review work locations that meet the definition of “confined space.”
- Ensure compliance with the requirement to have a program in place for confined spaces [section 5].
- Ensure compliance with the requirement to have adequate assessments of confined spaces carried out [section 6].
- Ensure compliance with requirement to have an adequate plan developed and implemented for confined space entry [section 7].
- Review compliance with requirement for worker training [section 9].

Please refer to [Atmospheric Hazards Associated with Oxygen-Limited Structures \(Silos\) on Farms](#) for more information.

Tip/roll-over of farming equipment

- Serious, sometimes fatal, operator injuries are associated with using farming equipment without roll-over protection.
- Employers have a duty under OHSA clause 25(2)(h) to take every precaution reasonable in the circumstances for the protection of a worker. This may include developing procedures to protect workers in rollover of equipment such as farming equipment.

Trends

Table 1: Fatalities and critical injuries in farming operations by fiscal year

Events	2012-13	2013-14	2014-15	2015-16	2016-17
Fatalities	1	5	5	2	1
Critical injuries	4	8	4	4	5

- Only critical injury events reported to the ministry are included here.
- This represents data that was reported to the ministry and may not represent what actually occurred at the workplace.
- The critical injury numbers represent critical injuries reported to the ministry and not necessarily critical injuries as defined by the [Occupational health and safety Act](#).
- Non-workers who are **critically injured** may also be included in the ministry’s data.
- The Ministry of Labour tracks and reports **fatalities** at workplaces covered by the OHSA. This excludes death from natural causes, death of non-workers at a workplace, suicides, death as a result of a criminal act or traffic accident (unless the OHSA is also implicated) and death from occupational exposures that occurred many years ago.
- Data is subject to change because of inspectors’ updates to the database.

Table 2: Events and activities in farming operations by fiscal year

Events and activities	2012-13	2013-14	2014-15	2015-16	2016-17
Field visits	173	165	189	154	179
Orders	231	165	188	182	237

Events and activities	2012-13	2013-14	2014-15	2015-16	2016-17
Complaints	33	26	30	30	55
Work refusals	0	0	0	0	0

Most frequent orders issued under the OHSA

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under the OHSA were:

- An employer shall, take every precaution reasonable in the circumstances for the protection of a worker [clause 25(2)(h)].
- An employer shall ensure that, the equipment, materials and protective devices provided by the employer are maintained in good condition [clause 25(1)(b)].
- An employer shall provide information, instruction and supervision to a worker to protect the health or safety of the worker [clause 25(2)(a)].
- Unless otherwise required by the regulations or by an order of an inspector, a health and safety representative shall inspect the physical condition of the workplace at least once a month. [subsection 8 (6)].

Applicable regulations

In addition to the *Occupational health and safety Act*, there are a number of regulations made under the act which may apply depending on circumstances found at the workplace.

- Critical Injury – Defined [Regulation 834](#)
- Confined Spaces [O. Reg. 632/05](#)
- Control of Exposure to Biological or Chemical Agents [Regulation 833](#)
- Farming Operations [O. Reg. 414/05](#)
- Noise Regulation [O. Reg. 381/15](#)
- Occupational Health and Safety Awareness and Training [O. Reg. 297/13](#)
- Regulation for Industrial Establishments [Regulation 851](#)
- Roll-Over Protective Structures [Regulation 856](#)
- Workplace Hazardous Materials Information System (WHMIS) [Regulation 860](#)

Regulation for Construction Projects

Employers should be aware that in situations where construction work is undertaken, the Construction Projects Regulation [O. Reg. 213/91](#) may apply.

Construction work can be described as new work, additions, alterations or maintenance and repairs. The *Occupational health and safety Act* defines “construction” as including “erection, alteration, repair, dismantling, demolition, structural maintenance, painting, land clearing, earth moving, grading, excavating, trenching, digging, boring, drilling, blasting, or concreting, the installation of any machinery or plant and any work or undertaking in connection with a project but does not include any work or undertaking underground in a mine.”

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Film and television

Sector summary

The film and television sector involves the production of material to be shown on television or in a movie theatre; however, it excludes television broadcasting, which is under federal jurisdiction.

Key hazards

The following list represents hazards to which workers are commonly exposed in the film and television sector:

- activities that may lead to musculoskeletal disorders (MSDs): stunts and moving equipment
- slips, trips and falls
- material handling: struck by objects, caught between objects, and compression
- cold/heat stress
- fire: pyrotechnics and other special effects
- traffic protection: struck by vehicles.

In general, hazards that are not covered by a regulation and hazards in workplaces not covered by a sector-specific regulation are addressed through the application of the “general duty” clause 25(2)(h) of the [Occupational health and safety Act](#) (OHSA).

Workplace parties are to refer to the narrative portion of the field visit report, if they have received one, for further information or contact their [health and safety association](#) for guidance.

In addition to any other hazards which may be present in a workplace, all employers covered by the OHSA must comply with the requirements for workplace violence and harassment. The act sets out requirements for workplace violence and harassment in sections 32.0.1 to 32.0.8. Further information regarding the requirements related to workplace violence can be found in the Ministry of Labour (MOL) guide [Workplace violence and harassment: Understanding the law](#).

Additional information, including more information about new workplace harassment provisions, can be found on the MOL topic webpages for [Workplace Violence and Workplace Harassment](#). Employers may

wish to consider the use of the ministry's [Code of Practice to Address Workplace Harassment](#) under the OHSA.

Musculoskeletal disorders (MSDs)

Workplace pains and strains can be serious and disabling for workers, causing pain and suffering ranging from discomfort to severe disability.

MSD is not a medical diagnosis; it is an umbrella term for a group of injuries. Some of these injuries include: back pain, muscle strain, tendonitis, carpal tunnel syndrome (CTS), rotator cuff syndrome, tennis elbow and shoulder pain.

- Identify and assess job-related MSD risk factors (i.e. identify tasks and activities involving manual material handling, use of ladders, static or repetitive movements etc.
- Review training on job-specific MSD risk factors.
- Assess controls to reduce worker exposure to MSDs.
- Ensure that safety plans are established for/when performing stunts.
- Contact your health and safety association for guidance in assessments and prevention of MSDs.

Slips, trips and falls

Slips, trips and falls hazards include hazards that result in workers falling onto the same surface or falling from a height.

Injuries to workers can include fractures, lacerations and loss of consciousness. In extreme circumstances injuries caused from a fall can lead to permanent disability or death.

The Regulation for Industrial Establishments ([Regulation 851](#)) applies to industrial establishments (such as an office building, factory, arena, shop or office or any land, buildings and structures pertaining there to) and sets out a number of requirements for worker protection against slips, trips and falls, including but not limited to sections 11, 13, 14, 15, 73 and 85.

- Floors and other surfaces used by workers must be free of obstructions, hazards, accumulations of ice and snow and not have a slippery surface [section 11].
- Review requirements for guardrails to protect from falls [sections 13 and 14]
- Review fall protection equipment required when working from heights [section 85].
- Ensure that training is provided to a worker on the use of protective clothing and equipment (i.e. fall arrest equipment) [section 79].
- In areas requiring ladder use, review compliance with section 73.
- Employers must provide information, instruction and supervision to protect workers from slips, trips and falls and acquaint workers with the hazards [OHSA clauses 25(2)(a) and 25(2)(d)].

Material handling hazards: struck by objects, caught between or crushed by objects

Injuries associated with material handling can include workers being struck by objects, caught between objects and/or crushed by mechanical compression. Manual material handling may also lead to MSDs.

Regulation 851 sets out requirements for material handling in sections, 45, 46, 47, 48, 49 and 50. Section 51 contains requirements regarding mechanical lifting devices.

- Review operations/processes involving the movement of equipment and material from receiving area to the locations where it is needed or used.
- Ensure that equipment and materials are stored safely and can be moved safely by workers [section 45].
- Ensure that mechanical lifting devices are maintained in good condition, are operated by a competent person and are capable of handling loads [section 51].

Cold/heat stress

Exposure to cold or heat may be a hazard to worker health and safety.

- Ensure that a workplace is adequately heated where appropriate.
- Review sources of heat or excessive temperatures in the workplace and ensure that adequate controls are in place to protect workers.

Fire: pyrotechnics and other special effects

Injuries from fire and/or explosion can include burns, lacerations, fractures and loss of consciousness.

In extreme circumstances, injuries can lead to permanent disability (amputation, loss of vision/hearing) and death (severe burns and explosive force).

- Review the use of pyrotechnics or similar props.
- Ensure that appropriate personal protective equipment (PPE) is provided to workers to protect them from fire hazards.
- Ensure that workers are trained on the care, use, and limitations of the PPE provided [OHSA clauses 25(2)(a) and 25(2)(d)].
- Ensure that workers and those that are supervising workers receiving proper instruction, training and supervision with respect to the use of pyrotechnics and other special effects equipment [OHSA clauses 25(2)(a) and 25(2)(d)].

Traffic protection: struck by vehicle

Injuries to workers can include fractures, lacerations and loss of consciousness.

In extreme circumstances such as vehicle collision, injuries can lead to permanent disability or death as result of high velocity/impact trauma.

- Review activities where workers are required to work in proximity to vehicular traffic.
- Ensure that there are proper barriers, warning signs or other safeguards.

A comprehensive program to protect workers may include an assessment of the risks and implementation of measures and procedures appropriate in the circumstances, such as warning lights, signs, signallers, barriers and worker training. The use of reflective clothing appropriate for the circumstances is also important. Workplace parties may wish to refer to the Canadian Standards Association (CSA) standard CSA Z96-15 which contains performance criteria for high visibility garments. CSA Standard Z96-15 - *High-visibility safety apparel* is available through the [Canadian Standards Association](#).

For further information regarding health and safety in the film and television sector, workplace parties may refer to the Ministry of Labour webpages on the [Performance Industry](#), and to the guideline called [Safety Guidelines for the Film and Television Industry in Ontario](#).

Trends

Table 1: Fatalities and critical injuries in film and television sector by fiscal year

Events	2012-13	2013-14	2014-15	2015-16	2016-17
Fatalities	0	0	0	0	0
Critical injuries	2	1	0	0	1

- Only critical injury events reported to the ministry are included here.
- These represent data that were reported to the ministry and may not represent what actually occurred at the workplace.
- The critical injury numbers represent critical injuries reported to the ministry and not necessarily critical injuries as defined by the [Occupational health and safety Act](#).
- Non-workers who are **critically injured** may also be included in the ministry's data.
- The Ministry of Labour tracks and reports **fatalities** at workplaces covered by the OHSA. This excludes death from natural causes, death of non-workers at a workplace, suicides, death as a result of a criminal act or traffic accident (unless the OHSA is also implicated) and death from occupational exposures that occurred many years ago.
- Data are subject to change because of inspectors' updates to the database.

Table 2: Events and activities in film and television sector by fiscal year

Events and activities	2012-13	2013-14	2014-15	2015-16	2016-17
Field visits	36	24	47	40	40
Orders	47	24	77	28	28
Complaints	4	4	16	14	10
Work refusals	0	0	0	1	1

Most common orders issued under the OHSA

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under the OHSA were:

- An employer shall provide information, instruction and supervision to a worker to protect the health or safety of the worker [clause 25(2)(a)].
- An employer shall, take every precaution reasonable in the circumstances for the protection of a worker [clause 25(2)(h)].
- An employer shall post in the workplace a copy of this act and any explanatory material prepared by the ministry, both in English and the majority language of the workplace, outlining the rights, responsibilities and duties of workers [clause 25(2)(i)].
- An employer shall prepare a policy with respect to workplace violence, prepare a policy with respect to workplace harassment, and review the policies as often as is necessary, but at least annually [subsection 32.0.1(1)].

Most common orders issued under the Industrial Regulations

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under *Regulation 851* were:

- Where natural lighting is inadequate to ensure the safety of any worker, artificial lighting shall be provided and shadows and glare shall be reduced [section 21].
- A floor or other surface used by any worker shall be kept free of obstructions, hazards, and accumulations of refuse, snow or ice; and not have any finish or protective material used on it that is likely to make the surface slippery [section 11].
- Where a worker is exposed to a potential hazard of injury to the eye due to contact with a biological or chemical substance, an eyewash fountain shall be provided [section 124].

Industrial Regulations identified by section

Inspectors may issue orders in the film and television sector under the following sections of the [Regulation for Industrial Establishments](#) where appropriate.

- Section 11 – safe work surfaces
- Sections 13 and 14 – guardrails
- Sections 22 and 23 – flammable liquids
- Sections 24, 25, 26, 28 and 32 – guarding of equipment
- Section 45 – material handling and storage
- Section 49 – compressed gas cylinders
- Section 73 – portable ladder
- Section 79 – personal protective equipment instruction
- Section 80 – head protection
- Section 81 – eye protection
- Section 82 – foot protection
- Section 84 – protection from noxious gas, liquid fume or dust
- Section 85 – fall arrest

Applicable legislation

- *Child Performers Act* [Protecting Child Performers Act, 2015](#)
- Critical Injury – Defined [Regulation 834](#)
- Control of Exposure to Biological or Chemical Agents [Regulation 833](#)
- Designated Substances [O. Reg. 490/09](#)
- Noise Regulation [O. Reg. 381/15](#)
- Occupational Health and Safety Awareness and Training [O. Reg. 297/13](#)
- Regulation for Industrial Establishments [Regulation 851](#)
- Workplace Hazardous Materials Information System (WHMIS) [Regulation 860](#)

Regulation for Construction Projects

Employers should be aware that in situations where construction work is undertaken, the Construction Projects Regulation ([O. Reg. 213/91](#)) may apply.

Construction work can be described as new work, additions, alterations or maintenance and repairs. The *Occupational health and safety Act* defines “construction” as including “erection, alteration, repair,

dismantling, demolition, structural maintenance, painting, land clearing, earth moving, grading, excavating, trenching, digging, boring, drilling, blasting, or concreting, the installation of any machinery or plant, and any work or undertaking in connection with a project but does not include any work or undertaking underground in a mine.”

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Fire

Sector summary

This subsector of government includes municipal and other firefighting services. A “Section 21 Committee” created under section 21 of the *Occupational health and safety Act* has been established that develops guidance materials to address health and safety issues in this sector. Information related to the Section 21 Committee can be found at the webpage [Section 21 | Guidance for Improving Health and Safety in the Fire service](#).

Key hazards

The following list represents hazards to which workers are commonly exposed in the fire-fighting sector:

- falls: aerial devices, ladder trucks, boom truck, and bucket trucks
- fire and oxygen deficient atmospheres
- traffic protection
- occupational illness (from exposures)
- confined space entry.

In general, hazards that are not covered by a regulation and hazards in workplaces not covered by a sector-specific regulation are addressed through the application of the “general duty” clause 25 (2)(h) of the [Occupational health and safety Act](#) (OHSA).

Workplace parties should refer to the narrative portion of the field visit report, if they have received one, for further information or contact their [health and safety association](#) for guidance.

In addition to any other hazards which may be present in a workplace, all employers covered by the OHSA must comply with the requirements for workplace violence and harassment. The act sets out requirements for workplace violence and harassment in sections 32.0.1 to 32.0.8. Further information regarding the requirements related to workplace violence can be found in the Ministry of Labour (MOL) guide [Workplace violence and harassment: Understanding the law](#).

Additional information, including more information about new workplace harassment provisions, can be found on the MOL topic webpages for [Workplace Violence and Workplace Harassment](#). Employers may wish to consider the use of the ministry's [Code of Practice to Address Workplace Harassment](#) under the OHSA.

Falls: aerial devices, ladder trucks, boom truck, and bucket trucks

Injuries to workers can include fractures, lacerations and loss of consciousness.

In extreme circumstances injuries that result in inadvertent contact with an energy source or high elevation fall can lead to permanent disability or death.

- Review working at heights policy and procedures.
- Ensure compliance with requirements for fall protection.
- Ensure that workers have been trained on the care and use of the fall arrest equipment.
- Ensure that ladders are used safely.
- Review instruction and information provided to a worker on the hazards associated with working from heights (aerial device operation) [OHSA clauses 25(2)(a) and 25(2)(d)].

Fire and oxygen-deficient atmospheres

Injuries from fire, explosion or lack of oxygen can include burns, lacerations, fractures and loss of consciousness.

In extreme circumstances, injuries can lead to permanent disability (amputation, loss of vision/hearing) or death (severe burns, explosive force and asphyxiation).

- Review compliance with the requirement for personal protective equipment (PPE) to be provided to a worker to protect the worker from the hazard of fire and oxygen-deficient atmospheres [OHSA clause 25(2)(h)].
- Review the training provided to a worker on the care, use and limitations of the PPE provided [OHSA clauses 25(2)(a) and 25(2)(d)] and *Regulation 851*, section 79].
- Review storage location and condition of the PPE [OHSA clause 25(1)(b)].

Traffic protection

Injuries to workers can include fractures, lacerations and loss of consciousness.

Injuries can occur when workers are struck by or come into contact with motorized equipment or vehicles in a workplace.

Where vehicles or motorized equipment are present:

- review locations where pedestrians and vehicles may be present in a workplace.
- ensure that controls are in place to adequately protect workers from vehicles and motorized equipment.

A comprehensive program to protect workers may include an assessment of the risks and implementation of measures and procedures appropriate in the circumstances, such as warning lights, signs, signallers, barriers and worker training. The use of reflective clothing appropriate for the circumstances is also important. Workplace parties may wish to refer to the Canadian Standards Association (CSA) standard CSA Z96-15 which contains performance criteria for high visibility garments. CSA Standard Z96-15 - *High-visibility safety apparel* is available through the [Canadian Standards Association](#) (CSA).

Occupational Illness

If an employer is informed that a worker has an occupational illness or that a claim for an occupational illness has been filed with the Workplace Safety and Insurance Board, the employer must notify a director of the Ministry of Labour, the joint health and safety committee (or health and safety representative) and the union, if any, within four days.

- This notice must be in writing and must contain any prescribed information [OHSA subsection 52(2)].
- The duty to notify applies not only to current workers of the employer but also to former ones [OHSA subsection 52(3)].

Occupational asthma

- Review engineering controls and the effective use of adequate and properly fitted PPE.
- Review the training provided to a worker on the care, use and limitations of the PPE.

Heat stress

Heat stress can cause heat related illnesses such as heat exhaustion or heat stroke.

- Review engineering/administrative controls related to ventilation and heat reduction, policy and procedures (hot weather plan), work and rest practices and PPE to protect the worker [OHSA clause 25 (2)(h)].

Occupational Cancers

- Review workplace hazards that could expose a worker to a known or suspected carcinogen.

Confined space

A “confined space” means a fully or partially enclosed space that is not both designed and constructed for continuous human occupancy, and in which atmospheric hazards may occur because of its construction, location or contents or because of work that is done in it.

Injuries to workers can include loss of consciousness and collateral injuries sustained as a result of loss of consciousness.

In some circumstances such as oxygen depletion, toxic substance inhalation or explosive atmosphere, injuries to workers can lead to permanent disability or death.

The Regulation for Confined Spaces ([O. Reg. 632/05](#)) sets out workplace requirements regarding confined spaces.

- Review work locations that meet the definition of “confined space.”

- Ensure compliance with the requirement to have a program in place for confined spaces [section 5].
- Ensure compliance with the requirement to have adequate assessments of confined spaces carried out [section 6].
- Ensure compliance with requirement to have an adequate plan developed and implemented for confined space entry [section 7].
- Review compliance with requirement for worker training [section 9].

Trends

Table 1: Fatalities and critical injuries in fire services by fiscal year

Events	2012-13	2013-14	2014-15	2015-16	2016-17
Fatalities	0	0	0	0	0
Critical injuries	5	10	3	6	3

- Only critical injury events reported to the ministry are included here.
- These represent data that were reported to the ministry and may not represent what actually occurred at the workplace.
- The critical injury numbers represent critical injuries reported to the ministry and not necessarily critical injuries as defined by the [Occupational health and safety Act](#).
- Non-workers who are **critically injured** may also be included in the ministry's data.
- The Ministry of Labour tracks and reports **fatalities** at workplaces covered by the OHSA. This excludes death from natural causes, death of non-workers at a workplace, suicides, death as a result of a criminal act or traffic accident (unless the OHSA is also implicated) and death from occupational exposures that occurred many years ago.
- Data are subject to change because of inspectors' updates to the database.

Table 2: Events and activities in fire services by fiscal year

Events and activities	2012-13	2013-14	2014-15	2015-16	2016-17
Field visits	104	84	68	106	97
Orders	22	64	81	102	56
Complaints	14	12	14	18	21
Work refusals	1	0	0	0	0

Most common orders issued under the OHSA

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under the OHSA were:

- An employer shall take every precaution reasonable in the circumstances for the protection of a worker [clause 25(2)(h)].
- An employer shall ensure that, the equipment, materials and protective devices provided by the employer are maintained in good condition [clause 25(1)(b)].
- An employer shall provide information, instruction and supervision to a worker to protect the health or safety of the worker [clause 25(2)(a)].
- Orders issued to an employer related to workplace violence and harassment provisions [sections 32.0.1 through 32.0.8].

Most common orders issued under the Industrial Regulations

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under *Regulation 851* were:

- Electrical equipment insulating materials and conductors shall be suitable for their use [clause 40(a)].
- Cord connected electrical equipment and tools shall have a casing that is adequately grounded [subsection 44(1)].
- A lifting device shall, be thoroughly examined by a competent person to determine its capability of handling the maximum load as rated, prior to being used for the first time, and thereafter as often as necessary but not less frequently than recommended by the manufacturer and in any case, at least once a year, and a permanent record shall be kept, signed by the competent person doing the examination [clause 51(1)(b)].

Industrial Regulations identified by section

Inspectors may issue orders in the fire sector under the following sections of the [Regulation for Industrial Establishments](#) where appropriate.

- Section 11 – safe work surfaces
- Sections 13 and 14 – guardrails
- Section 45 – material handling and storage
- Section 49 – compressed gas cylinders
- Clause 51(1)(a) – examination of lifting device
- Clause 51(1)(b) – maximum rated load plainly marked on lifting device
- Section 73 – portable ladder
- Section 79 – personal protective equipment instruction
- Section 80 – head protection
- Section 81 – eye protection
- Section 82 – foot protection
- Section 85 – fall arrest

Applicable regulations

- Critical Injury – Defined [Regulation 834](#)
- Confined Spaces [O. Reg. 632/05](#)
- Control of Exposure to Biological or Chemical Agents [Regulation 833](#)
- Designated Substances [O. Reg. 490/09](#)
- Firefighters Protective Equipment [O. Reg. 714/94](#)
- Noise Regulation [O. Reg. 381/15](#)
- Occupational Health and Safety Awareness and Training [O. Reg. 297/13](#)
- Regulation for Industrial Establishments [Regulation 851](#)
- Roll-Over Protective Structures [Regulation 856](#)
- Workplace Hazardous Materials Information System (WHMIS) [Regulation 860](#)

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To learn about sector-assigned health and safety associations.

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To review [Workplace safety and insurance board](#) (WSIB) injury experience data.

Fishing sector

Sector summary

This sector comprises establishments primarily engaged in the catching of fish and other wild animals from their natural habitats. This includes other services incidental to fishing, hunting or trapping, fish inspection, bait preparation, net mending, fish hatchery service and fishing consulting service.

Key hazards

The following list represents hazards to which workers are commonly exposed in the fisheries sector:

- activities that may lead to musculoskeletal disorders (MSDs)
- machine (and powered equipment) hazards such as improper lock-out and unguarded equipment
- material handling hazards (such as workers being struck by objects, caught or crushed between objects)
- slips, trips and falls
- water hazards.

In general, hazards that are not covered by a regulation and hazards in workplaces not covered by a sector-specific regulation are addressed through the application of the “general duty” clause 25(2)(h) of the [Occupational health and safety Act](#) (OHSA).

Workplace parties should refer to the narrative portion of the field visit report, if they have received one, for further information or contact their [health and safety association](#) for guidance.

In addition to any other hazards which may be present in a workplace, all employers covered by the OHSA must comply with the requirements for workplace violence and harassment. The act sets out requirements for workplace violence and harassment in sections 32.0.1 to 32.0.8. Further information regarding the requirements related to workplace violence can be found in the Ministry of Labour (MOL) Guide, [Workplace violence and harassment: Understanding the law](#).

Additional information, including more information about new workplace harassment provisions, can be found on the MOL topic webpages for [Workplace Violence and Workplace Harassment](#). Employers may wish to consider the use of the ministry's [Code of Practice to Address Workplace Harassment](#) under the *Occupational health and safety Act*.

Musculoskeletal disorders (MSDs)

Workplace pains and strains can be serious and disabling for workers, causing pain and suffering ranging from discomfort to severe disability.

MSD is not a medical diagnosis; it is an umbrella term for a group of injuries. Some of these injuries include: back pain, muscle strain, tendonitis, carpal tunnel syndrome (CTS), rotator cuff syndrome, tennis elbow and shoulder pain.

- Identify and assess job-related MSD risk factors (i.e. identify tasks and activities involving manual material handling, use of ladders, static or repetitive movements etc.)
- Review training on job-specific MSD risk factors.
- Assess controls to reduce worker exposure to MSDs.
- Contact your health and safety association for guidance in assessments and prevention of MSDs.

Machine hazards

Machine or transmission start-up (improper lockout)

Injuries experienced by accidental machine start-up can include lacerations, crushing and amputations. In some circumstances these injuries can cause permanent disability or death.

The Regulation for Industrial Establishments ([Regulation 851](#)) applies to industrial establishments (such as an office building, factory, arena, shop or office or any land, buildings and structures pertaining thereto) and sets out requirements for worker protection against machine start-up in sections 75 and 76.

- Review repair/maintenance of machinery [section 75].
- Ensure requirement/compliance with lockout procedures [sections 75 and 76].
- Ensure that instruction and information is provided to a worker on the hazard and the requirements to isolate and lockout hazardous energy [OHS Act clauses 25(2)(a) and 25(2)(d)].

Unguarded equipment

Injuries to workers can include lacerations, amputations, crush by entanglement and loss of consciousness. Serious injuries can lead to permanent disability or death.

Hazards due to unguarded equipment include worker exposure to pinch points, moving (rotating) equipment, and in-running nip hazards. *Regulation 851* sets out requirements for guarding of equipment in sections 24, 25, 26, 28, 31 and 32.

- Ensure that the requirements for the guarding of prime movers, or transmission equipment are followed [section 24].
- Ensure that pinch points are guarded [section 25].

Material handling hazards: struck by objects, caught between or crushed by objects

Injuries associated with material handling can include workers being struck by objects, caught between objects and/or crushed by mechanical compression. Manual material handling may also lead to MSDs.

Regulation 851 sets out requirements for material handling in sections, 45, 46, 47, 48, 49 and 50. Section 51 contains requirements regarding mechanical lifting devices.

- Review operations/processes involving the movement of raw material and product from receiving area to production line and from production line to shipping area [section 45].
- Review operations/processes involving assembly line or similar style of raw material or product movement [clause 45(a)].
- Review warehousing/storage operations [clause 45(b)].
- Ensure that mechanical lifting devices are maintained in good condition, are operated by a competent person and are capable of handling loads [section 51].

Slips, trips and falls

Slips, trips and falls hazards include hazards that result in workers falling onto the same surface or falling from a height.

Injuries to workers can include fractures, lacerations and loss of consciousness. In extreme circumstances injuries caused from a fall can lead to permanent disability or death.

The Regulation for Industrial Establishments ([*Regulation 851*](#)) sets out a number of requirements for worker protection against slips trips, and falls, including but not limited to sections 11, 13, 14, 15, 73 and 85.

- Floors and other surfaces used by workers must be free of obstructions, hazards, accumulations of ice and snow and not have a slippery surface [section 11].
- Review requirements for guardrails to protect from falls [section 13 and 14].
- Review fall protection equipment required when working from heights [section 85].
- Ensure that training is provided to a worker on the use of protective clothing and equipment (i.e. fall arrest equipment) [section 79].
- In areas requiring ladder use, review compliance with section 73.
- Employers must provide information, instruction and supervision to protect workers from slips, trips and falls and acquaint workers with the hazards [OHSA clauses 25(2)(a) and 25(2)(d)].

Noise

Injuries to workers can include varying degrees of noise-induced hearing loss.

The Noise Regulation [*O. Reg. 381/15*](#) sets out workplace requirements regarding noise.

- Review the engineering controls and administrative (work practices) controls in place to reduce noise levels and exposures (mufflers on air exhausts, mechanical damping, vibration isolators, enclosures, limiting worker's exposure time) [subsection 2(2)].
- Review the availability and use of hearing protection [subsection 2(6)].
- Review the type of hearing protection provided [subsection 4(1)].
- Review placement of warning signs at approaches to noisy areas [subsection 2(7)].
- Review the training provided to workers [section 3].
- Personal protective equipment is to be used only as a last resort. Engineering controls and work practices must be used where practicable [subsection 2(5)].

Water

Injuries to workers can include hypothermia and drowning.

- Review fishing or water operations worker safety procedures.
- Ensure that appropriate personal protective equipment (PPE) required to protect a worker from the hazard of drowning is provided [*Regulation 851* section 86].
- Ensure PPE is maintained in good condition [OHSA clause 25(1)(b)].
- Review training provided to a worker on the care and use of the personal protective equipment [*Regulation 851*, section 79].
- Ensure that appropriate information, instruction and supervision is provided to workers on the hazards of working about open water [OHSA clauses 25(2)(a) and 25(2)(d)].

Trends

Table 1: Fatalities and critical injuries in fisheries by fiscal year

Events	2012-13	2013-14	2014-15	2015-16	2016-17
Fatalities	0	1	0	0	0
Critical injuries	0	0	1	0	0

- Only critical injury events reported to the ministry are included here.
- These represent data that were reported to the ministry and may not represent what actually occurred at the workplace.
- The critical injury numbers represent critical injuries reported to the ministry and not necessarily critical injuries as defined by the [Occupational health and safety Act](#).
- Non-workers who are **critically injured** may also be included in the ministry's data.
- The Ministry of Labour tracks and reports **fatalities** at workplaces covered by the OHSA. This excludes death from natural causes, death of non-workers at a workplace, suicides, death as a result of a criminal act or traffic accident (unless the OHSA is also implicated) and death from occupational exposures that occurred many years ago.
- Data are subject to change because of inspectors' updates to the database.

Table 2: Events and activities in fisheries by fiscal year

Events and activities	2012-13	2013-14	2014-15	2015-16	2016-17
Field visits	1	12	7	7	8
Orders	0	41	15	9	24
Complaints	2	0	1	1	3
Work refusals	0	0	0	0	0

Most common orders issued under the OHSA

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under the OHSA were:

- An employer shall, take every precaution reasonable in the circumstances for the protection of a worker [clause 25(2)(h)]

- An employer shall prepare a policy with respect to workplace violence, prepare a policy with respect to workplace harassment and review the policies as often as necessary, but at least annually [subsection 32.0.1(1)].

Most common orders issued under the Industrial Regulations

From April 1, 2016, to March 31, 2017 the most common orders issued by the Ministry of Labour under *Regulation 851* were:

- An in-running nip hazard or any part of a machine, device or thing that may endanger the safety of any worker shall be equipped with and guarded by a guard or other device that prevents access to the pinch point [section 25].
- Where a machine or prime mover or transmission equipment has an exposed moving part that may endanger the safety of any worker, the machine or prime mover or transmission equipment shall be equipped with and guarded by a guard or other device that prevents access to the moving part [section 24].

Industrial Regulations identified by section

Inspectors may issue orders in the fishing sector under the following sections of the [Regulation for Industrial Establishments](#) where appropriate.

- Section 11 – safe work surfaces
- Sections 13 and 14 – guardrails
- Sections 22 and 23 – flammable liquids
- Sections 24, 25, 26, 28 and 32 – guarding of equipment
- Section 34 – conveyor guarding
- Section 45 – material handling and storage
- Section 49 – compressed gas cylinders
- Clause 51(1)(a) – examination of lifting device
- Clause 51(1)(b) – maximum rated load plainly marked on lifting device
- Section 73 – portable ladder
- Section 76 – machine lockout
- Section 79 – personal protective equipment instruction

Applicable regulations

- Critical Injury – Defined [Regulation 834](#)
- Confined Spaces [O. Reg. 632/05](#)
- Control of Exposure to Biological or Chemical Agents [Regulation 833](#)
- Designated Substances [O. Reg. 490/09](#)
- Noise Regulation [O. Reg. 381/15](#)
- Occupational Health and Safety Awareness and Training [O. Reg. 297/13](#)
- Regulation for Industrial Establishments [Regulation 851](#)
- Workplace Hazardous Materials Information System (WHMIS) [Regulation 860](#)

Construction

Employers should be aware that in situations where construction work is undertaken, the Construction Projects Regulation ([O. Reg. 213/91](#)) may apply.

Construction work can be described as new work, additions, alterations or maintenance and repairs. The *Occupational health and safety Act* defines “construction” as including “erection, alteration, repair, dismantling, demolition, structural maintenance, painting, land clearing, earth moving, grading, excavating, trenching, digging, boring, drilling, blasting, or concreting, the installation of any machinery or plant, and any work or undertaking in connection with a project but does not include any work or undertaking underground in a mine.”

General resources

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[By the numbers: WSIB statistical report](#)

To review [Workplace safety and insurance board](#) (WSIB) injury experience data.

Food, beverage and tobacco

Sector summary

This sector includes workplaces that produce and/or manufacture food products, beverages, distillery products, brewery products, wine products and tobacco products. It also includes slaughter houses and meat, fish and poultry processing plants.

Key hazards

The following list represents hazards to which workers are commonly exposed in the food, beverage and tobacco sector:

- activities that may lead to musculoskeletal disorders (MSDs)
- slips, trips and falls
- machine (and powered equipment) hazards such as improper lock-out and unguarded equipment
- material handling hazards (such as workers being struck by objects, caught or crushed between objects)
- exposures (such as chemicals and environmental conditions)
- noise
- confined spaces.

In general, hazards that are not covered by a regulation and hazards in workplaces not covered by a sector-specific regulation are addressed through the application of the “general duty” clause 25(2)(h) of the [Occupational health and safety Act](#) (OHSA).

Workplace parties are to refer to the narrative portion of the field visit report, if they have received one, for further information or contact their [health and safety association](#) for guidance.

In addition to any other hazards which may be present in a workplace, all employers covered by the OHSA must comply with the requirements for workplace violence and harassment. The act sets out requirements for workplace violence and harassment in sections 32.0.1 to 32.0.8. Further information regarding the requirements related to workplace violence can be found in the Ministry of Labour (MOL) guide [Workplace violence and harassment: Understanding the law](#).

Additional information, including more information about new workplace harassment provisions, can be found on the MOL topic webpages for [Workplace Violence and Workplace Harassment](#). Employers may wish to consider the use of the ministry's [Code of Practice to Address Workplace Harassment](#) under the *Occupational health and safety Act*.

Musculoskeletal disorders (MSDs)

Workplace pains and strains can be serious and disabling for workers, causing pain and suffering ranging from discomfort to severe disability.

MSD is not a medical diagnosis; it is an umbrella term for a group of injuries. Some of these injuries include: back pain, muscle strain, tendonitis, carpal tunnel syndrome (CTS), rotator cuff syndrome, tennis elbow and shoulder pain.

- Identify and assess job-related MSD risk factors (i.e. identify tasks and activities involving manual material handling, use of ladders, static or repetitive movements etc.).
- Review training on job-specific MSD risk factors.
- Assess controls to reduce worker exposure to MSDs.
- Contact your health and safety association for guidance in assessments and prevention of MSDs.

Slips, trips and falls

Slips, trips and falls hazards include hazards that result in workers falling onto the same surface or falling from a height.

Injuries to workers can include fractures, lacerations and loss of consciousness. In extreme circumstances injuries caused from a fall can lead to permanent disability or death.

The Regulation for Industrial Establishments ([Regulation 851](#)) applies to industrial establishments (such as an office building, factory, arena, shop or office or any land, buildings and structures pertaining thereto) and sets out a number of requirements for worker protection against slips, trips and falls, including but not limited to sections 11, 13, 14, 15, 73 and 85.

- Floors and other surfaces used by workers must be free of obstructions, hazards, accumulations of ice and snow and not have a slippery surface. [section 11].
- Review requirements for guardrails to protect from falls [sections 13 and 14].
- Review fall protection equipment required when working from heights [section 85].
- Ensure that training is provided to a worker on the use of protective clothing and equipment i.e. fall arrest equipment) [section 79].
- In areas requiring ladder use, review compliance with section 73.
- Employers must provide information, instruction and supervision to protect workers from slips, trips and falls and acquaint workers with the hazards [OHSA clauses 25(2)(a) and 25(2)(d)].

Machine hazards

A Pre-start health and safety review may be required (as per section 7 of *Regulation 851*) if new equipment (or modifications to equipment) are installed that interface with certain electrical safeguarding devices. Please see the section “Pre-start health and safety review” found later in this document for more information.

Machine or transmission start-up (improper lockout)

Injuries experienced by accidental machine start-up can include lacerations, crushing and amputations. In some circumstances these injuries can cause permanent disability or death.

The Regulation for Industrial Establishments ([*Regulation 851*](#)) sets out requirements for worker protection against machine start-up in sections 75 and 76.

- Review repair/maintenance of machinery [section 75].
- Ensure requirement/compliance with lockout procedures [sections 75 and 76].
- Ensure that instruction and information is provided to a worker on the hazard and the requirements to isolate and lockout hazardous energy [OHS clauses 25(2)(a) and 25(2)(d)].

Unguarded equipment

Injuries to workers can include lacerations, amputations, crush by entanglement and loss of consciousness. Serious injuries can lead to permanent disability or death.

Hazards due to unguarded equipment include worker exposure to pinch points, moving (rotating) equipment and in-running nip hazards. Equipment that has exposed moving parts such as cutting equipment, conveyors, augers and exposed drive-motor assemblies used to power compressors and/or ventilation fans may endanger a worker. *Regulation 851* sets out requirements for guarding of equipment in sections 24, 25, 26, 28, 31 and 32.

- Ensure that the requirements for the guarding of prime movers or transmission equipment are followed [section 24].
- Ensure that pinch points are guarded [section 25].

Material handling hazards: struck by objects, caught between or crushed by objects

Injuries associated with material handling can include workers being struck by objects, caught between objects and/or crushed by mechanical compression. Manual material handling may also lead to MSDs.

Regulation 851 sets out requirements for material handling in sections 45, 46, 47, 48, 49 and 50. Section 51 contains requirements regarding mechanical lifting devices.

- Review operations/processes involving the movement of raw material and product from receiving area to production line and from production line to shipping area [section 45].
- Review operations/processes involving assembly line or similar style of raw material or product movement [clause 45(a)].
- Review warehousing/storage operations [clause 45(b)].
- Ensure that mechanical lifting devices are maintained in good condition, are operated by a competent person and are capable of handling loads [section 51].

Exposures

Chemical exposures

Workers can be exposed to chemical hazards by a variety of different routes such as causing chemical burns to skin, irritation to eyes and airways and by absorption or injection into the body.

- Review the use of chemicals used in the workplace such as common cleaners and other chemicals used in the workplace.
- Ensure that appropriate skin protection is provided.
- Ensure that appropriate eye protection is provided to workers.
- Ensure that appropriate emergency eyewash equipment is provided.
- Ensure that appropriate emergency shower facilities are provided where necessary.
- Ensure that workers are trained about precautions to take, use of protective equipment and emergency procedures.
- Ensure that the requirements outlined in the Workplace Hazardous Materials Information System (WHMIS) ([Regulation 860](#)) and the requirements to monitor and control exposure limits as identified in the Control of Exposure to Biological or Chemical Agents ([Regulation 833](#)) are followed.

General workplace environment

Workplace hazards related to the general workplace environment may include exposure to fumes and other contaminants related to poor or inadequate ventilation. Exposure to cold or heat may also be a hazard to worker health and safety.

- Ensure workplace ventilation is adequate [*Regulation 851*, sections 127 and 128].
- Ensure that a workplace is adequately heated where appropriate [section 129].
- Review sources of heat or excessive temperatures in the workplace and ensure that adequate controls are in place to protect workers.

Noise

Injuries to workers can include varying degrees of noise-induced hearing loss.

The Noise Regulation [O. Reg. 381/15](#) sets out workplace requirements regarding noise.

- Review the engineering controls and administrative (work practices) controls in place to reduce noise levels and exposures (mufflers on air exhausts, mechanical damping, vibration isolators, enclosures, limiting worker's exposure time) [subsection 2(2)].
- Review the availability and use of hearing protection [subsection 2(6)].
- Review the type of hearing protection provided [subsection 4(1)].
- Review placement of warning signs at approaches to noisy areas [subsection 2(7)].
- Review the training provided to workers [section 3].
- Personal protective equipment is to be used only as a last resort. Engineering controls and work practices must be used where practicable [subsection 2(5)].

Confined space

A “confined space” means a fully or partially enclosed space that is not both designed and constructed for continuous human occupancy, and in which atmospheric hazards may occur because of its construction, location or contents or because of work that is done in it.

Injuries to workers can include loss of consciousness and collateral injuries sustained as a result of loss of consciousness.

In some circumstances such as oxygen depletion, toxic substance inhalation or explosive atmosphere, injuries to workers can lead to permanent disability or death.

The Regulation for Confined Spaces ([O. Reg. 632/05](#)) sets out workplace requirements regarding confined spaces.

- Review work locations that meet the definition of “confined space.”
- Ensure compliance with the requirement to have a program in place for confined spaces [section 5].
- Ensure compliance with the requirement to have adequate assessments of confined spaces carried out [section 6].
- Ensure compliance with requirement to have an adequate plan developed and implemented for confined space entry [section 7].
- Review compliance with requirement for worker training [section 9].

Trends

Table 1: Fatalities and critical injuries in food, beverage, and tobacco sector by fiscal year

Events	2012-13	2013-14	2014-15	2015-16	2016-17
Fatalities	0	1	0	1	4
Critical injuries	36	34	34	39	36

- Only critical injury events reported to the ministry are included here.
- These represent data that were reported to the ministry and may not represent what actually occurred at the workplace.
- The critical injury numbers represent critical injuries reported to the ministry and not necessarily critical injuries as defined by the [Occupational health and safety Act](#).
- Non-workers who are **critically injured** may also be included in the ministry’s data.
- The Ministry of Labour tracks and reports **fatalities** at workplaces covered by the OHSA. This excludes death from natural causes, death of non-workers at a workplace, suicides, death as a result of a criminal act or traffic accident (unless the OHSA is also implicated) and death from occupational exposures that occurred many years ago.
- Data are subject to change because of inspectors’ updates to the database.

Table 2: Events and activities in food, beverage, and tobacco sector by fiscal year

Events and activities	2012-13	2013-14	2014-15	2015-16	2016-17
Field visits	2,221	2,110	1,929	2,301	2,171
Orders	4,075	3,687	3,565	4,331	3,507
Complaints	365	388	412	465	578
Work refusals	7	5	6	4	7

Most common orders issued under the OHSA

From April 1, 2016 to March 31, 2017 the most common orders issued by the Ministry of Labour under the OHSA were:

- An employer shall ensure that, the equipment, materials and protective devices provided by the employer are maintained in good condition [OHSA clause 25(1)(b)].
- An employer shall prepare and review at least annually a written occupational health and safety policy and develop and maintain a program to implement that policy [clause 25(2)(j)].
- An employer shall post, in the workplace, a copy of this act and any explanatory material prepared by the ministry, both in English and the majority language of the workplace, outlining the rights, responsibilities and duties of workers [clause 25(2)(i)].
- At a project or other workplace where no committee is required under section 9 and where the number of workers regularly exceeds five, the constructor or employer shall cause the workers to select at least one health and safety representative from among the workers at the workplace who do not exercise managerial functions [subsection 8(1)].
- Orders issued to an employer related to workplace violence and harassment provisions [sections 32.0.1 through 32.0.8].

Most common orders issued under the Industrial Regulations

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under *Regulation 851* were:

- Where a machine or prime mover or transmission equipment has an exposed moving part that may endanger the safety of any worker, the machine or prime mover or transmission equipment shall be equipped with and guarded by a guard or other device that prevents access to the moving part [section 24].
- An in-running nip hazard or any part of a machine, device or thing that may endanger the safety of any worker shall be equipped with and guarded by a guard or other device that prevents access to the pinch point [section 25].
- A floor or other surface used by any worker shall be kept free of obstructions, hazards, and accumulations of refuse, snow or ice; and not have any finish or protective material used on it that is likely to make the surface slippery [section 11].
- Where a worker is exposed to a potential hazard of injury to the eye due to contact with a biological or chemical substance, an eyewash fountain shall be provided [section 124].
- A lifting device shall be so constructed, of such strength and be equipped with suitable ropes, chains, slings and other fittings so as to adequately ensure the safety of all workers be thoroughly examined by a competent person to determine its capability of handling the maximum load as rated, prior to being used for the first time, and thereafter as often as necessary but not less frequently than recommended by the manufacturer and in any case, at least once a year, and a permanent record shall be kept, signed by the competent person doing the examination [section 51].

Industrial Regulations identified by section

Inspectors may issue orders in the food, beverage and tobacco sector under the following sections of the [Regulation for Industrial Establishments](#) where appropriate.

- Section 7 – pre-start health and safety review requirement
- Section 11 – safe work surfaces
- Sections 13 and 14 – guardrails
- Sections 24, 25, 26, 28 and 32 – guarding of equipment
- Section 34 – conveyor guarding

- Section 45 – material handling and storage
- Clause 51(1)(a) – examination of lifting device
- Clause 51(1)(b) – maximum rated load plainly marked on lifting device
- Section 73 – portable ladder
- Section 76 – machine lockout
- Section 79 – personal protective equipment instruction
- Section 80 – head protection
- Section 81 – eye protection
- Section 82 – foot protection

Pre-start health and safety review

A pre-start review (PSR) may be required by section 7 of [Regulation 851](#). Section 7 applies to a factory as defined by the OHSA and is intended to ensure that hazards are removed or controlled before an apparatus or process is started up. If required, the PSR must be completed prior to the complete installation (in-service and operating) of any apparatus, structure or protective element.

Information about pre-start reviews can be found in the Ministry of Labour [Guidelines for Pre-Start Health and Safety Reviews: How to Apply Section 7 of the Industrial Establishments Regulation](#).

For further information contact your health and safety association or the Professional Engineers of Ontario (PEO) for guidance in conducting a PSR or contact a professional engineer or engineering company that performs PSRs.

Applicable regulations

- Critical Injury – Defined [Regulation 834](#)
- Confined Spaces [O. Reg. 632/05](#)
- Control of Exposure to Biological or Chemical Agents [Regulation 833](#)
- Designated Substances [O. Reg. 490/09](#)
- Designated Substance – Asbestos on Construction Projects and in Building Repair Operations Regulation, [O. Reg. 278/05](#)
- Noise Regulation [O. Reg. 381/15](#)
- Occupational Health and Safety Awareness and Training [O. Reg. 297/13](#)
- Regulation for Industrial Establishments [Regulation 851](#)
- Workplace Hazardous Materials Information System (WHMIS) [Regulation 860](#)

Construction

Employers should be aware that in situations where construction work is undertaken, the Construction Projects Regulation ([O. Reg. 213/91](#)) may apply.

Construction work can be described as new work, additions, alterations, or maintenance and repairs. The *Occupational health and safety Act* defines “construction” as including “erection, alteration, repair, dismantling, demolition, structural maintenance, painting, land clearing, earth moving, grading, excavating, trenching, digging, boring, drilling, blasting, or concreting, the installation of any machinery or plant, and any work or undertaking in connection with a project but does not include any work or undertaking underground in a mine.”

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Government

Sector summary

This sector includes municipal and provincial public administration and municipal and provincial entities (agencies, boards, and commissions), courts of law, correctional institutions and emergency medical services. Fire and Police services are stand-alone sectors.

Key hazards

The following list represents hazards to which workers are commonly exposed in the government sector:

- slips, trips and falls
- activities that may lead to musculoskeletal disorders (MSDs)
- workplace violence and harassment
- material handling hazards (such as workers being struck by objects, caught or crushed between objects).
- noise
- exposures (to infectious agents and chemical hazards).

In general, hazards that are not covered by a regulation and hazards in workplaces not covered by a sector-specific regulation are addressed through the application of the “general duty” clause, 25(2)(h) of the [Occupational health and safety Act](#) (OHSA).

Workplace parties should refer to the narrative portion of the field visit report, if they have received one, for further information or contact their [health and safety association](#) for guidance.

Slips, trips and falls

Slips, trips and falls hazards include hazards that result in workers falling onto the same surface or falling from a height.

Injuries to workers can include fractures, lacerations and loss of consciousness. In extreme circumstances injuries caused from a fall can lead to permanent disability or death.

The Regulation for Industrial Establishments ([Regulation 851](#)) applies to industrial establishments (such as an office building, factory, arena, shop or office or any land, buildings and structures pertaining thereto) and sets out a number of requirements for worker protection against slips, trips, and falls, including but not limited to sections 11, 13, 14, 15, 73 and 85.

- Floors and other surfaces used by workers must be free of obstructions, hazards, accumulations of ice and snow and not have a slippery surface [section 11].
- Review requirements for guardrails to protect from falls [section 13 and 14].
- Review fall protection equipment required when working from heights [section 85].
- Ensure that training is provided to a worker on the use of protective clothing and equipment (i.e. fall arrest equipment [section 79].
- In areas requiring ladder use, review compliance with section 73.
- Employers must provide information, instruction and supervision to protect workers from slips, trips and falls and acquaint workers with the hazards [OHSA clauses 25(2)(a) and 25(2)(d)].

Musculoskeletal disorders (MSDs)

Workplace pains and strains can be serious and disabling for workers, causing pain and suffering ranging from discomfort to severe disability.

MSD is not a medical diagnosis; it is an umbrella term for a group of injuries. Some of these injuries include: back pain, muscle strain, tendonitis, carpal tunnel syndrome (CTS), rotator cuff syndrome, tennis elbow and shoulder pain.

- Identify and assess job-related MSD risk factors (i.e. identify tasks and activities involving manual material handling, use of ladders, static or repetitive movements etc.).
- Review training on job-specific MSD risk factors.
- Assess controls to reduce worker exposure to MSDs.
- Contact your health and safety association for guidance in assessments and prevention of MSDs.

Workplace violence and workplace harassment

The *Occupational health and safety Act* (OHSA) sets out requirements for workplace violence and harassment in sections 32.0.1 to 32.0.8

- Ensure that appropriate workplace violence and harassment policies have been established in accordance with the OHSA [section 32.0.1].
- Conduct a workplace violence risk assessment or re-assessment [section 32.0.3].
- Ensure that workplace violence and workplace harassment programs are developed and maintained to implement the policies [sections 32.0.2 and 32.0.6].
- Ensure that workers have received information and instruction on the workplace violence and harassment policy and program [sections 32.0.5 and 32.0.7].
- Subject to some conditions, the employer must provide information to a worker related to the risk of workplace violence from a person with a history of violent behaviour [subsection 32.0.5(3)].
- Employers may wish to consider the use of the ministry's [Code of Practice to Address Workplace Harassment](#) under the *Occupational health and safety Act*.

Further information regarding the requirements related to workplace violence can be found in the Ministry of Labour (MOL) guide [Workplace violence and harassment: Understanding the law](#).

Additional information, including more information about new workplace harassment provisions, can be found on the Ministry of Labour (MOL) topic webpages for [Workplace Violence and Workplace Harassment](#).

Material handling hazards: struck by objects, caught between or crushed by objects

Injuries associated with material handling can include workers being struck by objects, caught between objects and/or crushed by mechanical compression. Manual material handling may also lead to MSDs.

Regulation 851 applies to many workplaces in the sector and sets out requirements for material handling in sections, 45, 46, 47, 48, 49 and 50. Section 51 contains requirements regarding mechanical lifting devices.

- Review warehousing/storage operations [clause 45(b)].
- Ensure that mechanical lifting devices are maintained in good condition, are operated by a competent person and are capable of handling loads [section 51].

Noise

Injuries to workers can include varying degrees of noise-induced hearing loss.

The Noise Regulation [O. Reg. 381/15](#) sets out workplace requirements regarding noise.

- Review the engineering controls and administrative (work practices) controls in place to reduce noise levels and exposures (mufflers on air exhausts, mechanical damping, vibration isolators, enclosures, limiting worker's exposure time) [subsection 2(2)].
- Review the availability and use of hearing protection [subsection 2(6)].
- Review the type of hearing protection provided [subsection 4(1)].
- Review placement of warning signs at approaches to noisy areas [subsection 2(7)].
- Review the training provided to workers [section 3].
- Personal protective equipment is to be used only as a last resort. Engineering controls and work practices must be used where practicable [subsection 2(5)].

Exposures

Infectious agents

Infectious agents may be present in workplaces that can be a hazard to workers. Workers may encounter a variety of infectious agents from specific tasks that are performed, (e.g. during cleaning or maintenance activities) or workers may encounter members of the public who are sick (e.g. norovirus, common cold, influenza) or infected with a communicable disease (such as a blood borne pathogen).

Where there is a hazard of infection, employers must ensure that appropriate precautions are put into place.

- Ensure that workers are educated about routine infection control precautions appropriate for their work.
- Ensure that appropriate personal protective equipment is available as required.

Chemicals (and drugs)

Workers in emergency medical services may encounter a variety of chemicals (including drugs) in a variety of different scenarios such as accident scenes or in other locations where services are needed.

Employers must ensure that appropriate precautions are put into place.

- Ensure that workers are trained in hazard recognition.
- Ensure that appropriate personal protective equipment is available as required.
- Ensure that appropriate decontamination processes are put into place as needed.

Trends

Table 1: Fatalities and critical injuries in government by fiscal year

Events	2012-13	2013-14	2014-15	2015-16	2016-17
Fatalities	0	1	1	0	0
Critical injuries	31	39	53	36	52

- Only critical injury events reported to the ministry are included here.
- These represent data that were reported to the ministry and may not represent what actually occurred at the workplace.
- The critical injury numbers represent critical injuries reported to the ministry and not necessarily critical injuries as defined by the [Occupational health and safety Act](#).
- Non-workers who are **critically injured** may also be included in the ministry's data.
- The Ministry of Labour tracks and reports **fatalities** at workplaces covered by the OHSA. This excludes death from natural causes, death of non-workers at a workplace, suicides, death as a result of a criminal act or traffic accident (unless the OHSA is also implicated) and death from occupational exposures that occurred many years ago.
- Data are subject to change because of inspectors' updates to the database.

Table 2: Events and activities in government by fiscal year

Events and activities	2012-13	2013-14	2014-15	2015-16	2016-17
Field visits	925	1,001	941	1,074	981
Orders	700	946	661	693	470
Complaints	176	136	205	238	260
Work refusals	34	13	99	109	46

Most common orders issued under the OHSA

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under the OHSA were:

- An employer shall take every precaution reasonable in the circumstances for the protection of a worker [clause 25(2)(h)].
- An employer shall provide information, instruction and supervision to a worker to protect the health or safety of the worker [clause 25(2)(a)].
- An employer shall ensure that, the equipment, materials and protective devices provided by the employer are maintained in good condition [clause 25(1)(b)].
- An employer shall prepare and review at least annually a written occupational health and safety policy and develop and maintain a program to implement that policy [clause 25(2)(j)].

- Orders issued to an employer related to workplace violence and harassment provisions [sections 32.0.1 through 32.0.8].

Most common orders issued under the Industrial Regulations

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under *Regulation 851* were:

- A floor or other surface used by any worker shall be kept free of obstructions, hazards, and accumulations of refuse, snow or ice; and not have any finish or protective material used on it that is likely to make the surface slippery [section 11].
- Materials, articles or things shall be transported, placed or stored so that the material, articles or things will not tip collapse or fall and can be removed in a manner that will not endanger the safety of any worker [subsection 45(b)].
- An in-running nip hazard or any part of a machine, device or thing that may endanger the safety of any worker shall be equipped with and guarded by a guard or other device that prevents access to the pinch point [section 25].
- Where a worker is exposed to a potential hazard of injury to the eye due to contact with a biological or chemical substance, an eyewash fountain shall be provided [section 124].

Industrial Regulations identified by section

Inspectors may issue orders in the government sector under the following sections of the [Regulation for Industrial Establishments](#) where appropriate.

- Section 11 – safe work surfaces
- Sections 13 and 14 – guardrails
- Section 73 – portable ladder
- Section 79 – personal protective equipment instruction
- Section 85 – fall arrest
- Section 130 – training about biological, chemical or physical agents

Applicable regulations

In addition to the *Occupational health and safety Act*, there are a number of regulations made under the act which may apply depending on circumstances found at the workplace.

- Critical Injury – Defined [Regulation 834](#)
- Confined Spaces [O. Reg. 632/05](#)
- Control of Exposure to Biological or Chemical Agents [Regulation 833](#)
- Designated Substances [O. Reg. 490/09](#)
- Designated Substance – Asbestos on Construction Projects and in Building Repair Operations Regulation, [O. Reg. 278/05](#)
- Noise Regulation [O. Reg. 381/15](#)
- Occupational Health and Safety Awareness and Training [O. Reg. 297/13](#)
- Regulation for Industrial Establishments [Regulation 851](#)
- Workplace Hazardous Materials Information System (WHMIS) [Regulation 860](#)

Construction

Employers should be aware that in situations where construction work is undertaken, the Construction Projects Regulation ([O. Reg. 213/91](#)) may apply.

Construction work can be described as new work, additions, alterations, or maintenance and repairs. The *Occupational health and safety Act* defines “construction” as including “erection, alteration, repair, dismantling, demolition, structural maintenance, painting, land clearing, earth moving, grading, excavating, trenching, digging, boring, drilling, blasting, or concreting, the installation of any machinery or plant, and any work or undertaking in connection with a project but does not include any work or undertaking underground in a mine.”

General resources

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For information and Guides, Fact Sheets, Information Bulletins, Guidelines, Alerts, Engineering Data Sheets, Extracts, Reports, Consultations, Codes, and Standards.

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[Health and Safety Partners](#)

To learn about sector-assigned health and safety associations.

[By the numbers: WSIB statistical report](#)

To review [Workplace safety and insurance board](#) (WSIB) injury experience data.

Industrial services

Sector summary

This sector comprises individuals and workplaces that provide a service in support of industry rather than a product. By contrast, individuals employed in the industrial manufacturing sector might produce goods such as cars, clothing or toys. Some examples are elevator and escalator installation/maintenance, display and billboard advertising, power laundries, linen supply and custom welding and metal fabricating.

Key hazards

The following list represents hazards to which workers are commonly exposed in the industrial services sector:

- activities that may lead to musculoskeletal disorders (MSDs)
- slips, trips and falls
- material handling hazards (such as workers being struck by objects, caught or crushed between objects)
- machine (and powered equipment) hazards such as improper lock-out and unguarded equipment
- electrical contact: less than 600 volts
- noise
- confined space.

In general, hazards that are not covered by a regulation and hazards in workplaces not covered by a sector-specific regulation are addressed through the application of the “general duty” clause 25(2)(h) of the [*Occupational health and safety Act*](#) (OHSA).

Workplace parties should refer to the narrative portion of the field visit report, if they have received one, for further information or contact their [health and safety association](#) for guidance.

In addition to any other hazards which may be present in a workplace, all employers covered by the OHSA must comply with the requirements for workplace violence and harassment. The act sets out requirements for workplace violence and harassment in sections 32.0.1 to 32.0.8. Further information regarding the requirements related to workplace violence can be found in the Ministry of Labour (MOL) guide [Workplace violence and harassment: Understanding the law](#).

Additional information, including more information about new workplace harassment provisions, can be found on the MOL topic webpages for [Workplace Violence and Workplace Harassment](#). Employers may wish to consider the use of the ministry’s [Code of Practice to Address Workplace Harassment](#) under the *Occupational health and safety Act*.

Musculoskeletal disorders (MSDs)

Workplace pains and strains can be serious and disabling for workers, causing pain and suffering ranging from discomfort to severe disability.

MSD is not a medical diagnosis; it is an umbrella term for a group of injuries. Some of these injuries include: back pain, muscle strain, tendonitis, carpal tunnel syndrome (CTS), rotator cuff syndrome, tennis elbow and shoulder pain.

- Identify and assess job-related MSD risk factors (i.e. identify tasks and activities involving manual material handling, use of ladders, static or repetitive movements etc.).
- Review training on job-specific MSD risk factors.
- Assess controls to reduce worker exposure to MSDs.
- Contact your health and safety association for guidance in assessments and prevention of MSDs.

Slips, trips and falls

Slips, trips and falls hazards include hazards that result in workers falling onto the same surface or falling from a height.

Injuries to workers can include fractures, lacerations and loss of consciousness. In extreme circumstances injuries caused from a fall can lead to permanent disability or death.

The Regulation for Industrial Establishments ([Regulation 851](#)) applies to industrial establishments (such as an office building, factory, arena, shop or office or any land, buildings and structures pertaining thereto) and sets out a number of requirements for worker protection against slips, trips, and falls, including but not limited to sections 11, 13, 14, 15, 73 and 85.

- Floors and other surfaces used by workers must be free of obstructions, hazards, accumulations of ice and snow and not have a slippery surface [section 11].
- Review requirements for guardrails to protect from falls [section 13 and 14].
- Review fall protection equipment required when working from heights [section 85].
- Ensure that training is provided to a worker on the use of protective clothing and equipment (i.e. fall arrest equipment) [section 79].

- In areas requiring ladder use, review compliance with section 73.
- Employers must provide information, instruction and supervision to protect workers from slips, trips and falls and acquaint workers with the hazards [OHSA clauses 25(2)(a) and 25(2)(d)].

Material handling hazards: struck by objects, caught between or crushed by objects

Injuries associated with material handling can include workers being struck by objects, caught between objects and/or crushed by mechanical compression. Manual material handling may also lead to MSDs.

Regulation 851 sets out requirements for material handling in sections 45, 46, 47, 48, 49 and 50. Section 51 contains requirements regarding mechanical lifting devices.

- Review warehousing/storage operations [clause 45(b)].
- Ensure that mechanical lifting devices are maintained in good condition, are operated by a competent person and are capable of handling loads [section 51].

Machine hazards

A Pre-start health and safety review may be required (as per section 7 of *Regulation 851*) if new equipment (or modifications to equipment) are installed that interface with certain electrical safeguarding devices. Please see the section “Pre-start health and safety review” found later in this document for more information.

Machine or transmission start-up (improper lockout)

Injuries experienced by accidental machine start-up can include lacerations, crushing and amputations. In some circumstances these injuries can cause permanent disability or death.

The Regulation for Industrial Establishments ([*Regulation 851*](#)) sets out requirements for worker protection against machine start-up in sections 75 and 76.

- Review repair/maintenance of machinery [section 75].
- Ensure requirement/compliance with lockout procedures [sections 75 and 76].
- Ensure that instruction and information is provided to a worker on the hazard and the requirements to isolate and lockout hazardous energy [OHSA clauses 25(2)(a) and 25(2)(d)].

Unguarded equipment

Injuries to workers can include lacerations, amputations, crush by entanglement and loss of consciousness. Serious injuries can lead to permanent disability or death.

Hazards due to unguarded equipment include worker exposure to pinch points, moving (rotating) equipment and in-running nip hazards. Equipment that have exposed moving parts such as cutting equipment, conveyors, augers, equipment using power take-off (PTO), and exposed drive-motor assemblies used to power compressors and/or ventilation fans may endanger a worker. *Regulation 851* sets out requirements for guarding of equipment in sections 24, 25, 26, 28, 31 and 32.

- Ensure that the requirements for the guarding of prime movers, or transmission equipment are followed [section 24].
- Ensure that pinch points are guarded [section 25].

Electrical contact: less than 600 volts

Injuries to workers can include loss of consciousness, burns, lacerations and fractures as result of contact with the live electrical apparatus, or fall to the ground from the same level or from an elevated working height.

The lack of muscular self-control after electrical shock and the inability of workers to protect themselves or brace for the impact can contribute to serious head, neck and back injuries.

Severe incidents involving electrocution/electric shock can lead to permanent disability or death.

Regulation 851 sets out requirements for working with electrical equipment and around electrical installations in sections 40 to 40.2.

- Ensure that proper procedures are followed when performing electrical maintenance [sections 42-44.2].
- Ensure that proper lock-out procedures are followed [subsections 42(1) and 42(7)].
- Ensure that workers are provided information, instruction and supervision [OHSA clause 25(2)(a)].

Noise

Injuries to workers can include varying degrees of noise-induced hearing loss.

The Noise Regulation [*O. Reg. 381/15*](#) sets out workplace requirements regarding noise.

- Review the engineering controls and administrative (work practices) controls in place to reduce noise levels and exposures (mufflers on air exhausts, mechanical damping, vibration isolators, enclosures, limiting worker's exposure time) [subsection 2(2)].
- Review the availability and use of hearing protection [subsection 2(6)].
- Review the type of hearing protection provided [subsection 4(1)].
- Review placement of warning signs at approaches to noisy areas [subsection 2(7)].
- Review the training provided to workers [section 3].
- Personal protective equipment is to be used only as a last resort. Engineering controls and work practices must be used where practicable [subsection 2(5)].

Confined space

A "confined space" means a fully or partially enclosed space that is not both designed and constructed for continuous human occupancy, and in which atmospheric hazards may occur because of its construction, location or contents or because of work that is done in it.

Injuries to workers can include loss of consciousness and collateral injuries sustained as a result of loss of consciousness.

In some circumstances such as oxygen depletion, toxic substance inhalation or explosive atmosphere, injuries to workers can lead to permanent disability or death.

The Regulation for Confined Spaces ([*O. Reg. 632/05*](#)) sets out workplace requirements regarding confined spaces.

- Review work locations that meet the definition of "confined space."
- Ensure compliance with the requirement to have a program in place for confined spaces [section 5].
- Ensure compliance with the requirement to have adequate assessments of confined spaces carried out [section 6].

- Ensure compliance with requirement to have an adequate plan developed and implemented for confined space entry [section 7].
- Review compliance with requirement for worker training [section 9].

Trends

Table 1: Fatalities and critical injuries in industrial services by fiscal year

Events	2012-13	2013-14	2014-15	2015-16	2016-17
Fatalities	2	1	8	4	2
Critical injuries	20	27	22	36	43

- Only critical injury events reported to the ministry are included here.
- These represent data that were reported to the ministry and may not represent what actually occurred at the workplace.
- The critical injury numbers represent critical injuries reported to the ministry and not necessarily critical injuries as defined by the [Occupational health and safety Act](#).
- Non-workers who are **critically injured** may also be included in the ministry's data.
- The Ministry of Labour tracks and reports **fatalities** at workplaces covered by the OHSA. This excludes death from natural causes, death of non-workers at a workplace, suicides, death as a result of a criminal act or traffic accident (unless the OHSA is also implicated) and death from occupational exposures that occurred many years ago.
- Data are subject to change because of inspectors' updates to the database.

Table 2: Events and activities in industrial services by fiscal year

Events and activities	2012-13	2013-14	2014-15	2015-16	2016-17
Field visits	1,287	1,659	1,333	2,021	2,207
Orders	2,386	2,749	2,633	3,539	3,526
Complaints	241	269	279	401	531
Work refusals	1	3	3	0	5

Most common orders issued under the OHSA

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under the OHSA were:

- An employer shall post, in the workplace, a copy of this act and any explanatory material prepared by the ministry, both in English and the majority language of the workplace, outlining the rights, responsibilities and duties of workers [clause 25(2)(i)].
- An employer shall, take every precaution reasonable in the circumstances for the protection of a worker [clause 25(2)(h)].
- An employer shall ensure that, the equipment, materials and protective devices provided by the employer are maintained in good condition [clause 25(1)(b)].
- An employer shall provide information, instruction and supervision to a worker to protect the health or safety of the worker [clause 25(2)(a)].
- Orders issued to an employer related to workplace violence and harassment provisions [sections 32.0.1 through 32.0.8].

Most common orders issued under the Industrial Regulations

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under *Regulation 851* were:

- A lifting device shall, be thoroughly examined by a competent person to determine its capability of handling the maximum load as rated, prior to being used for the first time, and thereafter as often as necessary but not less frequently than recommended by the manufacturer and in any case, at least once a year, and a permanent record shall be kept, signed by the competent person doing the examination [clause 51(1)(b)].
- Where a worker is exposed to a potential hazard of injury to the eye due to contact with a biological or chemical substance, an eyewash fountain shall be provided [section 124].
- Where a machine or prime mover or transmission equipment has an exposed moving part that may endanger the safety of any worker, the machine or prime mover or transmission equipment shall be equipped with and guarded by a guard or other device that prevents access to the moving part [*Regulation 851* section 24].
- An in-running nip hazard or any part of a machine, device or thing that may endanger the safety of any worker shall be equipped with and guarded by a guard or other device that prevents access to the pinch point [section 25].
- A floor or other surface used by any worker shall be kept free of obstructions, hazards, and accumulations of refuse, snow or ice; and not have any finish or protective material used on it that is likely to make the surface slippery [section 11].

Industrial regulations identified by section

Inspectors may issue orders in the industrial services sector under the following sections of the [Regulation for Industrial Establishments](#) where appropriate.

- Section 7 – pre-start health and safety review requirement
- Section 11 – safe work surfaces
- Sections 13 and 14 – guardrails
- Sections 22 and 23 – flammable liquids
- Sections 24, 25, 26, 28 and 32 – guarding of equipment
- Section 34 – conveyor guarding
- Section 45 – material handling and storage
- Section 49 – compressed gas cylinders
- Clause 51(1)(a) – examination of lifting device
- Clause 51(1)(b) – maximum rated load plainly marked on lifting device
- Section 73 – portable ladder
- Section 76 – machine lockout
- Section 79 – personal protective equipment instruction
- Section 80 – head protection
- Section 81 – eye protection
- Section 82 – foot protection
- Section 84 – protection from noxious gas, liquid fume or dust
- Section 85 – fall arrest
- Section 124 – eyewash
- Section 125 – deluge shower

Pre-start health and safety review

A pre-start review (PSR) may be required by section 7 of [Regulation 851](#). Section 7 applies to a factory as defined by the OHSA and is intended to ensure that hazards are removed or controlled before an apparatus or process is started up. If required, the PSR must be completed prior to the complete installation (in-service and operating) of any apparatus, structure or protective element.

Information about pre-start reviews can be found in the Ministry of Labour [Guidelines for Pre-Start Health and Safety Reviews: How to Apply Section 7 of the Industrial Establishments Regulation](#).

For further information contact your health and safety association or the Professional Engineers of Ontario (PEO) for guidance in conducting a PSR or contact a professional engineer or engineering company that performs PSRs.

Applicable regulations

- Critical Injury – Defined [Regulation 834](#)
- Confined Spaces [O. Reg. 632/05](#)
- Control of Exposure to Biological or Chemical Agents [Regulation 833](#)
- Designated Substances [O. Reg. 490/09](#)
- Designated Substance – Asbestos on Construction Projects and in Building Repair Operations Regulation [O. Reg. 278/05](#)
- Noise Regulation [O. Reg. 381/15](#)
- Occupational Health and Safety Awareness and Training [O. Reg. 297/13](#)
- Regulation for Industrial Establishments [Regulation 851](#)
- Roll-Over Protective Structures [Regulation 856](#)
- Workplace Hazardous Materials Information System (WHMIS) [Regulation 860](#)

Construction

Employers should be aware that in situations where construction work is undertaken, the Construction Projects Regulation ([O. Reg. 213/91](#)) may apply.

Construction work can be described as new work, additions, alterations, or maintenance and repairs. The *Occupational health and safety Act* defines “construction” as including “erection, alteration, repair, dismantling, demolition, structural maintenance, painting, land clearing, earth moving, grading, excavating, trenching, digging, boring, drilling, blasting, or concreting, the installation of any machinery or plant, and any work or undertaking in connection with a project but does not include any work or undertaking underground in a mine.”

General resources

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To learn about sector-assigned health and safety associations.

[By the numbers: WSIB statistical report](#)

To review [Workplace safety and insurance board](#) (WSIB) injury experience data.

Live performance

Sector summary

The live performance sector involves the production of staged entertainment by theatre companies, opera companies and ballet companies. It also involves indoor concerts. This sector has an advisory committee that develops guidance to address workplace health and safety.

Key hazards

The following list represents hazards to which workers are commonly exposed in the live performance sector:

- activities that may lead to musculoskeletal disorders (MSDs): stunts and moving equipment
- slips, trips and falls
- material handling: struck by objects, caught between objects, and compression
- cold/heat stress
- fire: pyrotechnics and other special effects
- noise.

In general, hazards that are not covered by a regulation and hazards in workplaces not covered by a sector-specific regulation are addressed through the application of the “general duty” clause 25(2)(h) of the [Occupational health and safety Act](#) (OHSA).

Workplace parties should refer to the narrative portion of the field visit report, if they have received one, for further information or contact their [health and safety association](#) for guidance.

In addition to any other hazards which may be present in a workplace, all employers covered by the OHSA must comply with the requirements for workplace violence and harassment. The act sets out requirements for workplace violence and harassment in sections 32.0.1 to 32.0.8. Further information regarding the requirements related to workplace violence can be found in the Ministry of Labour (MOL) guide [Workplace violence and harassment: Understanding the law](#).

Additional information, including more information about new workplace harassment provisions, can be found on the Ministry of Labour (MOL) topic webpages for [Workplace Violence and Workplace Harassment](#). Employers may wish to consider the use of the ministry’s [Code of Practice to Address Workplace Harassment](#) under the *Occupational health and safety Act*.

Musculoskeletal disorders (MSDs)

Workplace pains and strains can be serious and disabling for workers, causing pain and suffering ranging from discomfort to severe disability.

MSD is not a medical diagnosis; it is an umbrella term for a group of injuries. Some of these injuries include: back pain, muscle strain, tendonitis, carpal tunnel syndrome (CTS), rotator cuff syndrome, tennis elbow and shoulder pain.

- Identify and assess job-related MSD risk factors (i.e. identify tasks and activities involving manual material handling, use of ladders, static or repetitive movements etc.).
- Review training on job-specific MSD risk factors.
- Assess controls to reduce worker exposure to MSDs.
- Contact your health and safety association for guidance in assessments and prevention of MSDs.

Slips, trips and falls

Slips, trips and falls hazards include hazards that result in workers falling onto the same surface or falling from a height.

Injuries to workers can include fractures, lacerations and loss of consciousness. In extreme circumstances injuries caused from a fall can lead to permanent disability or death.

The Regulation for Industrial Establishments ([*Regulation 851*](#)) applies to industrial establishments (such as an office building, factory, arena, shop or office or any land, buildings and structures pertaining thereto) and sets out a number of requirements for worker protection against slips, trips and falls, including but not limited to sections 11, 13, 14, 15, 73 and 85.

- Floors and other surfaces used by workers must be free of obstructions, hazards, accumulations of ice and snow and not have a slippery surface [section 11].
- Review requirements for guardrails to protect from falls [section 13 and 14].
- Review fall protection equipment required when working from heights [section 85].
- Ensure that training is provided to a worker on the use of protective clothing and equipment (i.e. fall arrest equipment [section 79].
- In areas requiring ladder use, review compliance with section 73.
- Employers must provide information, instruction and supervision to protect workers from slips, trips and falls and acquaint workers with the hazards [OHS Act clauses 25(2)(a) and 25(2)(d)].

Material handling hazards: struck by objects, caught between or crushed by objects

Injuries associated with material handling can include workers being struck by objects, caught between objects and/or crushed by mechanical compression. Manual material handling may also lead to MSDs.

Regulation 851 sets out requirements for material handling in sections 45, 46, 47, 48, 49 and 50. Section 51 contains requirements regarding mechanical lifting devices.

- Review operations/processes involving the movement of equipment and material from receiving areas to locations where it is needed or used.
- Ensure that equipment and materials are stored safely and that workers can move equipment and materials safely when needed [section 45].
- Ensure that mechanical lifting devices are maintained in good condition, are operated by a competent person and are capable of handling loads [section 51].

Cold/heat stress

Exposure to cold or heat may be a hazard to worker health and safety.

- Ensure that a workplace is adequately heated where appropriate.
- Review sources of heat or excessive temperatures in the workplace and ensure that adequate controls are in place to protect workers.

Fire: pyrotechnics and other special effects

Injuries from fire and/or explosion can include burns, lacerations, fractures and loss of consciousness.

In extreme circumstances, injuries can lead to permanent disability (amputation, loss of vision/hearing) and death (severe burns and explosive force).

- Review the use of pyrotechnics or similar props.
- Ensure that appropriate personal protective equipment (PPE) is provided to workers to protect them from fire hazards.
- Ensure that workers are trained on the care, use and limitations of the PPE provided [OHSA clauses 25(2)(a) and 25(2)(d)].
- Ensure that workers and those that are supervising workers receiving proper instruction, training and supervision with respect to the use of pyrotechnics and other special effects equipment [OHSA clauses 25(2)(a) and 25(2)(d)].

Noise

Injuries to workers can include varying degrees of noise induced hearing loss.

O. Reg. 381/15 sets out workplace requirements regarding noise.

- Review the engineering controls and work practices in place to reduce noise levels and exposures (mufflers on air exhausts, mechanical dampening treatment, vibration isolators, enclosures, limiting worker's exposure time) [subsection 2(2)].
- Review the availability and use of hearing protection [subsection 2(6)].
- Review the type of hearing protection provided [subsection 4(1)].
- Review placement of warning signs at approaches to noisy areas [subsection 2(7)].
- Review the training provided to workers [section 3].
- Personal protective equipment is to be used only as a last resort. Engineering controls and work practices must be used where practicable [subsection 2(5)].
- For further information regarding health and safety in the live performance sector, workplace parties may refer to the Ministry of Labour webpages related to the [Performance Industry](#).

Trends

Table 1: Fatalities and critical injuries in live performance by fiscal year

Events	2012-13	2013-14	2014-15	2015-16	2016-17
Fatalities	1	0	0	0	0
Critical injuries	1	2	2	0	4

- Only critical injury events reported to the ministry are included here.
- These represent data that were reported to the ministry and may not represent what actually occurred at the workplace.
- The critical injury numbers represent critical injuries reported to the ministry and not necessarily critical injuries as defined by the [Occupational health and safety Act](#).
- Non-workers who are **critically injured** may also be included in the ministry's data.

- The Ministry of Labour tracks and reports **fatalities** at workplaces covered by the OHSA. This excludes death from natural causes, death of non-workers at a workplace, suicides, death as a result of a criminal act or traffic accident (unless the OHSA is also implicated) and death from occupational exposures that occurred many years ago.
- Data are subject to change because of inspectors' updates to the database.

Table 2: Events and activities in live performance by fiscal year

Events and activities	2012-13	2013-14	2014-15	2015-16	2016-17
Field visits	60	46	39	40	37
Orders	110	72	53	38	48
Complaints	12	5	12	12	16
Work refusals	0	0	0	0	1

Most common orders issued under the OHSA

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under the OHSA were:

- An employer shall, take every precaution reasonable in the circumstances for the protection of a worker [clause 25(2)(h)].
- An employer shall provide information, instruction and supervision to a worker to protect the health or safety of the worker [clause 25(2)(a)].
- An employer shall prepare a policy with respect to workplace violence, prepare a policy with respect to workplace harassment, and review the policies as often as is necessary, but at least annually [subsection 32.0.1(1)].
- An employer shall prepare and review at least annually a written occupational health and safety policy and develop and maintain a program to implement that policy [clause 25(2)(j)].
- An employer shall post, in the workplace, a copy of this act and any explanatory material prepared by the ministry, both in English and the majority language of the workplace, outlining the rights, responsibilities and duties of workers [clause 25(2)(i)].

Most common orders issued under the Industrial Regulations

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under *Regulation 851* were:

- Where a machine or prime mover or transmission equipment has an exposed moving part that may endanger the safety of any worker, the machine or prime mover or transmission equipment shall be equipped with and guarded by a guard or other device that prevents access to the moving part [section 24].
- A floor or other surface used by any worker shall be kept free of obstructions, hazards, and accumulations of refuse, snow or ice, and not have any finish or protective material used on it that is likely to make the surface slippery [section 11].

Industrial Regulations identified by section

Inspectors may issue orders in the live performance sector under the following sections of the [Regulation for Industrial Establishments](#) where appropriate.

- Section 11 – safe work surfaces
- Sections 13 and 14 – guardrails
- Section 45 – material handling and storage
- Section 49 – compressed gas cylinders
- Clause 51(1)(a) – examination of lifting device
- Clause 51(1)(b) – maximum rated load plainly marked on lifting device
- Section 73 – portable ladder
- Section 79 – personal protective equipment instruction
- Section 85 – fall arrest

Applicable legislation

- *Child Performers Act* [Protecting Child Performers Act, 2015](#)
- Critical Injury – Defined [Regulation 834](#)
- Control of Exposure to Biological or Chemical Agents [Regulation 833](#)
- Designated Substances [O. Reg. 490/09](#)
- Noise Regulation [O. Reg. 381/15](#)
- Occupational Health and Safety Awareness and Training [O. Reg. 297/13](#)
- Regulation for Industrial Establishments [Regulation 851](#)
- Workplace Hazardous Materials Information System (WHMIS) [Regulation 860](#)

Construction

Employers should be aware that in situations where construction work is undertaken, the Construction Projects Regulation ([O. Reg. 213/91](#)) may apply.

Construction work can be described as new work, additions, alterations or maintenance and repairs. The *Occupational health and safety Act* defines “construction” as including “erection, alteration, repair, dismantling, demolition, structural maintenance, painting, land clearing, earth moving, grading, excavating, trenching, digging, boring, drilling, blasting, or concreting, the installation of any machinery or plant, and any work or undertaking in connection with a project but does not include any work or undertaking underground in a mine.”

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Logging and sawmills

Sector summary

This sector is made up of establishments engaged in cutting timber and pulpwood; mills engaged in producing lumber and wood basic materials; and establishments engaged in manufacturing finished articles made entirely or mainly of wood or related materials.

Key hazards

The following list represents hazards to which workers are commonly exposed in the logging and sawmill sector:

- activities that may lead to musculoskeletal disorders (MSDs)
- machine (and powered equipment) hazards such as improper lock-out and unguarded equipment
- material handling hazards (such as workers being struck by objects, caught or crushed between objects)
- slips, trips and falls
- noise
- transportation equipment and vehicle traffic
- fire and explosion: dust collection
- hang-ups: tree and branch.

In general, hazards that are not covered by a regulation and hazards in workplaces not covered by a sector-specific regulation are addressed through the application of the “general duty” clause 25(2)(h) of the [Occupational health and safety Act](#) (OHSA).

Workplace parties should refer to the narrative portion of the field visit report, if they have received one, for further information or contact their [health and safety association](#) for guidance.

In addition to any other hazards which may be present in a workplace, all employers covered by the OHSA must comply with the requirements for workplace violence and harassment. The act sets out requirements for workplace violence and harassment in sections 32.0.1 to 32.0.8. Further information regarding the requirements related to workplace violence can be found in the Ministry of Labour (MOL) Guide [Workplace violence and harassment: Understanding the law](#).

Additional information, including more information about new workplace harassment provisions, can be found on the MOL topic webpages for [Workplace Violence and Workplace Harassment](#). Employers may wish to consider the use of the ministry’s [Code of Practice to Address Workplace Harassment](#) under the *Occupational health and safety Act*.

Musculoskeletal disorders (MSDs)

Workplace pains and strains can be serious and disabling for workers, causing pain and suffering ranging from discomfort to severe disability.

MSD is not a medical diagnosis; it is an umbrella term for a group of injuries. Some of these injuries include: back pain, muscle strain, tendonitis, carpal tunnel syndrome (CTS), rotator cuff syndrome, tennis elbow and shoulder pain.

- Identify and assess job-related MSD risk factors (i.e. identify tasks and activities involving manual material handling, use of ladders, static or repetitive movements etc.).

- Review training on job-specific MSD risk factors.
- Assess controls to reduce worker exposure to MSDs.
- Contact your health and safety association for guidance in assessments and prevention of MSDs.

Machine hazards

A Pre-start health and safety review may be required (as per section 7 of *Regulation 851*) if new equipment (or modifications to equipment) are installed that interface with certain electrical safeguarding devices. Please see the section “Pre-start health and safety review” found later in this document for more information.

Machine or transmission start-up (improper lockout)

Injuries experienced by accidental machine start-up can include lacerations, crushing and amputations. In some circumstances these injuries can cause permanent disability or death.

The Regulation for Industrial Establishments ([*Regulation 851*](#)) applies to industrial establishments (such as an office building, factory, arena, shop or office or any land, buildings and structures pertaining thereto) and sets out requirements for worker protection against machine start-up in sections 75 and 76.

- Review repair/maintenance of machinery [section 75].
- Ensure requirement/compliance with lockout procedures [sections 75 and 76].
- Ensure that instruction and information is provided to a worker on the hazard and the requirements to isolate and lockout hazardous energy [OHSA clauses 25(2)(a) and 25(2)(d)].

Unguarded equipment

Injuries to workers can include lacerations, amputations, crush by entanglement and loss of consciousness. Serious injuries can lead to permanent disability or death.

Hazards due to unguarded equipment include worker exposure to pinch points, moving (rotating) equipment and in-running nip hazards. Equipment that have exposed moving parts such as cutting equipment, conveyors, augers, equipment using power take-off (PTO), and exposed drive-motor assemblies used to power compressors and/or ventilation fans may endanger a worker. *Regulation 851* sets out requirements for guarding of equipment in sections 24, 25, 26, 28, 31 and 32.

- Ensure that the requirements for the guarding of prime movers or transmission equipment are followed [section 24].
- Ensure that pinch points are guarded [section 25].

Material handling hazards: struck by objects, caught between or crushed by objects

Injuries associated with material handling can include workers being struck by objects, caught between objects and/or crushed by mechanical compression. Manual material handling may also lead to MSDs.

Regulation 851 sets out requirements for material handling in sections 45, 46, 47, 48, 49 and 50. Section 51 contains requirements regarding mechanical lifting devices.

- Review operations/processes involving the movement of raw material and product from receiving area to production line and from production line to shipping area [section 45].
- Review operations/processes involving assembly line or similar style of raw material or product movement [clause 45(a)].
- Review warehousing/storage operations [clause 45(b)].

- Ensure that mechanical lifting devices are maintained in good condition, are operated by a competent person and are capable of handling loads [section 51].

Slips, trips and falls

Slips, trips and falls hazards include hazards that result in workers falling onto the same surface or falling from a height.

Injuries to workers can include fractures, lacerations and loss of consciousness. In extreme circumstances injuries caused from a fall can lead to permanent disability or death.

The Regulation for Industrial Establishments ([Regulation 851](#)) sets out a number of requirements for worker protection against slips, trips and falls, including but not limited to sections 11, 13, 14, 15, 73 and 85.

- Floors and other surfaces used by workers must be free of obstructions, hazards, accumulations of ice and snow and not have a slippery surface [section 11].
- Review requirements for guardrails to protect from falls [section 13 and 14].
- Review fall protection equipment required when working from heights [section 85].
- Ensure that training is provided to a worker on the use of protective clothing and equipment (i.e. fall arrest equipment [section 79].
- In areas requiring ladder use, review compliance with section 73.
- Employers must provide information, instruction and supervision to protect workers from slips, trips and falls and acquaint workers with the hazards [OHSА clauses 25(2)(a) and 25(2)(d)].

Noise

Injuries to workers can include varying degrees of noise-induced hearing loss.

The Noise Regulation [O. Reg. 381/15](#) sets out workplace requirements regarding noise.

- Review the engineering controls and administrative (work practices) controls in place to reduce noise levels and exposures (mufflers on air exhausts, mechanical damping, vibration isolators, enclosures, limiting worker's exposure time) [subsection 2(2)].
- Review the availability and use of hearing protection [subsection 2(6)].
- Review the type of hearing protection provided [subsection 4(1)].
- Review placement of warning signs at approaches to noisy areas [subsection 2(7)].
- Review the training provided to workers [section 3].
- Personal protective equipment is to be used only as a last resort. Engineering controls and work practices must be used where practicable [subsection 2(5)].

Transportation equipment and vehicle traffic

Injuries can occur when workers are struck by or come into contact with motorized equipment or vehicles in a workplace.

Where vehicles or motorized equipment are present:

- review locations where pedestrians and vehicles may be present in a workplace.
- ensure that controls are in place to adequately protect workers from vehicles and motorized equipment. [Regulation 851, section 20]

A comprehensive program to protect workers may include an assessment of the risks, implementation of measures and procedures appropriate in the circumstances, such as warning lights, signs, signallers, barriers and worker training. The use of reflective clothing appropriate for the circumstances is also important. Workplace parties may wish to refer to the Canadian Standards Association (CSA) standard CSA Z96-15 which contains performance criteria for high visibility garments. CSA Standard Z96-15 - *High-visibility safety apparel* is available through the [Canadian Standards Association](#).

Fire and explosion: dust collectors

Industrial dust collectors, hoppers and bins can contain combustible dusts.

The Regulation for Industrial Establishments ([Regulation 851](#)) sets out requirements for dust collectors in sections 63, 64 and 65.

Trends

Table 1: Fatalities and critical injuries in logging and sawmills by fiscal year

Events	2012-13	2013-14	2014-15	2015-16	2016-17
Fatalities	1	5	1	3	3
Critical injuries	9	20	13	12	15

- Only critical injury events reported to the ministry are included here.
- This represents data that was reported to the ministry and may not represent what actually occurred at the workplace
- The critical injury numbers represent critical injuries reported to the ministry and not necessarily critical injuries as defined by the [Occupational health and safety Act](#)
- Non-workers who are **critically injured** may also be included in the ministry's data.
- The Ministry of Labour tracks and reports **fatalities** at workplaces covered by the OHSA. This excludes death from natural causes, death of non-workers at a workplace, suicides, death as a result of a criminal act or traffic accident (unless the OHSA is also implicated) and death from occupational exposures that occurred many years ago.
- Data are subject to change because of inspectors' updates to the database.

Table 2: Events and activities in logging and sawmills by fiscal year

Events and activities	2012-13	2013-14	2014-15	2015-16	2016-17
Field visits	411	474	493	496	571
Orders	414	484	567	568	582
Complaints	40	28	36	48	54
Work refusals	0	0	1	0	1

Most common orders issued under the OHSA

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under the OHSA were:

- An employer shall ensure that, the equipment, materials and protective devices provided by the employer are maintained in good condition [clause 25(1)(b)].
- An employer shall take every precaution reasonable in the circumstances for the protection of a worker [clause 25(2)(h)].
- An employer shall provide information, instruction and supervision to a worker to protect the health or safety of the worker [clause 25(2)(a)].
- An employer shall post, in the workplace, a copy of this act and any explanatory material prepared by the ministry, both in English and the majority language of the workplace, outlining the rights, responsibilities and duties of workers [clause 25(2)(i)].

Most common orders issued under the Industrial Regulations

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under *Regulation 851* were:

- Where a machine or prime mover or transmission equipment has an exposed moving part that may endanger the safety of any worker, the machine or prime mover or transmission equipment shall be equipped with and guarded by a guard or other device that prevents access to the moving part [section 24].
- An in-running nip hazard or any part of a machine, device or thing that may endanger the safety of any worker shall be equipped with and guarded by a guard or other device that prevents access to the pinch point [section 25].
- A lifting device shall, be thoroughly examined by a competent person to determine its capability of handling the maximum load as rated, prior to being used for the first time, and thereafter as often as necessary but not less frequently than recommended by the manufacturer and in any case, at least once a year, and a permanent record shall be kept, signed by the competent person doing the examination [clause 51(1)(b)].
- A floor or other surface used by any worker shall be kept free of obstructions, hazards, and accumulations of refuse, snow or ice, and not have any finish or protective material used on it that is likely to make the surface slippery [section 11].

Industrial Regulations identified by section

Inspectors may issue orders in the logging and sawmills sector under the following sections of the [Regulation for Industrial Establishments](#) where appropriate.

- Section 7 – pre-start health and safety review
- Section 11 – safe work surfaces
- Sections 13 and 14 – guardrails
- Sections 22 and 23 – flammable liquids
- Sections 24, 25, 26, 28 and 32 – guarding of equipment
- Section 34 – conveyor guarding
- Section 45 – material handling and storage
- Section 49 – compressed gas cylinders
- Clause 51(1)(a) – examination of lifting device
- Clause 51(1)(b) – maximum rated load plainly marked on lifting device
- Section 73 – portable ladder
- Section 76 – machine lockout
- Section 79 – personal protective equipment instruction
- Section 80 – head protection
- Section 81 – eye protection

- Section 82 – foot protection
- Section 85 – fall arrest
- Sections 105.1 and 106.1 – training for logging operations
- Section 110 – hang-ups in logging operations

Pre-start health and safety review

A pre-start review (PSR) may be required by section 7 of [Regulation 851](#). Section 7 applies to a factory as defined by the OHSA and is intended to ensure that hazards are removed or controlled before an apparatus or process is started up. If required, the PSR must be completed prior to the complete installation (in-service and operating) of any apparatus, structure or protective element.

Information about pre-start reviews can be found in the Ministry of Labour [Guidelines for Pre-Start Health and Safety Reviews: How to Apply Section 7 of the Industrial Establishments Regulation](#).

For further information contact your health and safety association or the Professional Engineers of Ontario (PEO) for guidance in conducting a PSR or contact a professional engineer or engineering company that performs PSRs.

Applicable regulations

- Critical Injury – Defined [Regulation 834](#)
- Confined Spaces [O. Reg. 632/05](#)
- Control of Exposure to Biological or Chemical Agents [Regulation 833](#)
- Designated Substances [O. Reg. 490/09](#)
- Designated Substance – Asbestos on Construction Projects and in Building Repair Operations [Regulation O. Reg. 278/05](#)
- Noise Regulation [O. Reg. 381/15](#)
- Occupational Health and Safety Awareness and Training [O. Reg. 297/13](#)
- Regulation for Industrial Establishments [Regulation 851](#)
- Roll-Over Protective Structures [Regulation 856](#)
- Workplace Hazardous Materials Information System (WHMIS) [Regulation 860](#)

Construction

Employers should be aware that in situations where construction work is undertaken, the Construction Projects Regulation ([O. Reg. 213/91](#)) may apply.

Construction work can be described as new work, additions, alterations or maintenance and repairs. The *Occupational health and safety Act* defines “construction” as including “erection, alteration, repair, dismantling, demolition, structural maintenance, painting, land clearing, earth moving, grading, excavating, trenching, digging, boring, drilling, blasting, or concreting, the installation of any machinery or plant, and any work or undertaking in connection with a project but does not include any work or undertaking underground in a mine.”

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Office and related services

Sector summary

This sector comprises establishments primarily engaged in providing general management and/or administrative support services. Activities can include corporate functions such as strategic organizational planning, communications, tax planning, legal services, marketing, finance, human resources, information technology and other professional or technical or scientific services.

Key hazards

The following list represents hazards to which workers are commonly exposed in the office related services sector:

- slips, trips and falls
- activities that may lead to musculoskeletal disorders (MSDs)
- material handling hazards (such as workers being struck by objects, caught or crushed between objects)
- workplace violence and workplace harassment.

In general, hazards that are not covered by a regulation and hazards in workplaces not covered by a sector-specific regulation are addressed through the application of the “general duty” clause 25(2)(h) of the [Occupational health and safety Act](#) (OHSA).

Workplace parties are to refer to the narrative portion of the field visit report, if they have received one, for further information or contact their [health and safety association](#) for guidance.

Slips, trips and falls

Slips, trips and falls hazards include hazards that result in workers falling onto the same surface or falling from a height.

Injuries to workers can include fractures, lacerations and loss of consciousness. In extreme circumstances injuries caused from a fall can lead to permanent disability or death.

The Regulation for Industrial Establishments ([Regulation 851](#)) applies to industrial establishments (such as an office building, factory, arena, shop or office or any land, buildings and structures pertaining thereto) and

sets out a number of requirements for worker protection against slips, trips, and falls, including but not limited to sections 11, 13, 14, 15, 73 and 85.

- Floors and other surfaces used by workers must be free of obstructions, hazards, accumulations of ice and snow and not have a slippery surface [section 11].
- Review requirements for guardrails to protect from falls [sections 13 and 14].
- Review fall protection equipment required when working from heights [section 85].
- Ensure that training is provided to a worker on the use of protective clothing and equipment (i.e. fall arrest equipment [section 79].
- In areas requiring ladder use, review compliance with section 73.
- Employers must provide information, instruction and supervision to protect workers from slips, trips and falls and acquaint workers with the hazards [OHSA clauses 25(2)(a) and 25(2)(d)].

Musculoskeletal disorders (MSDs)

Workplace pains and strains can be serious and disabling for workers, causing pain and suffering ranging from discomfort to severe disability.

MSD is not a medical diagnosis; it is an umbrella term for a group of injuries. Some of these injuries include: back pain, muscle strain, tendonitis, carpal tunnel syndrome (CTS), rotator cuff syndrome, tennis elbow and shoulder pain.

- Identify and assess job-related MSD risk factors (i.e. identify tasks and activities involving manual material handling, static or repetitive movements etc.).
- Review training on job-specific MSD risk factors.
- Assess controls to reduce worker exposure to MSDs.
- Contact your health and safety association for guidance in assessments and prevention of MSDs.

Material handling hazards: struck by objects, caught between or crushed by objects

Injuries associated with material handling can include workers being struck by objects, caught between objects and/or crushed by mechanical compression. Manual material handling may also lead to MSDs.

Regulation 851 applies to many workplaces in the sector and sets out requirements for material handling in sections 45, 46, 47, 48, 49 and 50.

- Review warehousing/storage operations [clause 45(b)].
- Ensure that items, and materials (including file boxes etc.) are stored safely and can be retrieved safely by workers [section 45].

Workplace violence and workplace harassment

The *Occupational health and safety Act* (OHSA) sets out requirements for workplace violence and harassment in sections 32.0.1 to 32.0.8.

- Ensure that appropriate workplace violence and harassment policies have been established in accordance with the OHSA [section 32.0.1].
- Conduct a workplace violence risk assessment or re-assessment [section 32.0.3].
- Ensure that workplace violence and workplace harassment programs are developed and maintained to implement the policies [sections 32.0.2 and 32.0.6].
- Ensure that workers have received information and instruction on the workplace violence and harassment policy and program [section 32.0.5 and 32.0.7].

- Subject to some conditions, the employer must provide information to a worker related to the risk of workplace violence from a person with a history of violent behaviour [subsection 32.0.5(3)].
- Employers may wish to consider the use of the ministry's [Code of Practice to Address Workplace Harassment](#) under the *Occupational health and safety Act*.

Further information regarding the requirements related to workplace violence can be found in the MOL guide [Workplace violence and harassment: Understanding the law](#).

Additional information, including more information about new workplace harassment provisions, can be found on the MOL topic webpages for [Workplace Violence and Workplace Harassment](#).

Trends

Table 1: Fatalities and critical injuries in office related services by fiscal year

Events	2012-13	2013-14	2014-15	2015-16	2016-17
Fatalities	1	0	1	0	0
Critical injuries	37	32	33	26	34

- Only critical injury events reported to the ministry are included here.
- These represent data that were reported to the ministry and may not represent what actually occurred at the workplace.
- The critical injury numbers represent critical injuries reported to the ministry and not necessarily critical injuries as defined by the [Occupational health and safety Act](#) (OHSA).
- Non-workers who are **critically injured** may also be included in the ministry's data.
- The Ministry of Labour tracks and reports **fatalities** at workplaces covered by the OHSA. This excludes death from natural causes, death of non-workers at a workplace, suicides, death as a result of a criminal act or traffic accident (unless the OHSA is also implicated) and death from occupational exposures that occurred many years ago.
- Data are subject to change because of inspectors' updates to the database.

Table 2: Events and activities in office related services by fiscal year

Events and activities	2012-13	2013-14	2014-15	2015-16	2016-17
Field visits	1,177	1,418	1,057	1,158	1,291
Orders	1,554	1,748	1,628	1,625	1,783
Complaints	321	358	344	400	411
Work refusals	0	2	3	5	9

Most common orders issued under the OHSA

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under the OHSA were:

- An employer shall post, in the workplace, a copy of this act and any explanatory material prepared by the ministry, both in English and the majority language of the workplace, outlining the rights, responsibilities and duties of workers [clause 25(2)(i)].
- An employer shall take every precaution reasonable in the circumstances for the protection of a worker [clause 25(2)(h)].

- An employer shall prepare and review at least annually a written occupational health and safety policy and develop and maintain a program to implement that policy [clause 25(2)(j)].
- An employer shall ensure the workplace violence and workplace harassment policies be in written form and shall be posted at a conspicuous place in the workplace [subsection 32.0.1(2)].

Most common orders issued under the Industrial Regulations

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under *Regulation 851* were:

- Where a machine or prime mover or transmission equipment has an exposed moving part that may endanger the safety of any worker, the machine or prime mover or transmission equipment shall be equipped with and guarded by a guard or other device that prevents access to the moving part [section 24].
- A floor or other surface used by any worker shall be kept free of obstructions, hazards, and accumulations of refuse, snow or ice, and not have any finish or protective material used on it that is likely to make the surface slippery [section 11].
- Where a worker is exposed to a potential hazard of injury to the eye due to contact with a biological or chemical substance, an eyewash fountain shall be provided [section 124].
- An in-running nip hazard or any part of a machine, device or thing that may endanger the safety of any worker shall be equipped with and guarded by a guard or other device that prevents access to the pinch point [section 25].
- Machinery, equipment or material that may tip or fall and endanger any worker shall be secured against tipping or falling [section 46].

Industrial Regulations identified by section

Inspectors may issue orders in the office related services sector under the following sections of the [Regulation for Industrial Establishments](#) where appropriate.

- Section 11 – safe work surfaces
- Sections 13 and 14 – guardrails
- Section 45 – material handling and storage
- Section 49 – compressed gas cylinders
- Clause 51(1)(a) – examination of lifting device
- Clause 51(1)(b) – maximum rated load plainly marked on lifting device
- Section 73 – portable ladder
- Section 79 – personal protective equipment instruction

Applicable regulations

- Critical Injury – Defined [Regulation 834](#)
- Confined Spaces [O. Reg. 632/05](#)
- Designated Substances [O. Reg. 490/09](#)
- Designated Substance – Asbestos on Construction Projects and in Building Repair Operations Regulation [O. Reg. 278/05](#)
- Noise Regulation [O. Reg. 381/15](#)
- Occupational Health and Safety Awareness and Training [O. Reg. 297/13](#)
- Regulation for Industrial Establishments [Regulation 851](#)
- Workplace Hazardous Materials Information System (WHMIS) [Regulation 860](#)

Construction

Employers should be aware that in situations where construction work is undertaken, the Construction Projects regulation ([O. Reg. 213/91](#)) may apply.

Construction work can be described as new work, additions, alterations, or maintenance and repairs. The *Occupational health and safety Act* defines “construction” as including “erection, alteration, repair, dismantling, demolition, structural maintenance, painting, land clearing, earth moving, grading, excavating, trenching, digging, boring, drilling, blasting, or concreting, the installation of any machinery or plant, and any work or undertaking in connection with a project but does not include any work or undertaking underground in a mine.”

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Police service

Sector summary

This subsector of government is made up of provincial and municipal police services. Police personnel include but are not limited to first responders, specialized units, dispatchers and civilian staff.

The Ontario Police Health and Safety Committee, appointed by the Minister of Labour under section 21 of the *Occupational health and safety Act* (OHSA), develops guidance on the application of the OHSA and its regulations to police services.

The Ontario Police Health and Safety Committee is made up of professionals in police services from across the province with representatives from the Police Association of Ontario, Ontario Provincial Police, Ontario Provincial Police Association, Toronto Police service, Toronto Police Association, Ontario Association of Chiefs of Police, Ontario Association of Police services Boards, Ministry of Community Safety and Correctional Services, Ontario Police College, Ontario Police Health and Safety Association, Ontario Senior Officers' Police Association and Public services health and safety association.

Key hazards

The following list represents hazards to which workers are commonly exposed in the police sector:

- slips, trips and falls
- workplace violence and harassment
- activities or conditions that lead to Musculoskeletal Disorders (MSDs) (i.e. prolonged sitting and use of a computer terminal in a vehicle, weight of duty belts)
- noise
- motor vehicle incidents (collisions or being struck by a vehicle)
- exposures (to infectious agents and chemical hazards).

In general, hazards that are not covered by a regulation and hazards in workplaces not covered by a sector-specific regulation are addressed through the application of the “general duty” clause 25(2)(h) of the [Occupational health and safety Act](#) (OHSa).

Workplace parties are to refer to the narrative portion of the field visit report, if they have received one for further information or contact their [health and safety association](#) for guidance.

Slips, trips and falls

Slips, trips and falls hazards include hazards that result in workers falling onto the same surface or falling from a height.

Injuries to workers can include fractures, lacerations and loss of consciousness. In extreme circumstances injuries caused from a fall can lead to permanent disability or death.

The Regulation for Industrial Establishments ([Regulation 851](#)) applies to industrial establishments (such as an office building, factory, arena, shop or office or any land, buildings and structures pertaining thereto) and sets out a number of requirements for worker protection against slips, trips and falls, including but not limited to sections 11, 13, 14, 15, 73 and 85.

- Floors and other surfaces used by workers must be free of obstructions, hazards, accumulations of ice and snow and not have a slippery surface [section 11].
- Review requirements for guardrails to protect from falls [sections 13 and 14].
- Review fall protection equipment required when working from heights [section 85].
- Ensure that training is provided to a worker on the use of protective clothing and equipment (i.e. fall arrest equipment [section 79]).
- In areas requiring ladder use, review compliance with section 73.
- Employers must provide information, instruction and supervision to protect workers from slips, trips and falls and acquaint workers with the hazards [OHSa clauses 25(2)(a) and 25(2)(d)].

Workplace violence and workplace harassment

The OHSa sets out requirements for workplace violence and harassment in sections 32.0.1 to 32.0.8.

- Ensure that appropriate workplace violence and harassment policies have been established in accordance with the OHSa [section 32.0.1].
- Conduct a workplace violence risk assessment or re-assessment [section 32.0.3].
- Ensure that workplace violence and workplace harassment programs are developed and maintained to implement the policies [sections 32.0.2 and 32.0.6].

- Ensure that workers have received information and instruction on the workplace violence and harassment policy and program [sections 32.0.5 and 32.0.7].
- Subject to some conditions, the employer must provide information to a worker related to the risk of workplace violence from a person with a history of violent behaviour [subsection 32.0.5(3)].
- Employers may wish to consider the use of the ministry's [Code of Practice to Address Workplace Harassment](#) under the *Occupational health and safety Act*.

Further information regarding the requirements related to workplace violence can be found in the Ministry of Labour (MOL) guide [Workplace violence and harassment: Understanding the law](#).

Additional information, including more information about new workplace harassment provisions, can be found on the MOL topic webpages for [Workplace Violence and Workplace Harassment](#).

Musculoskeletal disorders (MSDs)

Workplace pains and strains can be serious and disabling for workers, causing pain and suffering ranging from discomfort to severe disability.

MSD is not a medical diagnosis; it is an umbrella term for a group of injuries. Some of these injuries include: back pain, muscle strain, tendonitis, carpal tunnel syndrome (CTS), rotator cuff syndrome, tennis elbow and shoulder pain.

- Identify and assess job-related MSD risk factors (i.e. prolonged sitting in vehicles, use of mobile data terminals in vehicles, weight and design of duty belts and location of items worn on the duty belt).
- Review training on job-specific MSD risk factors.
- Assess controls to reduce worker exposure to MSDs.
- Contact your health and safety association for guidance in assessments and prevention of MSDs.

Noise

Injuries to workers can include varying degrees of noise-induced hearing loss.

The Noise Regulation [O. Reg. 381/15](#) sets out workplace requirements regarding noise.

- Review the engineering controls and administrative (work practices) controls in place to reduce noise levels and exposures [subsection 2(2)].
- Review the availability and use of hearing protection [subsection 2(6)].
- Review the type of hearing protection provided [subsection 4(1)].
- Review placement of warning signs at approaches to noisy areas [subsection 2(7)].
- Review the training provided to workers [section 3].
- Personal protective equipment is to be used only as a last resort. Engineering controls and work practices must be used where practicable [subsection 2(5)].

Motor vehicle incidents

Police personnel can be involved in serious collisions with tragic consequences. Injuries can also occur when workers are struck by or come into contact with vehicles while attending at scenes or locations where vehicle traffic is present.

A workplace includes the motor vehicle police personnel operate. Police services should continue to promote a culture of safety that includes a focus on safe driving.

Employers must also ensure that vehicles used by workers are maintained in good condition and are safe to use.

Where vehicles are present:

- review locations where pedestrians and vehicles may be present in/or at a workplace, including roadways.
- ensure that controls are in place to adequately protect workers from vehicle traffic.

A comprehensive program to protect workers may include an assessment of the risks, implementation of measures and procedures appropriate in the circumstances, such as warning lights, signs, signallers, barriers and worker training. The use of reflective clothing appropriate for the circumstances is also important. Workplace parties may wish to refer to the Canadian Standards Association (CSA) standard CSA Z96-15 which contains performance criteria for high visibility garments. CSA Standard Z96-15 - *High-visibility safety apparel* is available through the [Canadian Standards Association](#).

Exposures

Infectious agents

Infectious agents may be present in workplaces that can be a hazard to workers. Workers may encounter a variety of infectious agents from specific tasks that are performed (e.g. during cleaning or maintenance activities) or workers may encounter members of the public who are sick (e.g. norovirus, common cold, influenza) or infected with a communicable disease (such as a blood borne pathogen).

Where there is a hazard of infection, employers must ensure that appropriate precautions are put into place.

- Ensure that workers are educated about routine infection control precautions appropriate for their work.
- Ensure that appropriate personal protective equipment is available as required.

Chemicals (and drugs)

Workers in police services may encounter a variety of chemicals (including drugs) in a variety of different scenarios such as accident scenes, clandestine drug labs or marijuana grow operations.

Employers must ensure that appropriate precautions are put into place.

- Ensure that workers are trained in hazard recognition.
- Ensure that appropriate personal protective equipment is available as required.
- Ensure that appropriate decontamination processes are put into place as needed.
- Ensure that procedures are in place for the safe handling and storage of evidence which may be contaminated.

Trends

Table 1: Fatalities and critical injuries in police services by fiscal year

Events	2012-13	2013-14	2014-15	2015-16	2016-17
Fatalities	0	0	0	0	1
Critical injuries	11	4	18	10	16

- Only critical injury events reported to the ministry are included here.
- These represents data that were reported to the ministry and may not represent what actually occurred at the workplace.
- The critical injury numbers represent critical injuries reported to the ministry and not necessarily critical injuries as defined by the [Occupational health and safety Act](#).
- Non-workers who are **critically injured** may also be included in the ministry's data.
- The Ministry of Labour tracks and reports **fatalities** at workplaces covered by the OHSA. This excludes death from natural causes, death of non-workers at a workplace, suicides, death as a result of a criminal act or traffic accident (unless the OHSA is also implicated) and death from occupational exposures that occurred many years ago.
- Data are subject to change because of inspectors' updates to the database.

Table 2: Events and activities in police services by fiscal year

Events and activities	2012-13	2013-14	2014-15	2015-16	2016-17
Field visits	70	70	69	58	103
Orders	13	20	29	16	20
Complaints	12	11	20	11	20
Work refusals	0	0	0	0	0

Most common orders issued under the OHSA

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under the OHSA were:

- An employer shall provide information, instruction and supervision to a worker to protect the health or safety of the worker [clause 25(2)(a)]
- Orders issued to an employer related to workplace violence and harassment provisions [sections 32.0.1 through 32.0.8].
- An employer shall take every precaution reasonable in the circumstances for the protection of a worker [clause 25(2)(h)].

Industrial Regulations identified by section

Inspectors may issue orders in the police sector under the following sections of the [Regulation for Industrial Establishments](#) where appropriate.

- Section 11 – safe work surfaces
- Sections 22 and 23 – flammable liquids
- Section 73 – portable ladder
- Section 76 – machine lockout
- Section 79 – personal protective equipment instruction
- Section 130 – biological, chemical, or physical agents

Applicable regulations

- Critical Injury – Defined [Regulation 834](#)
- Confined Spaces [O. Reg. 632/05](#)
- Control of Exposure to Biological or Chemical Agents [Regulation 833](#)

- Designated Substance – Asbestos on Construction Projects and in Building Repair Operations Regulation [O. Reg. 278/05](#)
- Noise Regulation [O. Reg. 381/15](#)
- Occupational Health and Safety Awareness and Training [O. Reg. 297/13](#)
- Regulation for Industrial Establishments [Regulation 851](#)
- Workplace Hazardous Materials Information System (WHMIS) [Regulation 860](#)

Construction regulation

Employers should be aware that in situations where construction work is undertaken, the Construction Projects Regulation ([O. Reg. 213/91](#)), may apply.

Construction work can be described as new work, additions, alterations or maintenance and repairs. The *Occupational health and safety Act* defines “construction” as including “erection, alteration, repair, dismantling, demolition, structural maintenance, painting, land clearing, earth moving, grading, excavating, trenching, digging, boring, drilling, blasting, or concreting, the installation of any machinery or plant, and any work or undertaking in connection with a project but does not include any work or undertaking underground in a mine.”

General resources

[Publications | Ministry of Labour](#)

For information and Guides, Fact Sheets, Information Bulletins, Guidelines, Alerts, Engineering Data Sheets, Extracts, Reports, Consultations, Codes, and Standards.

[Videos and photos | Ministry of Labour](#)

To view Ministry of Labour videos and photos.

[Post-traumatic Stress Disorder | Ministry of Labour](#)

What is Bill 163, the *Supporting Ontario’s First Responders Act, 2016*?

[By the numbers: WSIB statistical report](#)

To review [Workplace safety and insurance board](#) (WSIB) injury experience data.

Primary metals

Sector summary

This sector includes foundries, steel mills and other metal smelting, refining, casting, extruding and rolling operations. Examples are iron ferro-alloy manufacturing, alumina and aluminium production and processing and non-ferrous metal (except aluminum) production and processing.

Key hazards

The following list represents hazards to which workers are commonly exposed in the primary metals sector:

- activities that may lead to musculoskeletal disorders (MSDs)

- machine (and powered equipment) hazards such as improper lock-out and unguarded equipment
- material handling hazards (such as workers being struck by objects, caught or crushed between objects)
- slips, trips and falls
- exposures (such as chemicals, fumes and environmental conditions)
- molten materials
- noise
- confined spaces
- fire and explosion: dust collectors.

In general, hazards that are not covered by a regulation and hazards in workplaces not covered by a sector-specific regulation are addressed through the application of the “general duty” clause 25(2)(h) of the [*Occupational health and safety Act*](#) (OHSa).

Workplace parties should refer to the narrative portion of the field visit report, if they have received one, for further information or contact their [health and safety association](#) for guidance.

In addition to any other hazards which may be present in a workplace, all employers covered by the OHSa must comply with the requirements for workplace violence and harassment. The act sets out requirements for workplace violence and harassment in sections 32.0.1 to 32.0.8. Further information regarding the requirements related to workplace violence can be found in the Ministry of Labour (MOL) guide [Workplace violence and harassment: Understanding the law](#).

Additional information, including more information about new workplace harassment provisions, can be found on the MOL topic webpages for [Workplace Violence and Workplace Harassment](#). Employers may wish to consider the use of the ministry’s [Code of Practice to Address Workplace Harassment](#) under the *Occupational health and safety Act*.

Musculoskeletal disorders (MSDs)

Workplace pains and strains can be serious and disabling for workers, causing pain and suffering ranging from discomfort to severe disability.

MSD is not a medical diagnosis; it is an umbrella term for a group of injuries. Some of these injuries include: back pain, muscle strain, tendonitis, carpal tunnel syndrome (CTS), rotator cuff syndrome, tennis elbow and shoulder pain.

- Identify and assess job-related MSD risk factors (i.e. identify tasks and activities involving manual material handling, use of ladders, static or repetitive movements etc.).
- Review training on job-specific MSD risk factors.
- Assess controls to reduce worker exposure to MSDs.
- Contact your health and safety association for guidance in assessments and prevention of MSDs.

Machine hazards

A Pre-start health and safety review may be required (as per section 7 of *Regulation 851*) if new equipment (or modifications to equipment) are installed that interface with certain electrical safeguarding devices. Please see the section “Pre-start health and safety review” found later in this document for more information.

Machine or transmission start-up (improper lockout)

Injuries experienced by accidental machine start-up can include lacerations, crushing and amputations. In some circumstances these injuries can cause permanent disability or death.

The Regulation for Industrial Establishments ([*Regulation 851*](#)) applies to industrial establishments (such as an office building, factory, arena, shop or office or any land, buildings and structures pertaining thereto) and sets out requirements for worker protection against machine start-up in sections 75 and 76.

- Review repair/maintenance of machinery.
- Ensure requirement/compliance with lockout procedures [sections 75 and 76].
- Ensure that instruction and information is provided to a worker on the hazard and the requirements to isolate and lockout hazardous energy [OHSA clauses 25(2)(a) and 25(2)(d)].

Unguarded equipment

Injuries to workers can include lacerations, amputations, crush by entanglement and loss of consciousness. Serious injuries can lead to permanent disability or death.

Hazards due to unguarded equipment include worker exposure to pinch points, moving (rotating) equipment and in-running nip hazards. Equipment that have exposed moving parts such as cutting equipment, conveyors, augers, equipment using power take-off (PTO) and exposed drive-motor assemblies used to power compressors and/or ventilation fans may endanger a worker. *Regulation 851* sets out requirements for guarding of equipment in sections 24, 25, 26, 28, 31 and 32.

- Ensure that the requirements for the guarding of prime movers or transmission equipment are followed [section 24].
- Ensure that pinch points are guarded [section 25].

Material handling hazards: struck by objects, caught between or crushed by objects

Injuries associated with material handling can include workers being struck by objects, caught between objects and/or crushed by mechanical compression. Manual material handling may also lead to MSDs.

Regulation 851 sets out requirements for material handling in sections 45, 46, 47, 48, 49 and 50. Section 51 contains requirements regarding mechanical lifting devices.

- Review operations/processes involving the movement of raw material and product from receiving area to production line and from production line to shipping area.
- Review operations/processes involving assembly line or similar style of raw material or product movement.
- Review warehousing/storage operations.
- Ensure that mechanical lifting devices are maintained in good condition, are operated by a competent person and are capable of handling loads [section 51].

Slips, trips and falls

Slips, trips and falls hazards include hazards that result in workers falling onto the same surface or falling from a height.

Injuries to workers can include fractures, lacerations and loss of consciousness. In extreme circumstances injuries caused from a fall can lead to permanent disability or death.

The Regulation for Industrial Establishments ([*Regulation 851*](#)) sets out a number of requirements for worker protection against slips, trips and falls, including but not limited to sections 11, 13, 14, 15, 73 and 85.

- Floors and other surfaces used by workers must be free of obstructions, hazards, accumulations of ice and snow and not have a slippery surface [section 11].
- Review requirements for guardrails to protect from falls [section 13 and 14].
- Review fall protection equipment required when working from heights [section 85].
- Ensure that training is provided to a worker on the use of protective clothing and equipment (i.e. fall arrest equipment [section 79].
- In areas requiring ladder use, review compliance with section 73.
- Employers must provide information, instruction and supervision to protect workers from slips, trips and falls and acquaint workers with the hazards [OHSA clauses 25(2)(a) and 25(2)(d)].

Exposures

Chemical exposures

Chemicals can present hazards to workers by a variety of different mechanisms such as causing chemical burns to skin, irritation to eyes and airways and by absorption or injection into the body.

- Review the use of chemicals used in the workplace.
- Ensure compliance with requirement for skin protection [*Regulation 851*, section 84].
- Ensure compliance with requirement for eye protection [section 81].
- Ensure compliance with requirement for emergency eyewash facilities [section 124].
- Ensure compliance with requirement for emergency shower facilities [section 125].
- Ensure that workers are trained about precautions to take, use of protective equipment and emergency procedures [section 130].
- Ensure that the requirements outlined in the Workplace Hazardous Materials Information System (WHMIS) ([Regulation 860](#)) and the requirements to monitor and control exposure limits as identified in the Control of Exposure to Biological or Chemical Agents ([Regulation 833](#)) are followed.

Designated substances

- Employers should do an inventory of all designated substances to determine their presence and develop control programs as required under the Designated Substances Regulation ([O. Reg. 490/09](#)) Asbestos, coke oven emissions and silica are examples of designated substances which may be present.

General workplace environment

Workplace hazards related to the general workplace environment may include exposure to fumes and other contaminants related to poor or inadequate ventilation. Exposure to cold or heat may also be a hazard to worker health and safety.

- Ensure workplace ventilation is adequate [*Regulation 851*, sections 127 and 128].
- Ensure that a workplace is adequately heated where appropriate [section 129].
- Review sources of heat or excessive temperatures in the workplace and ensure that adequate controls are in place to protect workers.

Molten metals

- Molten metals can cause severe burns to workers. Where molten metals are present, employers must ensure that worker are protected from the hazards of molten material.
- Section 87.1 to 87.6 of the Regulation for Industrial Establishments ([Regulation 851](#)) sets out specific requirements for foundries.

- Where the regulation applies, Section 88 to 102 of the regulation sets out requirements for all workplaces where molten materials are handled.

Noise

Injuries to workers can include varying degrees of noise-induced hearing loss.

The Noise Regulation ([O. Reg. 381/15](#)) sets out workplace requirements regarding noise.

- Review the engineering controls and administrative (work practices) controls in place to reduce noise levels and exposures (mufflers on air exhausts, mechanical damping, vibration isolators, enclosures, limiting worker's exposure time) [subsection 2(2)].
- Review the availability and use of hearing protection [subsection 2(6)].
- Review the type of hearing protection provided [subsection 4(1)].
- Review placement of warning signs at approaches to noisy areas [subsection 2(7)].
- Review the training provided to workers [section 3].
- Personal protective equipment is to be used only as a last resort. Engineering controls and work practices must be used where practicable [subsection 2(5)].

Confined space

A “confined space” means a fully or partially enclosed space that is not both designed and constructed for continuous human occupancy, and in which atmospheric hazards may occur because of its construction, location or contents or because of work that is done in it.

Injuries to workers can include loss of consciousness and collateral injuries sustained as a result of loss of consciousness.

In some circumstances such as oxygen depletion, toxic substance inhalation or explosive atmosphere, injuries to workers can lead to permanent disability or death.

The Regulation for Confined Spaces ([O. Reg. 632/05](#)) sets out workplace requirements regarding confined spaces.

- Review work locations that meet the definition of “confined space.”
- Ensure compliance with the requirement to have a program in place for confined spaces [section 5].
- Ensure compliance with the requirement to have adequate assessments of confined spaces carried out [section 6].
- Ensure compliance with requirement to have an adequate plan developed and implemented for confined space entry [section 7].
- Review compliance with requirement for worker training [section 9].

Fire and explosion: dust collectors

Industrial dust collectors, hoppers and bins can contain combustible dusts, including metal dusts.

[Regulation 851](#) sets out requirements for dust collectors in sections 63, 64 and 65.

Trends

Table 1: Fatalities and critical injuries in primary metals sector
by fiscal year

Events	2012-13	2013-14	2014-15	2015-16	2016-17
Fatalities	0	0	0	1	1
Critical injuries	18	11	10	11	16

- Only critical injury events reported to the ministry are included here.
- These represent data that were reported to the ministry and may not represent what actually occurred at the workplace.
- The critical injury numbers represent critical injuries reported to the ministry and not necessarily critical injuries as defined by the [Occupational health and safety Act](#).
- Non-workers who are **critically injured** may also be included in the ministry's data.
- The Ministry of Labour tracks and reports **fatalities** at workplaces covered by the OHSA. This excludes death from natural causes, death of non-workers at a workplace, suicides, death as a result of a criminal act or traffic accident (unless the OHSA is also implicated) and death from occupational exposures that occurred many years ago.
- Data are subject to change because of inspectors' updates to the database.

Table 2: Events and activities in primary metals sector by fiscal year

Events and activities	2012-13	2013-14	2014-15	2015-16	2016-17
Field visits	410	49	445	497	295
Orders	476	586	590	769	271
Complaints	78	6	84	69	84
Work refusals	12	4	6	8	3

Most common orders issued under the OHSA

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under the OHSA were:

- An employer shall ensure that, the equipment, materials and protective devices provided by the employer are maintained in good condition [clause 25(1)(b)].
- An employer shall take every precaution reasonable in the circumstances for the protection of a worker [clause 25(2)(h)].
- An employer shall provide information, instruction and supervision to a worker to protect the health or safety of the worker [clause 25(2)(a)].
- Orders issued to an employer related to workplace violence and harassment provisions [sections 32.0.1 through 32.0.8].

Most common orders issued under the Industrial Regulations

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under *Regulation 851* were:

- Where a machine or prime mover or transmission equipment has an exposed moving part that may endanger the safety of any worker, the machine or prime mover or transmission equipment shall be equipped with and guarded by a guard or other device that prevents access to the moving part [section 24].

- An in-running nip hazard or any part of a machine, device or thing that may endanger the safety of any worker shall be equipped with and guarded by a guard or other device that prevents access to the pinch point [*Regulation 851* section 25].
- A storage cylinder for compressed gas shall be secured in position during transportation, storage or use [clause 49(b)].
- A floor or other surface used by any worker shall be kept free of obstructions, hazards, and accumulations of refuse, snow or ice, and not have any finish or protective material used on it that is likely to make the surface slippery [section 11].
- A lifting device shall be so constructed, of such strength and be equipped with suitable ropes, chains, slings and other fittings so as to adequately ensure the safety of all workers, and be thoroughly examined by a competent person to determine its capability of handling the maximum load as rated, prior to being used for the first time, and thereafter as often as necessary but not less frequently than recommended by the manufacturer and in any case, at least once a year, and a permanent record shall be kept, signed by the competent person doing the examination [section 51].

Industrial Regulations identified by section

Inspectors may issue orders in the primary metals sector under the following sections of the [Regulation for Industrial Establishments](#) where appropriate.

- Section 7 – pre-start health and safety review
- Section 11 – safe work surfaces
- Sections 13 and 14 – guardrails
- Sections 22 and 23 – flammable liquids
- Sections 24, 25, 26, 28 and 32 – guarding of equipment
- Section 34 – conveyor guarding
- Section 45 – material handling and storage
- Section 49 – compressed gas cylinders
- Clause 51(1)(a) – examination of lifting device
- Clause 51(1)(b) – maximum rated load plainly marked on lifting device
- Section 73 – portable ladder
- Section 76 – machine lockout
- Section 79 – personal protective equipment instruction
- Section 80 – head protection
- Section 81 – eye protection
- Section 82 – foot protection
- Section 84 – protection from noxious gas, liquid fume or dust
- Section 85 – fall arrest
- Section 124 – eyewash
- Section 125 – deluge shower

Pre-start health and safety review

A pre-start review (PSR) may be required by section 7 of [Regulation 851](#). Section 7 applies to a factory as defined by the OHSA and is intended to ensure that hazards are removed or controlled before an apparatus or process is started up. If required, the PSR must be completed prior to the complete installation (in-service and operating) of any apparatus, structure or protective element.

Information about pre-start reviews can be found in the Ministry of Labour [Guidelines for Pre-Start Health and Safety Reviews: How to Apply Section 7 of the Industrial Establishments Regulation](#).

For further information contact your health and safety association or the Professional Engineers of Ontario (PEO) for guidance in conducting a PSR or contact a professional engineer or engineering company that performs PSRs.

Applicable regulations

- Critical Injury – Defined [Regulation 834](#)
- Confined Spaces [O. Reg. 632/05](#)
- Control of Exposure to Biological or Chemical Agents [Regulation 833](#)
- Designated Substances [O. Reg. 490/09](#)
- Designated Substance – Asbestos on Construction Projects and in Building Repair Operations [O. Reg. 278/05](#)
- Noise Regulation [O. Reg. 381/15](#)
- Occupational Health and Safety Awareness and Training [O. Reg. 297/13](#)
- Regulation for Industrial Establishments [Regulation 851](#)
- Workplace Hazardous Materials Information System (WHMIS) [Regulation 860](#)

Construction

Employers should be aware that in situations where construction work is undertaken, the Construction Projects Regulation ([O. Reg. 213/91](#)) may apply.

Construction work can be described as new work, additions, alterations or maintenance and repairs. The *Occupational health and safety Act* defines “construction” as including “erection, alteration, repair, dismantling, demolition, structural maintenance, painting, land clearing, earth moving, grading, excavating, trenching, digging, boring, drilling, blasting, or concreting, the installation of any machinery or plant, and any work or undertaking in connection with a project but does not include any work or undertaking underground in a mine.”

General resources

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For information and Guides, Fact Sheets, Information Bulletins, Guidelines, Alerts, Engineering Data Sheets, Extracts, Reports, Consultations, Codes, and Standards.

[Videos and photos | Ministry of Labour](#)

To view Ministry of Labour videos and photos.

[Health and Safety Partners](#)

To learn about sector-assigned health and safety associations.

[By the numbers: WSIB statistical report](#)

To review [Workplace safety and insurance board](#) (WSIB) injury experience data.

Pulp and paper

Sector summary

The pulp and paper sector comprises establishments primarily engaged in manufacturing pulp, paper or paperboard, either alone or in combination with newsprint and converted paper products. Examples are pulp and paper mills and paperboard mills.

Key hazards

The following list represents hazards to which workers are commonly exposed in the pulp and paper sector:

- activities that may lead to musculoskeletal disorders (MSDs)
- machine (and powered equipment) hazards such as improper lock-out and unguarded equipment
- material handling hazards (such as workers being struck by objects, caught or crushed between objects)
- slips, trips and falls
- exposures (such as chemicals, fumes and environmental conditions)
- noise
- transportation equipment and vehicle traffic
- confined spaces.

In general, hazards that are not covered by a regulation and hazards in workplaces not covered by a sector-specific regulation are addressed through the application of the “general duty” clause 25(2)(h) of the [Occupational health and safety Act](#) (OHSA).

Workplace parties should refer to the narrative portion of the field visit report, if they have received one, for further information or contact their [health and safety association](#) for guidance.

In addition to any other hazards which may be present in a workplace, all employers covered by the OHSA must comply with the requirements for workplace violence and harassment. The act sets out requirements for workplace violence and harassment in sections 32.0.1 to 32.0.8. Further information regarding the requirements related to workplace violence can be found in the Ministry of Labour (MOL) guide [Workplace violence and harassment: Understanding the law](#).

Additional information, including more information about new workplace harassment provisions, can be found on the MOL topic webpages for [Workplace Violence and Workplace Harassment](#). Employers may wish to consider the use of the ministry’s [Code of Practice to Address Workplace Harassment](#) under the *Occupational health and safety Act*.

Musculoskeletal disorders (MSDs)

Workplace pains and strains can be serious and disabling for workers, causing pain and suffering ranging from discomfort to severe disability.

MSD is not a medical diagnosis; it is an umbrella term for a group of injuries. Some of these injuries include: back pain, muscle strain, tendonitis, carpal tunnel syndrome (CTS), rotator cuff syndrome, tennis elbow and shoulder pain.

- Identify and assess job-related MSD risk factors (i.e. identify tasks and activities involving manual material handling, use of ladders, static or repetitive movements etc.).
- Review training on job-specific MSD risk factors.
- Assess controls to reduce worker exposure to MSDs.
- Contact your health and safety association for guidance in assessments and prevention of MSDs.

Machine hazards

A Pre-start health and safety review may be required (as per section 7 of *Regulation 851*) if new equipment (or modifications to equipment) are installed that interface with certain electrical safeguarding devices. Please see the section “Pre-start health and safety review” found later in this document for more information.

Machine or transmission start-up (improper lockout):

Injuries experienced by accidental machine start-up can include lacerations, crushing and amputations. In some circumstances these injuries can cause permanent disability or death.

The Regulation for Industrial Establishments ([*Regulation 851*](#)) applies to industrial establishments (such as an office building, factory, arena, shop or office or any land, buildings and structures pertaining thereto) and sets out requirements for worker protection against machine start-up in sections 75 and 76.

- Review repair/maintenance of machinery [section 75].
- Ensure requirement/compliance with lockout procedures [sections 75 and 76].
- Ensure that instruction and information is provided to a worker on the hazard and the requirements to isolate and lockout hazardous energy [OHSa clauses 25(2)(a) and 25(2)(d)].

Unguarded equipment

Injuries to workers can include lacerations, amputations, crush by entanglement and loss of consciousness. Serious injuries can lead to permanent disability or death.

Hazards due to unguarded equipment include worker exposure to pinch points, moving (rotating) equipment and in-running nip hazards. Equipment that have exposed moving parts such as cutting equipment, conveyors, augers, equipment using power take-off (PTO) and exposed drive-motor assemblies used to power compressors and, or ventilation fans may endanger a worker. *Regulation 851* sets out requirements for guarding of equipment in sections 24, 25, 26, 28, 31 and 32.

- Ensure that the requirements for the guarding of prime movers or transmission equipment are followed [section 24].
- Ensure that pinch points are guarded [section 25].

Material handling hazards: struck by objects, caught between or crushed by objects

Injuries associated with material handling can include workers being struck by objects, caught between objects, and/or crushed by mechanical compression. Manual material handling may also lead to MSDs.

Regulation 851 sets out requirements for material handling in sections, 45, 46, 47, 48, 49 and 50. Section 51 contains requirements regarding mechanical lifting devices.

- Review operations/processes involving the movement of raw material and product from receiving area to production line and from production line to shipping area [section 45].
- Review operations/processes involving assembly line or similar style of raw material or product movement [clause 45(a)].
- Review warehousing/storage operations [clause 45(b)].
- Ensure that mechanical lifting devices are maintained in good condition, are operated by a competent person and are capable of handling loads [section 51].

Slips, trips and falls

Slips, trips and falls hazards include hazards that result in workers falling onto the same surface or falling from a height.

Injuries to workers can include fractures, lacerations and loss of consciousness. In extreme circumstances injuries caused from a fall can lead to permanent disability or death.

The Regulation for Industrial Establishments ([Regulation 851](#)) sets out a number of requirements for worker protection against slips, trips and falls, including but not limited to sections 11, 13, 14, 15, 73 and 85.

- Floors and other surfaces used by workers must be free of obstructions, hazards, accumulations of ice and snow and not have a slippery surface [section 11].
- Review requirements for guardrails to protect from falls [section 13 and 14].
- Review fall protection equipment required when working from heights [section 85].
- Ensure that training is provided to a worker on the use of protective clothing and equipment (i.e. fall arrest equipment) [section 79].
- In areas requiring ladder use, review compliance with section 73.
- Employers must provide information, instruction and supervision to protect workers from slips, trips and falls and acquaint workers with the hazards [OHSa clauses 25(2)(a) and 25(2)(d)].

Exposures

Chemical exposures

Chemicals can present hazards to workers by a variety of different mechanisms such as causing chemical burns to skin, irritation to eyes and airways and by absorption or injection into the body.

- Review the use of chemicals used in the workplace such as common acids (hydrochloric acid, sulfuric acid, nitric acid, chromic acid, acetic acid and hydrofluoric acid), common bases (ammonium hydroxide, potassium hydroxide (caustic potash) and sodium hydroxide (caustic soda) and any other chemicals used.
- Ensure compliance with requirement for skin protection [[Regulation 851](#), section 84].
- Ensure compliance with requirement for eye protection [section 81].
- Ensure compliance with requirement for emergency eyewash facilities [section 124].
- Ensure compliance with requirement for emergency shower facilities [section 125].
- Ensure that workers are trained about precautions to take, use of protective equipment and emergency procedures [section 130].
- Ensure that the requirements outlined in the Workplace Hazardous Materials Information System (WHMIS) ([Regulation 860](#)) and the requirements to monitor and control exposure limits as identified in the Control of Exposure to Biological or Chemical Agents ([Regulation 833](#)) are followed.

General workplace environment

Workplace hazards related to the general workplace environment may include exposure to fumes and other contaminants related to poor or inadequate ventilation. Exposure to cold or heat may also be a hazard to worker health and safety.

- Ensure workplace ventilation is adequate [[Regulation 851](#) sections 127 and 128].
- Ensure that a workplace is adequately heated where appropriate [section 129].

- Review sources of heat or excessive temperatures in the workplace and ensure that adequate controls are in place to protect workers.

Noise

Injuries to workers can include varying degrees of noise-induced hearing loss.

The Noise Regulation ([O. Reg. 381/15](#)) sets out workplace requirements regarding noise.

- Review the engineering controls and administrative (work practices) controls in place to reduce noise levels and exposures (mufflers on air exhausts, mechanical damping, vibration isolators, enclosures, limiting worker's exposure time) [subsection 2(2)].
- Review the availability and use of hearing protection [subsection 2(6)].
- Review the type of hearing protection provided [subsection 4(1)].
- Review placement of warning signs at approaches to noisy areas [subsection 2(7)].
- Review the training provided to workers [section 3].
- Personal protective equipment is to be used only as a last resort. Engineering controls and work practices must be used where practicable [subsection 2(5)].

Transportation equipment and vehicle traffic

Injuries can occur when workers are struck by or come into contact with motorized equipment or vehicles in a workplace.

Where vehicles or motorized equipment are present:

- review locations where pedestrians and vehicles may be present in a workplace
- ensure that controls are in place to adequately protect workers from vehicles and motorized equipment. [*Regulation 851*, section 20].

A comprehensive program to protect workers may include an assessment of the risks, implementation of measures and procedures appropriate in the circumstances, such as warning lights, signs, signallers, barriers and worker training. The use of reflective clothing appropriate for the circumstances is also important. Workplace parties may wish to refer to the Canadian Standards Association (CSA) standard CSA Z96-15 which contains performance criteria for high visibility garments. CSA Standard Z96-15 - *High-visibility safety apparel* is available through the [Canadian Standards Association](#).

Confined space

A “confined space” means a fully or partially enclosed space that is not both designed and constructed for continuous human occupancy, and in which atmospheric hazards may occur because of its construction, location or contents or because of work that is done in it.

Injuries to workers can include loss of consciousness and collateral injuries sustained as a result of loss of consciousness.

In some circumstances such as oxygen depletion, toxic substance inhalation or explosive atmosphere, injuries to workers can lead to permanent disability or death.

The Regulation for Confined Spaces ([O. Reg. 632/05](#)) sets out workplace requirements regarding confined spaces.

- Review work locations that meet the definition of “confined space.”
- Ensure compliance with the requirement to have a program in place for confined spaces [section 5].
- Ensure compliance with the requirement to have adequate assessments of confined spaces carried out [section 6].
- Ensure compliance with requirement to have an adequate plan developed and implemented for confined space entry [section 7].
- Review compliance with requirement for worker training [section 9].

Trends

Table 1: Fatalities and critical injuries in pulp and paper by fiscal year

Events	2012-13	2013-14	2014-15	2015-16	2016-17
Fatalities	0	0	0	0	0
Critical injuries	2	10	9	7	11

- Only critical injury events reported to the ministry are included here.
- These represent data that were reported to the ministry and may not represent what actually occurred at the workplace.
- The critical injury numbers represent critical injuries reported to the ministry and not necessarily critical injuries as defined by the [Occupational health and safety Act](#).
- Non-workers who are **critically injured** may also be included in the ministry’s data.
- The Ministry of Labour tracks and reports **fatalities** at workplaces covered by the OHSA. This excludes death from natural causes, death of non-workers at a workplace, suicides, death as a result of a criminal act or traffic accident (unless the OHSA is also implicated) and death from occupational exposures that occurred many years ago.
- Data are subject to change because of inspectors’ updates to the database.

Table 2: Events and activities in pulp and paper by fiscal year

Events and activities	2012-13	2013-14	2014-15	2015-16	2016-17
Field visits	234	268	250	252	289
Orders	409	356	496	379	342
Complaints	28	40	46	45	64
Work refusals	2	1	3	1	3

Most common orders issued under the OHSA

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under the OHSA were:

- An employer shall ensure that, the equipment, materials and protective devices provided by the employer are maintained in good condition [clause 25(1)(b)].
- An employer shall take every precaution reasonable in the circumstances for the protection of a worker [clause 25(2)(h)].
- An employer shall provide information, instruction and supervision to a worker to protect the health or safety of the worker [clause 25(2)(a)].

Most common orders issued under the Industrial Regulations

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under *Regulation 851* were:

- Where a machine or prime mover or transmission equipment has an exposed moving part that may endanger the safety of any worker, the machine or prime mover or transmission equipment shall be equipped with and guarded by a guard or other device that prevents access to the moving part [section 24].
- An in-running nip hazard or any part of a machine, device or thing that may endanger the safety of any worker shall be equipped with and guarded by a guard or other device that prevents access to the pinch point [section 25].
- Material, articles or things shall be transported, placed or stored so that the material, articles or things, will not tip, collapse or fall, and can be removed or withdrawn without endangering the safety of any worker [clause 45(b)]
- A lifting device shall, be thoroughly examined by a competent person to determine its capability of handling the maximum load as rated, prior to being used for the first time, and thereafter as often as necessary but not less frequently than recommended by the manufacturer and in any case, at least once a year, and a permanent record shall be kept, signed by the competent person doing the examination [clause 51(1)(b)].
- A floor or other surface used by any worker shall be kept free of obstructions, hazards, and accumulations of refuse, snow or ice, and not have any finish or protective material used on it that is likely to make the surface slippery [section 11].

Industrial Regulations identified by section

Inspectors may issue orders in the pulp and paper sector under the following sections of the [Regulation for Industrial Establishments](#) where appropriate.

- Section 7 – pre-start health and safety review requirement
- Section 11 – safe work surfaces
- Sections 13 and 14 – guardrails
- Sections 22 and 23 – flammable liquids
- Sections 24, 25, 26, 28 and 32 – guarding of equipment
- Section 34 – conveyor guarding
- Section 45 – material handling and storage
- Section 49 – compressed gas cylinders
- Clause 51(1)(a) – examination of lifting device
- Clause 51(1)(b) – maximum rated load plainly marked on lifting device
- Section 73 – portable ladder
- Section 76 – machine lockout
- Section 79 – personal protective equipment instruction
- Section 80 – head protection
- Section 81 – eye protection
- Section 82 – foot protection
- Section 84 – protection from noxious gas, liquid fume or dust
- Section 85 – fall arrest
- Section 124 – eyewash
- Section 125 – deluge shower

Pre-start health and safety review

A pre-start review (PSR) may be required by section 7 of [Regulation 851](#). Section 7 applies to a factory as defined by the OHSA and is intended to ensure that hazards are removed or controlled before an apparatus or process is started up. If required, the PSR must be completed prior to the complete installation (in-service and operating) of any apparatus, structure or protective element.

Information about pre-start reviews can be found in the Ministry of Labour [Guidelines for Pre-Start Health and Safety Reviews: How to Apply Section 7 of the Industrial Establishments Regulation](#).

For further information contact your health and safety association or the Professional Engineers of Ontario (PEO) for guidance in conducting a PSR or contact a professional engineer or engineering company that performs PSRs.

Applicable regulations

- Critical Injury – Defined [Regulation 834](#)
- Confined Spaces [O. Reg. 632/05](#)
- Control of Exposure to Biological or Chemical Agents [Regulation 833](#)
- Designated Substances [O. Reg. 490/09](#)
- Designated Substance – Asbestos on Construction Projects and in Buildings and Repair Operations Regulation [O. Reg. 278/05](#)
- Noise Regulation [O. Reg. 381/15](#)
- Occupational Health and Safety Awareness and Training [O. Reg. 297/13](#)
- Regulation for Industrial Establishments [Regulation 851](#)
- Workplace Hazardous Materials Information System (WHMIS) [Regulation 860](#)

Construction

Employers should be aware that in situations where construction work is undertaken, the Construction Projects Regulation ([O. Reg. 213/91](#)) may apply.

Construction work can be described as new work, additions, alterations or maintenance and repairs. The *Occupational health and safety Act* defines “construction” as including “erection, alteration, repair, dismantling, demolition, structural maintenance, painting, land clearing, earth moving, grading, excavating, trenching, digging, boring, drilling, blasting, or concreting, the installation of any machinery or plant, and any work or undertaking in connection with a project but does not include any work or undertaking underground in a mine.”

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Restaurants

Sector summary

The restaurant sector comprises restaurants, take-out food establishments, caterers, taverns, bars and nightclubs. Family-run businesses and small businesses dominate the industry.

Key hazards

The following list represents hazards to which workers are commonly exposed in the restaurant sector:

- slips, trips and falls
- activities that may lead to musculoskeletal disorders (MSDs)
- material handling hazards (such as workers being struck by objects, caught or crushed between objects)
- material handling: hot liquid burns
- workplace violence and workplace harassment
- machine (and powered equipment) hazards such as improper lock-out and unguarded equipment
- electrical contact: less than 600 volts.

In general, hazards that are not covered by a regulation and hazards in workplaces not covered by a sector-specific regulation are addressed through the application of the “general duty” clause 25(2)(h) of the [Occupational health and safety Act](#) (OHSA).

Workplace parties should refer to the narrative portion of the field visit report, if they have received one, for further information or contact their [health and safety association](#) for guidance.

Slips, trips and falls

Slips, trips and falls hazards include hazards that result in workers falling onto the same surface or falling from a height.

Injuries to workers can include fractures, lacerations, and loss of consciousness. In extreme circumstances injuries caused from a fall can lead to permanent disability or death.

The Regulation for Industrial Establishments ([Regulation 851](#)) applies to industrial establishments (such as an office building, factory, arena, shop or office or any land, buildings and structures pertaining thereto) and sets out a number of requirements for worker protection against slips, trips and falls, including but not limited to sections 11, 13, 14, 15, 73 and 85.

- Floors and other surfaces used by workers must be free of obstructions, hazards, accumulations of ice and snow and not have a slippery surface [section 11].
- In areas requiring ladder use, review compliance with section 73.

- Employers must provide information, instruction and supervision to protect workers from slips, trips and falls and acquaint workers with the hazards [OHSA clauses 25(2)(a) and 25(2)(d)].

Musculoskeletal disorders (MSDs)

Workplace pains and strains can be serious and disabling for workers, causing pain and suffering ranging from discomfort to severe disability.

MSD is not a medical diagnosis; it is an umbrella term for a group of injuries. Some of these injuries include: back pain, muscle strain, tendonitis, carpal tunnel syndrome (CTS), rotator cuff syndrome, tennis elbow and shoulder pain.

- Identify and assess job-related MSD risk factors (i.e. identify tasks and activities involving manual material handling, use of ladders, static or repetitive movements etc.).
- Review training on job-specific MSD risk factors.
- Assess controls to reduce worker exposure to MSDs.
- Contact your health and safety association for guidance in assessments and prevention of MSDs.

Material handling hazards: struck by objects, caught between or crushed by objects

Injuries associated with material handling can include workers being struck by objects, caught between objects and/or crushed by mechanical compression. Manual material handling may also lead to MSDs.

Regulation 851 sets out requirements for material handling in sections 45, 46, 47, 48, 49 and 50. Section 51 contains requirements regarding mechanical lifting devices.

- Ensure that products, equipment and materials are stored safely and can be removed and handled by workers in a safe manner [section 45].
- Ensure that mechanical lifting devices are maintained in good condition, are operated by a competent person and are capable of handling loads [section 51].

Material handling: hot liquid burns

Injuries to workers can include burns and scalds.

- Ensure compliance with requirements of material handling sections with respect to the transfer of hot (boiling) liquids such as oil, grease or water to prevent injury [section 45 and clauses 84(c), (e), and (f)].
- Ensure that workers are provided with training on the care, use and limitations of personal protective equipment (PPE) [section 79].
- Ensure that appropriate protective apparel is used to protect a worker from being burned by hot liquids [clause 84(c), (e) and (f)].
- Ensure that workers are provided information, instruction and supervision related to use of equipment and personal protective equipment [OHSA clause 25(2)(a)].

Workplace violence and workplace harassment

The OHSA sets out requirements for workplace violence and harassment in sections 32.0.1 to 32.0.8.

- Ensure that appropriate workplace violence and harassment policies have been established in accordance with the OHSA [section 32.0.1].
- Conduct a workplace violence risk assessment or re-assessment [section 32.0.3].

- Ensure that workplace violence and workplace harassment programs are developed and maintained to implement the policies [sections 32.0.2 and 32.0.6].
- Ensure that workers have received information and instruction on the workplace violence and harassment policy and program [section 32.0.5 and 32.0.7].
- Subject to some conditions, the employer must provide information to a worker related to the risk of workplace violence from a person with a history of violent behaviour [subsection 32.0.5(3)].
- Employers may wish to consider the use of the ministry's [Code of Practice to Address Workplace Harassment](#) under the *Occupational health and safety Act*.

Further information regarding the requirements related to workplace violence can be found in the Ministry of Labour (MOL) guide [Workplace violence and harassment: Understanding the law](#).

Additional information, including more information about new workplace harassment provisions, can be found on the MOL topic webpages for [Workplace Violence and Workplace Harassment](#).

Machine hazards

Machine or transmission start-up (improper lockout)

Injuries experienced by accidental machine start-up can include lacerations, crushing and amputations. In some circumstances these injuries can cause permanent disability or death.

The Regulation for Industrial Establishments [Regulation 851](#) sets out requirements for worker protection against machine start-up in sections 75 and 76.

- Review repair/maintenance of machinery [section 75].
- Ensure requirement/compliance with lockout procedures [sections 75 and 76].

For all workplaces where machine hazards are present, employers must ensure that instruction and information is provided to a worker on the hazard and the requirements to isolate and lockout hazardous energy [OHSA clauses 25(2)(a) and 25(2)(d)].

Unguarded equipment

Injuries to workers can include lacerations, amputations, crush by entanglement and loss of consciousness. Serious injuries can lead to permanent disability or death.

Hazards due to unguarded equipment include worker exposure to pinch points, moving (rotating) equipment and in-running nip hazards. Equipment that have exposed moving parts such as cutting equipment, exposed drive-motor assemblies used to power compressors and/or ventilation fans may endanger a worker.

Regulation 851 sets out requirements for guarding of equipment in sections, 24, 25, 26, 28, 31 and 32.

- Ensure that requirements for the guarding of prime movers or transmission equipment are followed [section 24].
- Ensure that pinch points are guarded [section 25].

Electrical contact: less than 600 volts

Injuries to workers can include, loss of consciousness, burns, lacerations and fractures as result of contact with the live electrical apparatus, or fall to the ground from the same level, or from an elevated working height. Serious injuries can result in permanent disability or death.

Regulation 851 sets out requirements for working with electrical equipment and around electrical installations in sections 40 to 40.2.

- Review procedures when performing electrical maintenance [sections 42-44.2].
- Ensure that proper lockout procedures are used [subsections 42(1) and 42(7)].
- Ensure that training is provided to workers about electrical lockout [OHSA clause 25(2)(a)].

Trends

Table 1: Fatalities and critical injuries in restaurants by fiscal year

Events	2012-13	2013-14	2014-15	2015-16	2016-17
Fatalities	1	0	0	0	0
Critical injuries	14	10	15	7	17

- Only critical injury events reported to the ministry are included here.
- These represent data that were reported to the ministry and may not represent what actually occurred at the workplace.
- The critical injury numbers represent critical injuries reported to the ministry and not necessarily critical injuries as defined by the [Occupational health and safety Act](#).
- Non-workers who are **critically injured** may also be included in the ministry's data.
- The Ministry of Labour tracks and reports **fatalities** at workplaces covered by the OHSA. This excludes death from natural causes, death of non-workers at a workplace, suicides, death as a result of a criminal act or traffic accident (unless the OHSA is also implicated) and death from occupational exposures that occurred many years ago.
- Data are subject to change because of inspectors' updates to the database.

Table 2: Events and activities in restaurants by fiscal year

Events and activities	2012-13	2013-14	2014-15	2015-16	2016-17
Field visits	2,567	2,235	1,921	2,313	2,577
Orders	6,084	5,161	4,815	6,027	5,484
Complaints	433	458	414	531	707
Work refusals	0	0	1	0	1

Most common orders issued under the OHSA

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under the OHSA were:

- An employer shall post, in the workplace, a copy of this act and any explanatory material prepared by the ministry, both in English and the majority language of the workplace, outlining the rights, responsibilities and duties of workers [clause 25(2)(i)].
- An employer shall prepare and review at least annually a written occupational health and safety policy and develop and maintain a program to implement that policy [clause 25(2)(j)].
- At a workplace where no committee is required under section 9 and where the number of workers regularly exceeds five, the employer shall cause the workers to select at least one health and safety

representative from among the workers at the workplace who do not exercise managerial functions [subsection 8(1)].

- An employer shall ensure that, the equipment, materials and protective devices provided by the employer are maintained in good condition [clause 25(1)(b)].

Most common orders issued under the Industrial Regulations

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under *Regulation 851* were:

- A floor or other surface used by any worker shall be kept free of obstructions, hazards, and accumulations of refuse, snow or ice, and not have any finish or protective material used on it that is likely to make the surface slippery [section 11].
- Where a worker is exposed to a potential hazard of injury to the eye due to contact with a biological or chemical substance, an eyewash fountain shall be provided [section 124].
- A storage cylinder for compressed gas shall have a valve connection that prevents an inadvertent connection which would result in a hazardous mixture of gases, be secured in position during transportation, storage or use, have the valve protection cap in position when the cylinder is not in use, when containing acetylene, be in an upright position, and be protected from physical damage [section 49].
- Material, articles or things shall be transported, placed or stored so that the material, articles or things, will not tip, collapse or fall, and can be removed or withdrawn without endangering the safety of any worker [clause 45(b)].

Industrial Regulations identified by section

Inspectors may issue orders in the restaurant sector under the following sections of the [Regulation for Industrial Establishments](#) where appropriate.

- Section 7 – pre-start health and safety review
- Section 11 – safe work surfaces
- Sections 13 and 14 – guardrails
- Sections 24, 25, 26, 28 and 32 – guarding of equipment
- Section 45 – material handling and storage
- Section 49 – compressed gas cylinders
- Section 73 – portable ladder
- Section 76 – machine lockout

Applicable regulations

- Critical Injury – Defined [Regulation 834](#)
- Confined Spaces [O. Reg. 632/05](#)
- Control of Exposure to Biological or Chemical Agents [Regulation 833](#)
- Noise Regulation [O. Reg. 381/15](#)
- Occupational Health and Safety Awareness and Training [O. Reg. 297/13](#)
- Regulation for Industrial Establishments [Regulation 851](#)
- Workplace Hazardous Materials Information System (WHMIS) [Regulation 860](#)

Regulation for Construction Projects

Employers should be aware that in situations where construction work is undertaken, the Construction Projects Regulation ([O. Reg. 213/91](#)) may apply.

Construction work can be described as new work, additions, alterations or maintenance and repairs. The *Occupational health and safety Act* defines “construction” as including “erection, alteration, repair, dismantling, demolition, structural maintenance, painting, land clearing, earth moving, grading, excavating, trenching, digging, boring, drilling, blasting, or concreting, the installation of any machinery or plant, and any work or undertaking in connection with a project but does not include any work or undertaking underground in a mine.”

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Retail

Sector summary

This sector is comprised of establishments primarily engaged in the retailing of merchandise, generally without transformation, and providing services related to the sale of merchandise. Examples are liquor, beer and wine stores, food stores, pet stores and pharmacy and drug stores.

Key hazards

The following list represents hazards to which workers are commonly exposed in the retail sector:

- slips, trips and falls
- activities that may lead to musculoskeletal disorders (MSDs)
- material handling hazards (such as workers being struck by objects, caught or crushed between objects)
- workplace violence and workplace harassment.

In general, hazards that are not covered by a regulation and hazards in workplaces not covered by a sector-specific regulation are addressed through the application of the “general duty” clause 25 (2)(h) of the [Occupational health and safety Act](#) (OHSA).

Workplace parties should refer to the narrative portion of the field visit report, if they have received one, for further information or contact their [health and safety association](#) for guidance.

Slips, trips and falls

Slips, trips and falls hazards include hazards that result in workers falling onto the same surface or falling from a height.

Injuries to workers can include fractures, lacerations and loss of consciousness. In extreme circumstances injuries caused from a fall can lead to permanent disability or death.

The Regulation for Industrial Establishments ([Regulation 851](#)) applies to industrial establishments (such as an office building, factory, arena, shop or office or any land, buildings and structures pertaining there to) and sets out a number of requirements for worker protection against slips, trips and falls, including but not limited to sections 11, 13, 14, 15, 73 and 85.

- Floors and other surfaces used by workers must be free of obstructions, hazards, accumulations of ice and snow and not have a slippery surface [section 11].
- Review fall protection equipment required when working from heights [section 85].
- Ensure that training is provided to a worker on the use of protective clothing and equipment (i.e. fall arrest equipment [section 79].
- In areas requiring ladder use, review compliance with section 73.
- Employers must provide information, instruction and supervision to protect workers from slips, trips and falls and acquaint workers with the hazards [OHSa clauses 25(2)(a) and 25(2)(d)].

Musculoskeletal disorders (MSDs)

Workplace pains and strains can be serious and disabling for workers, causing pain and suffering ranging from discomfort to severe disability.

MSD is not a medical diagnosis; it is an umbrella term for a group of injuries. Some of these injuries include: back pain, muscle strain, tendonitis, carpal tunnel syndrome (CTS), rotator cuff syndrome, tennis elbow and shoulder pain.

- Identify and assess job-related MSD risk factors (i.e. identify tasks and activities involving manual material handling, use of ladders, static or repetitive movements etc.).
- Review training on job-specific MSD risk factors.
- Assess controls to reduce worker exposure to MSDs.
- Contact your health and safety association for guidance in assessments and prevention of MSDs.

Material handling hazards: struck by objects, caught between or crushed by objects

Injuries associated with material handling can include workers being struck by objects, caught between objects and/or crushed by mechanical compression. Manual material handling may also lead to MSDs.

Regulation 851 sets out requirements for material handling in sections 45, 46, 47, 48, 49 and 50. Section 51 contains requirements regarding mechanical lifting devices.

- Review operations/processes involving the movement material and product from receiving areas to areas where they are stored or made available to consumers.
- Ensure that products and materials are stored safely and can be retrieved or moved by workers safely [section 45].

- Ensure that mechanical lifting devices are maintained in good condition, are operated by a competent person and are capable of handling loads [section 51].

Workplace violence and workplace harassment

The OHSA sets out requirements for workplace violence and harassment in sections 32.0.1 to 32.0.8.

- Ensure that appropriate workplace violence and harassment policies have been established in accordance with the OHSA [section 32.0.1].
- Conduct a workplace violence risk assessment or re-assessment [section 32.0.3].
- Ensure that workplace violence and workplace harassment programs are developed and maintained to implement the policies [sections 32.0.2 and 32.0.6].
- Ensure that workers have received information and instruction on the workplace violence and harassment policy and program [sections 32.0.5 and 32.0.7].
- Subject to some conditions, the employer must provide information to a worker related to the risk of workplace violence from a person with a history of violent behaviour [subsection 32.0.5(3)].
- Employers may wish to consider the use of the ministry's [Code of Practice to Address Workplace Harassment](#) under the *Occupational health and safety Act*.

Further information regarding the requirements related to workplace violence can be found in the Ministry of Labour (MOL) guide [Workplace violence and harassment: Understanding the law](#).

Additional information, including more information about new workplace harassment provisions, can be found on the MOL topic webpages for [Workplace Violence and Workplace Harassment](#).

Trends

Table 1: Fatalities and critical injuries in retail by fiscal year

Events	2012-13	2013-14	2014-15	2015-16	2016-17
Fatalities	3	4	0	0	1
Critical injuries	60	65	64	53	70

- Only critical injury events reported to the ministry are included here.
- These represent data that were reported to the ministry and may not represent what actually occurred at the workplace.
- The critical injury numbers represent critical injuries reported to the ministry and not necessarily critical injuries as defined by the [Occupational health and safety Act](#).
- Non-workers who are **critically injured** may also be included in the ministry's data.
- The Ministry of Labour tracks and reports **fatalities** at workplaces covered by the OHSA. This excludes death from natural causes, death of non-workers at a workplace, suicides, death as a result of a criminal act or traffic accident (unless the OHSA is also implicated) and death from occupational exposures that occurred many years ago.
- Data are subject to change because of inspectors' updates to the database.

Table 2: Events and activities in retail by fiscal year

Events and activities	2012-13	2013-14	2014-15	2015-16	2016-17
Field visits	4950	5031	4530	6360	5580
Orders	8370	8252	8756	13148	9638

Events and activities	2012-13	2013-14	2014-15	2015-16	2016-17
Complaints	739	739	797	840	1021
Work refusals	2	6	3	5	5

Most common orders issued under the OHSA

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under the OHSA were:

- An employer shall post, in the workplace, a copy of this act and any explanatory material prepared by the ministry, both in English and the majority language of the workplace, outlining the rights, responsibilities and duties of workers [clause 25(2)(i)].
- An employer shall ensure that, the equipment, materials and protective devices provided by the employer are maintained in good condition [clause 25(1)(b)].
- At a project or other workplace where no committee is required under section 9 and where the number of workers regularly exceeds five, the constructor or employer shall cause the workers to select at least one health and safety representative from among the workers who do not exercise managerial functions [subsection 8(1)].
- An employer shall take every precaution reasonable in the circumstances for the protection of a worker [clause 25(2)(h)].
- An employer shall prepare and review at least annually a written occupational health and safety policy and develop and maintain a program to implement that policy [clause 25(2)(j)].

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From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under *Regulation 851* were:

- A floor or other surface used by any worker shall be kept free of obstructions, hazards, and accumulations of refuse, snow or ice, and not have any finish or protective material used on it that is likely to make the surface slippery [section 11].
- Machinery, equipment or material that may tip or fall and endanger any worker shall be secured against tipping or falling [section 46].
- Material, articles or things shall be transported, placed or stored so that the material, articles or things, will not tip, collapse or fall, and can be removed or withdrawn without endangering the safety of any worker [clause 45(b)].
- A lifting device shall, be thoroughly examined by a competent person to determine its capability of handling the maximum load as rated, prior to being used for the first time, and thereafter as often as necessary but not less frequently than recommended by the manufacturer and in any case, at least once a year, and a permanent record shall be kept, signed by the competent person doing the examination [clause 51(1)(b)].

Industrial regulations identified by section

Inspectors may issue orders in the retail sector under the following sections of the [Regulation for Industrial Establishments](#) where appropriate.

- Section 11 – safe work surfaces
- Sections 13 and 14 – guardrails
- Sections 24, 25, 26, 28 and 32 – guarding of equipment

- Section 45 – material handling and storage
- Section 49 – compressed gas cylinders
- Section 73 – portable ladder

Applicable regulations

- Critical Injury – Defined [Regulation 834](#)
- Noise Regulation [O. Reg. 381/15](#)
- Occupational Health and Safety Awareness and Training [O. Reg. 297/13](#)
- Regulation for Industrial Establishments [Regulation 851](#)
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To learn about sector-assigned health and safety associations.

[By the numbers: WSIB statistical report](#)

To review [Workplace safety and insurance board](#) (WSIB) injury experience data.

Textiles and printing

Sector summary

The textiles subsector comprises the production of leather and textile goods, including knitted products, clothing, footwear, carpets, mats, rugs and household products of textile materials; the printing subsector includes commercial printing.

Key hazards

The following list represents hazards to which workers are commonly exposed in the textiles and printing sector:

- activities that may lead to musculoskeletal disorders (MSDs)
- machine (and powered equipment) hazards such as improper lock-out and unguarded equipment
- material handling hazards (such as workers being struck by objects, caught or crushed between objects)
- slips, trips and falls
- exposures (such as chemicals, fumes and environmental conditions)
- noise
- transportation equipment and vehicle traffic
- fire and explosion
- confined spaces.

In general, hazards that are not covered by a regulation and hazards in workplaces not covered by a sector-specific regulation are addressed through the application of the “general duty” clause 25(2)(h) of the [*Occupational health and safety Act*](#) (OHSA).

Workplace parties should refer to the narrative portion of the field visit report, if they have received one, for further information or contact their [health and safety association](#) for guidance.

In addition to any other hazards which may be present in a workplace, all employers covered by the OHSA must comply with the requirements for workplace violence and harassment. The act sets out requirements for workplace violence and harassment in sections 32.0.1 to 32.0.8. Further information regarding the requirements related to workplace violence can be found in the Ministry of Labour (MOL) guide [Workplace violence and harassment: Understanding the law](#).

Additional information, including more information about new workplace harassment provisions, can be found on the MOL topic webpages for [Workplace Violence and Workplace Harassment](#). Employers may wish to consider the use of the ministry’s [Code of Practice to Address Workplace Harassment](#) under the *Occupational health and safety Act*.

Musculoskeletal disorders

Workplace pains and strains can be serious and disabling for workers, causing pain and suffering ranging from discomfort to severe disability.

MSD is not a medical diagnosis; it is an umbrella term for a group of injuries. Some of these injuries include: back pain, muscle strain, tendonitis, carpal tunnel syndrome (CTS), rotator cuff syndrome, tennis elbow and shoulder pain.

- Identify and assess job-related MSD risk factors (i.e. identify tasks and activities involving manual material handling, use of ladders, static or repetitive movements etc.).
- Review training on job-specific MSD risk factors.
- Assess controls to reduce worker exposure to MSDs.
- Contact your health and safety association for guidance in assessments and prevention of MSDs.

Machine hazards

A Pre-start health and safety review may be required (as per section 7 of *Regulation 851*) if new equipment (or modifications to equipment) are installed that interface with certain electrical safeguarding devices. Please see the section “Pre-start health and safety review” found later in this document for more information.

Machine or transmission start-up (improper lockout)

Injuries experienced by accidental machine start-up can include lacerations, crushing and amputations. In some circumstances these injuries can cause permanent disability or death.

The Regulation for Industrial Establishments ([*Regulation 851*](#)) applies to industrial establishments (such as an office building, factory, arena, shop or office or any land, buildings and structures pertaining thereto) and sets out requirements for worker protection against machine start-up in sections 75 and 76.

- Review repair/maintenance of machinery [section 75].
- Ensure requirement/compliance with lockout procedures [sections 75 and 76].
- Ensure that instruction and information is provided to a worker on the hazard and the requirements to isolate and lockout hazardous energy [OHS clauses 25(2)(a) and 25(2)(d)].

Unguarded equipment

Injuries to workers can include lacerations, amputations, crush by entanglement and loss of consciousness. Serious injuries can lead to permanent disability or death.

Hazards due to unguarded equipment include worker exposure to pinch points, moving (rotating) equipment and in-running nip hazards. Equipment that has exposed moving parts such as cutting equipment, conveyors and exposed drive-motor assemblies used to power compressors and/or ventilation fans may endanger a worker. *Regulation 851* sets out requirements for guarding of equipment in sections 24, 25, 26, 28, 31 and 32.

- Ensure that the requirements for the guarding of prime movers or transmission equipment are followed [section 24].
- Ensure that pinch points are guarded [section 25].

Material handling hazards: struck by objects, caught between or crushed by objects

Injuries associated with material handling can include workers being struck by objects, caught between objects and/or crushed by mechanical compression. Manual material handling may also lead to MSDs.

Regulation 851 sets out requirements for material handling in sections 45, 46, 47, 48, 49 and 50. Section 51 contains requirements regarding mechanical lifting devices.

- Review operations/processes involving the movement of raw material and product from receiving area to production line and from production line to shipping area.
- Ensure that products, materials and equipment are stored safely and that they can be retrieved and moved by workers safely [section 45].
- Ensure that mechanical lifting devices are maintained in good condition, are operated by a competent person and are capable of handling loads [section 51].

Slips, trips and falls

Slips, trips and falls hazards include hazards that result in workers falling onto the same surface or falling from a height.

Injuries to workers can include fractures, lacerations and loss of consciousness. In extreme circumstances injuries caused from a fall can lead to permanent disability or death.

The Regulation for Industrial Establishments ([Regulation 851](#)) sets out a number of requirements for worker protection against slips, trips, and falls, including but not limited to sections 11, 13, 14, 15, 73 and 85.

- Floors and other surfaces used by workers must be free of obstructions, hazards, accumulations of ice and snow and not have a slippery surface [section 11].
- Ensure that requirements for guardrails are followed to protect from falls [sections 13 and 14].
- Review fall protection equipment required when working from heights [section 85].
- Ensure that training is provided to a worker on the use of protective clothing and equipment (i.e. fall arrest equipment) [section 79].
- In areas requiring ladder use, review compliance with section 73.
- Employers must provide information, instruction and supervision to protect workers from slips, trips and falls and acquaint workers with the hazards [OHSA clauses 25(2)(a) and 25(2)(d)].

Exposures

Chemical exposures

Chemicals can present hazards to workers by a variety of different mechanisms such as causing chemical burns to skin, irritation to eyes and airways and by absorption or injection into the body.

- Review the use of chemicals used in the workplace.
- Ensure compliance with requirement for skin protection [[Regulation 851](#), section 84].
- Ensure compliance with requirement for eye protection [section 81].
- Ensure compliance with requirement for emergency eyewash facilities [section 124].
- Ensure compliance with requirement for emergency shower facilities [section 125].
- Ensure that workers are trained about precautions to take, use of protective equipment and emergency procedures [section 130].
- Ensure that the requirements outlined in the Workplace Hazardous Materials Information System (WHMIS) ([Regulation 860](#)) and the requirements to monitor and control exposure limits as identified in the Control of Exposure to Biological or Chemical Agents ([Regulation 833](#)) are followed.

General workplace environment

Workplace hazards related to the general workplace environment may include exposure to fumes and other contaminants related to poor or inadequate ventilation. Exposure to cold or heat may also be a hazard to worker health and safety.

- Ensure workplace ventilation is adequate [[Regulation 851](#), sections 127 and 128].
- Ensure that a workplace is adequately heated where appropriate [section 129].
- Review sources of heat or excessive temperatures in the workplace and ensure that adequate controls are in place to protect workers.

Noise

Injuries to workers can include varying degrees of noise-induced hearing loss.

The Noise Regulation [O. Reg. 381/15](#) sets out workplace requirements regarding noise.

- Review the engineering controls and administrative (work practices) controls in place to reduce noise levels and exposures (mufflers on air exhausts, mechanical damping, vibration isolators, enclosures, limiting worker's exposure time) [subsection 2(2)].
- Review the availability and use of hearing protection [subsection 2(6)].
- Review the type of hearing protection provided [subsection 4(1)].
- Review placement of warning signs at approaches to noisy areas [subsection 2(7)].
- Review the training provided to workers [section 3].
- Personal protective equipment is to be used only as a last resort. Engineering controls and work practices must be used where practicable [subsection 2(5)].

Transportation equipment and vehicle traffic

Injuries can occur when workers are struck by or come into contact with motorized equipment or vehicles in a workplace.

Where vehicles or motorized equipment are present:

- review locations where pedestrians and vehicles may be present in a workplace
- ensure that controls are in place to adequately protect workers from vehicles and motorized equipment. [Regulation 851, section 20]

A comprehensive program to protect workers may include an assessment of the risks, implementation of measures and procedures appropriate in the circumstances, such as warning lights, signs, signallers, barriers and worker training. The use of reflective clothing appropriate for the circumstances is also important. Workplace parties may wish to refer to the Canadian Standards Association (CSA) standard CSA Z96-15 which contains performance criteria for high visibility garments. CSA Standard Z96-15 - *High-visibility safety apparel* is available through the [Canadian Standards Association](#).

Fire and Explosion

Flammable liquids

Flammable liquids are defined in *Regulation 851* as “a liquid having a flash point below 37.8°C [100°F] and vapour pressure below 275 kilopascals absolute [40 psi] at 37.8°C.” While this definition covers flammable liquids in general, those that have a “flash point below 22.8°C [73°F] and a boiling point below 37.8°C” are highly volatile and therefore require greater control.

Injuries from fire and/or explosion can include burns, lacerations, fractures and loss of consciousness.

- Review the use of solvents in the workplace such as acetone and toluene.
- Ensure that the requirements for flammable liquids are followed, such as the requirements for:
 - grounding and bonding [clause 22(4)(b)]
 - proper storage of flammable liquids [section 22]
 - ventilation and work area protection [sections 22 and 63].
- Ensure that the requirements outlined in the WHMIS, *Regulation 860* and the requirements to monitor and control exposure limits as identified in *Regulation 833* are complied with.

Confined space

A “confined space” means a fully or partially enclosed space that is not both designed and constructed for continuous human occupancy, and in which atmospheric hazards may occur because of its construction, location or contents or because of work that is done in it.

Injuries to workers can include loss of consciousness and collateral injuries sustained as a result of loss of consciousness.

In some circumstances such as oxygen depletion, toxic substance inhalation, or explosive atmosphere, injuries to workers can lead to permanent disability or death.

The Regulation for Confined Spaces ([O. Reg. 632/05](#)) sets out workplace requirements regarding confined spaces.

- Review work locations that meet the definition of “confined space.”
- Ensure compliance with the requirement to have a program in place for confined spaces [section 5].
- Ensure compliance with the requirement to have adequate assessments of confined spaces carried out [section 6].
- Ensure compliance with requirement to have an adequate plan developed and implemented for confined space entry [section 7].
- Review compliance with requirement for worker training [section 9].

Trends

Table 1: Fatalities and critical injuries in textiles and printing by fiscal year

Events	2012-13	2013-14	2014-15	2015-16	2016-17
Fatalities	0	0	0	0	0
Critical injuries	13	8	10	7	4

- Only critical injury events reported to the ministry are included here.
- These represent data that were reported to the ministry and may not represent what actually occurred at the workplace.
- The critical injury numbers represent critical injuries reported to the ministry and not necessarily critical injuries as defined by the [Occupational health and safety Act](#).
- Non-workers who are **critically injured** may also be included in the ministry’s data.
- The Ministry of Labour tracks and reports **fatalities** at workplaces covered by the OHSA. This excludes death from natural causes, death of non-workers at a workplace, suicides, death as a result of a criminal act or traffic accident (unless the OHSA is also implicated) and death from occupational exposures that occurred many years ago.
- Data are subject to change because of inspectors’ updates to the database.

Table 2: Events and activities in textiles and printing by fiscal year

Events and activities	2012-13	2013-14	2014-15	2015-16	2016-17
Field visits	632	500	444	508	467
Orders	1,173	806	838	1,174	864
Complaints	87	101	73	84	76
Work refusals	0	1	1	1	0

Most common orders issued under the OHSA

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under the OHSA were:

- An employer shall ensure that, the equipment, materials and protective devices provided by the employer are maintained in good condition [clause 25(1)(b)].
- An employer shall post, in the workplace, a copy of this act and any explanatory material prepared by the ministry, both in English and the majority language of the workplace, outlining the rights, responsibilities and duties of workers [clause 25(2)(i)].
- An employer shall prepare and review at least annually a written occupational health and safety policy and develop and maintain a program to implement that policy [clause 25(2)(j)].
- An employer shall provide information, instruction and supervision to a worker to protect the health or safety of the worker [clause 25(2)(a)].
- Orders issued to an employer related to workplace violence and harassment provisions [sections 32.0.1 through 32.0.8].

Most common orders issued under the Industrial Regulations

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under *Regulation 851* were:

- An in-running nip hazard or any part of a machine, device or thing that may endanger the safety of any worker shall be equipped with and guarded by a guard or other device that prevents access to the pinch point [section 25].
- Where a machine or prime mover or transmission equipment has an exposed moving part that may endanger the safety of any worker, the machine or prime mover or transmission equipment shall be equipped with and guarded by a guard or other device that prevents access to the moving part [section 24].
- A lifting device shall, be thoroughly examined by a competent person to determine its capability of handling the maximum load as rated, prior to being used for the first time, and thereafter as often as necessary but not less frequently than recommended by the manufacturer and in any case, at least once a year, and a permanent record shall be kept, signed by the competent person doing the examination [clause 51(1)(b)].
- A floor or other surface used by any worker shall be kept free of obstructions, hazards, and accumulations of refuse, snow or ice, and not have any finish or protective material used on it that is likely to make the surface slippery [section 11].

Industrial Regulations identified by section

Inspectors may issue orders in the textiles and printing sector under the following sections of the [Regulation for Industrial Establishments](#) where appropriate.

- Section 7 – pre-start health and safety review requirement
- Section 11 – safe work surfaces
- Sections 13 and 14 – guardrails
- Sections 22 and 23 – flammable liquids
- Sections 24, 25, 26, 28 and 32 – guarding of equipment
- Section 34 – conveyor guarding
- Section 45 – material handling and storage
- Section 49 – compressed gas cylinders

- Clause 51(1)(a) – examination of lifting device
- Clause 51(1)(b) – maximum rated load plainly marked on lifting device
- Section 73 – portable ladder
- Section 76 – machine lockout
- Section 79 – personal protective equipment instruction
- Section 81 – eye protection
- Section 82 – foot protection
- Section 84 – protection from noxious gas, liquid fume or dust
- Section 124 – eyewash
- Section 125 – deluge shower

Pre-start health and safety review

A pre-start review (PSR) may be required by section 7 of [Regulation 851](#). Section 7 applies to a factory as defined by the OHSA and is intended to ensure that hazards are removed or controlled before an apparatus or process is started up. If required, the PSR must be completed prior to the complete installation (in-service and operating) of any apparatus, structure or protective element.

Information about pre-start reviews can be found in the Ministry of Labour [Guidelines for Pre-Start Health and Safety Reviews: How to Apply Section 7 of the Industrial Establishments Regulation](#).

For further information contact your health and safety association or the Professional Engineers of Ontario (PEO) for guidance in conducting a PSR or contact a professional engineer or engineering company that performs PSRs.

Applicable regulations

- Critical Injury – Defined [Regulation 834](#)
- Confined Spaces [O. Reg. 632/05](#)
- Control of Exposure to Biological or Chemical Agents [Regulation 833](#)
- Designated Substances [O. Reg. 490/09](#)
- Designated Substance – Asbestos on Construction Projects and in Buildings and Repair Operations [Regulation O. Reg. 278/05](#)
- Noise Regulation [O. Reg. 381/15](#)
- Occupational Health and Safety Awareness and Training [O. Reg. 297/13](#)
- Regulation for Industrial Establishments [Regulation 851](#)
- Workplace Hazardous Materials Information System (WHMIS) [Regulation 860](#)

Construction

Employers should be aware that in situations where construction work is undertaken, the Construction Projects Regulation ([O. Reg. 213/91](#)) may apply.

Construction work can be described as new work, additions, alterations, or maintenance and repairs. The *Occupational health and safety Act* defines “construction” as including “erection, alteration, repair, dismantling, demolition, structural maintenance, painting, land clearing, earth moving, grading, excavating, trenching, digging, boring, drilling, blasting, or concreting, the installation of any machinery or plant, and any work or undertaking in connection with a project but does not include any work or undertaking underground in a mine.”

General resources

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To review [Workplace safety and insurance board](#) (WSIB) injury experience data.

Tourism, hospitality and recreational services

Sector summary

This sector comprises establishments primarily engaged in operating facilities or providing services to meet the cultural, entertainment and recreational interests of their patrons. This includes lodging houses, laundries, golf courses, hotels and motels, amusement and recreation camp grounds and personal and household services.

Key hazards

The following list represents hazards to which workers are commonly exposed in the tourism, hospitality and recreational sector:

- slips, trips and falls
- activities that may lead to musculoskeletal disorders (MSDs)
- material handling hazards (such as workers being struck by objects, caught or crushed between objects and hot liquid burns)
- workplace violence and workplace harassment
- machine (and powered equipment) hazards such as improper lock-out and unguarded equipment
- electrical contact: less than 600 volts
- equipment roll-over
- flammable liquids.

In general, hazards that are not covered by a regulation and hazards in workplaces not covered by a sector-specific regulation are addressed through the application of the “general duty” clause 25(2)(h) of the [Occupational health and safety Act](#) (OHSA).

Workplace parties should refer to the narrative portion of the field visit report, if they have received one, for further information or contact their [health and safety association](#) for guidance.

Slips, trips and falls

Slips, trips and falls hazards include hazards that result in workers falling onto the same surface or falling from a height.

Injuries to workers can include fractures, lacerations and loss of consciousness. In extreme circumstances injuries caused from a fall can lead to permanent disability or death.

The Regulation for Industrial Establishments ([*Regulation 851*](#)) applies to industrial establishments (such as an office building, factory, arena, shop or office or any land, buildings and structures pertaining there to) and sets out a number of requirements for worker protection against slips, trips and falls, including but not limited to sections 11, 13, 14, 15, 73 and 85.

- Floors and other surfaces used by workers must be free of obstructions, hazards, accumulations of ice and snow and not have a slippery surface [section 11].
- In areas requiring ladder use, review compliance with section 73.
- Employers must provide information, instruction and supervision to protect workers from slips, trips and falls and acquaint workers with the hazards [OHSa clauses 25(2)(a) and 25(2)(d)].

Musculoskeletal disorders (MSDs)

Workplace pains and strains can be serious and disabling for workers, causing pain and suffering ranging from discomfort to severe disability.

MSD is not a medical diagnosis; it is an umbrella term for a group of injuries. Some of these injuries include: back pain, muscle strain, tendonitis, carpal tunnel syndrome (CTS), rotator cuff syndrome, tennis elbow and shoulder pain.

- Identify and assess job-related MSD risk factors (i.e. identify tasks and activities involving manual material handling, use of ladders, static or repetitive movements etc.).
- Review training on job-specific MSD risk factors.
- Assess controls to reduce worker exposure to MSDs.
- Contact your health and safety association for guidance in assessments and prevention of MSDs.

Material handling hazards: struck by objects, caught between or crushed by objects

Injuries associated with material handling can include workers being struck by objects, caught between objects and/or crushed by mechanical compression. Manual material handling may also lead to MSDs.

Regulation 851 out requirements for material handling in sections 45, 46, 47, 48, 49 and 50. Section 51 contains requirements regarding mechanical lifting devices.

- Ensure that products, equipment and materials are stored safely and can be removed and handled by workers in a safe manner [section 45].
- Ensure that mechanical lifting devices are maintained in good condition, are operated by a competent person and are capable of handling loads [section 51].

Material handling: hot liquid burns

Injuries to workers can include burns and scalds.

- Ensure compliance with requirements of material handling sections with respect to the transfer of hot (boiling) liquids such as oil, grease or water to prevent injury [section 45 and clauses 84(c), (e), and (f)].
- Ensure that workers are provided with training on the care, use and limitations of personal protective equipment [section 79].
- Ensure that appropriate protective apparel is used to protect a worker from being burned by hot liquids [clause 84(c), (e), and (f)].
- Ensure that workers are provided information, instruction and supervision related to use of equipment and personal protective equipment [OHSA clause 25(2)(a)].

Workplace violence and workplace harassment

The OHSA sets out requirements for workplace violence and harassment in sections 32.0.1 to 32.0.8.

- Ensure that appropriate workplace violence and harassment policies have been established in accordance with the OHSA [section 32.0.1].
- Conduct a workplace violence risk assessment or re-assessment [section 32.0.3].
- Ensure that workplace violence and workplace harassment programs are developed and maintained to implement the policies [sections 32.0.2 and 32.0.6].
- Ensure that workers have received information and instruction on the workplace violence and harassment policy and program [sections 32.0.5 and 32.0.7].
- Subject to some conditions, the employer must provide information to a worker related to the risk of workplace violence from a person with a history of violent behaviour [subsection 32.0.5(3)].
- Employers may wish to consider the use of the ministry's [Code of Practice to Address Workplace Harassment](#) under the *Occupational health and safety Act*.

Further information regarding the requirements related to workplace violence can be found in the Ministry of Labour (MOL) guide [Workplace violence and harassment: Understanding the law](#).

Additional information, including more information about new workplace harassment provisions, can be found on the MOL topic webpages for [Workplace Violence and Workplace Harassment](#).

Machine hazards

Machine or transmission start-up (improper lockout)

Injuries experienced by accidental machine start-up can include lacerations, crushing and amputations. In some circumstances these injuries can cause permanent disability or death.

The Regulation for Industrial Establishments [Regulation 851](#) sets out requirements for worker protection against machine start-up in sections 75 and 76.

- Review repair/maintenance of machinery [section 75].
- Ensure requirement/compliance with lockout procedures [sections 75 and 76].

For all workplaces where machine hazards are present, employers must ensure that instruction and information is provided to a worker on the hazard and the requirements to isolate and lockout hazardous energy [OHSA clauses 25(2)(a) and 25(2)(d)].

Unguarded equipment

Injuries to workers can include lacerations, amputations, crush by entanglement and loss of consciousness. Serious injuries can lead to permanent disability or death.

Hazards due to unguarded equipment include worker exposure to pinch points, moving (rotating) equipment and in-running nip hazards. Equipment that has exposed moving parts such as cutting equipment, exposed drive-motor assemblies used to power compressors and, or ventilation fans may endanger a worker.

Regulation 851 sets out requirements for guarding of equipment in sections, 24, 25, 26, 28, 31 and 32.

- Ensure that requirements for the guarding of prime movers or transmission equipment are followed [section 24].
- Ensure that pinch points are guarded [section 25].

Electrical contact: less than 600 volts

Injuries to workers can include loss of consciousness, burns, lacerations and fractures as result of contact with the live electrical apparatus, or fall to the ground from the same level or from an elevated working height. Serious injuries can result in permanent disability or death.

Regulation 851 sets out requirements for working with electrical equipment and around electrical installations in sections 40 to 40.2.

- Review procedures when performing electrical maintenance [sections 42-44.2]
- Ensure that proper lockout procedures are used [subsections 42(1) and 42(7)].
- Ensure that training is provided to workers about electrical lockout [OHSA clause 25(2)(a)].

Equipment roll-over

The Roll-Over Protective Structure (ROPS) Regulation ([*Regulation 856*](#)) applies to all workplaces (except farming operations) covered by the *Occupational health and safety Act*.

Machines that fall into the categories of “lawn ride-on tractors” and “lawn and garden ride on tractors” can be equipped with implements and are considered “tractors,” a type of machine to which the ROPS regulation can apply.

The smaller riding lawn *mowers* are unable to accommodate implements, and are not “*tractors*” within the commonly understood meaning of the term, and are not machines to which the ROPS Regulation applies.

Injuries from equipment roll-over can include fractures, loss of consciousness, internal injuries and lacerations. Severe incidents can lead to permanent disability (amputation) or death (mechanical compression) when workers are trapped or caught between equipment and the ground or other object.

Regulation 856 sets out the requirements regarding roll-over protective structures (ROPS).

The ROPS regulation applies to a “lawn tractor” or “lawn and garden tractor” that is designed to accommodate other implements and that is rated at more than 15 kW [20 hp] or weighs more than 700 kg [1,500 lbs].

Review the requirements of *Regulation 856*, section 2 to determine which equipment is available in the workplace where roll-over protective structures are required. Exceptions include equipment which is:

- a. 15 kW [20 hp] or less OR 700 kg [1,500 lbs] or less
- b. manufactured before 1980.

- Ensure that workers comply with the requirement to use a seatbelt [subsection 3(1)].
- Acquaint a worker of any known hazards [OHSA clause 25(2)(d)].
- Ensure that workers are provided information, instruction and supervision related to the operation of machines and the requirement of ROPS [OHSA clause 25(2)(a)].

Flammable liquids

Flammable liquids are defined in *Regulation 851* as “a liquid having a flash point below 37.8°C [100°F] and vapour pressure below 275 kilopascals absolute [40 psi] at 37.8°C.” While this definition covers flammable liquids in general, those that have a “flash point below 22.8°C [73°F] and a boiling point below 37.8°C” are highly volatile and therefore require greater control.

Injuries from fire and/or explosion can include burns, lacerations, fractures and loss of consciousness.

Regulation 851 sets out requirements for storage and dispensing of flammable liquids in sections 22, 23, 61 and 63.

- Ensure that the required procedures for the storage and dispensing of gasoline are complied with [section 61].
- Ensure compliance with requirements grounding and bonding [clause 22(4)(b)].
- Ensure the proper storage and handling of flammable liquids [section 22].
- Ensure compliance with requirements for ventilation and work area protection [sections 22 and 63].

Trends

Table 1: Fatalities and critical injuries in tourism, hospitality and recreation by fiscal year

Events	2012-13	2013-14	2014-15	2015-16	2016-17
Fatalities	1	3	1	1	4
Critical injuries	36	29	32	22	43

- Only critical injury events reported to the ministry are included here.
- These represent data that were reported to the ministry and may not represent what actually occurred at the workplace.
- The critical injury numbers represent critical injuries reported to the ministry and not necessarily critical injuries as defined by the [Occupational health and safety Act](#).
- Non-workers who are **critically injured** may also be included in the ministry’s data.
- The Ministry of Labour tracks and reports **fatalities** at workplaces covered by the OHSA. This excludes death from natural causes, death of non-workers at a workplace, suicides, death as a result of a criminal act or traffic accident (unless the OHSA is also implicated) and death from occupational exposures that occurred many years ago.
- Data are subject to change because of inspectors’ updates to the database.

Table 2: Events and activities in tourism, hospitality, and recreation by fiscal year

Events and activities	2012-13	2013-14	2014-15	2015-16	2016-17
Field visits	1,755	1,616	1,454	1,441	1,601
Orders	3,377	2,709	3,113	2,638	2,715

Events and activities	2012-13	2013-14	2014-15	2015-16	2016-17
Complaints	315	359	316	308	422
Work refusals	1	1	0	4	7

Most common orders issued under the OHSA

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under the OHSA were:

- An employer shall take every precaution reasonable in the circumstances for the protection of a worker [clause 25(2)(h)].
- An employer shall post, in the workplace, a copy of this Act and any explanatory material prepared by the Ministry, both in English and the majority language of the workplace, outlining the rights, responsibilities and duties of workers [clause 25(2)(i)].
- An employer shall ensure that, the equipment, materials and protective devices provided by the employer are maintained in good condition [clause 25(1)(b)].
- An employer shall prepare and review at least annually a written occupational health and safety policy and develop and maintain a program to implement that policy [clause 25(2)(j)].
- Orders issued to an employer related to workplace violence and harassment provisions [sections 32.0.1 through 32.0.8].

Most common orders issued under the Industrial Regulations

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under *Regulation 851* were:

- Where a worker is exposed to a potential hazard of injury to the eye due to contact with a biological or chemical substance, an eyewash fountain shall be provided [section 124].
- A floor or other surface used by any worker shall be kept free of obstructions, hazards, and accumulations of refuse, snow or ice, and not have any finish or protective material used on it that is likely to make the surface slippery [section 11].
- A storage cylinder for compressed gas shall have a valve connection that prevents an inadvertent connection which would result in a hazardous mixture of gases, be secured in position during transportation, storage or use, have the valve protection cap in position when the cylinder is not in use, when containing acetylene, be in an upright position, and be protected from physical damage [section 49].
- Material, articles or things shall be transported, placed or stored so that the material, articles or things, will not tip, collapse or fall, and can be removed or withdrawn without endangering the safety of any worker [clause 45(b)].

Industrial Regulations identified by section

Inspectors may issue orders in the tourism, hospitality and recreational sector under the following sections of the [Regulation for Industrial Establishments](#) where appropriate.

Section 7 – pre-start health and safety review

Section 11 – safe work surfaces

Sections 13 and 14 – guardrails

Sections 22 and 23 – flammable liquids

Sections 24, 25, 26, 28 and 32 – guarding of equipment

Section 45 – material handling and storage

Section 49 – compressed gas cylinders

Section 73 – portable ladder

Section 76 – machine lockout

Section 79 – personal protective equipment instruction

Section 80 – head protection

Section 81 – eye protection

Section 82 – foot protection

Section 84 – protection from noxious gas, liquid fume or dust

Section 85 – fall arrest

Applicable regulations

In addition to the *Occupational health and safety Act*, there are a number of regulations made under the act which may apply depending on circumstances found at the workplace.

- Critical Injury – Defined [*Regulation 834*](#)
- Confined Spaces [*O. Reg. 632/05*](#)
- Control of Exposure to Biological or Chemical Agents [*Regulation 833*](#)
- Noise Regulation [*O. Reg. 381/15*](#)
- Occupational Health and Safety Awareness and Training [*O. Reg. 297/13*](#)
- Regulation for Industrial Establishments [*Regulation 851*](#)
- Roll-Over Protective Structures [*Regulation 856*](#)
- Workplace Hazardous Materials Information System (WHMIS) [*Regulation 860*](#)

Construction

Employers should be aware that in situations where construction work is undertaken, the Construction Projects Regulation ([*O. Reg. 213/91*](#)) may apply.

Construction work can be described as new work, additions, alterations, or maintenance and repairs. the *Occupational health and safety Act* defines “construction” as including “erection, alteration, repair, dismantling, demolition, structural maintenance, painting, land clearing, earth moving, grading, excavating, trenching, digging, boring, drilling, blasting, or concreting, the installation of any machinery or plant, and any work or undertaking in connection with a project but does not include any work or undertaking underground in a mine.”

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Transportation

Sector summary

This sector includes transportation, including freight trucking, courier service, taxis, school buses, GO Transit, urban transit systems and transit companies.

Key hazards

The following list represents hazards to which workers are commonly exposed in the transportation sector:

- activities that may lead to musculoskeletal disorders (MSDs)
- slips, trips and falls
- material handling hazards (such as workers being struck by objects, caught or crushed between objects)
- transportation equipment and vehicle traffic
- noise
- exposures (to infectious agents).

In general, hazards that are not covered by a regulation and hazards in workplaces not covered by a sector-specific regulation are addressed through the application of the “general duty” clause 25(2)(h) of the [Occupational health and safety Act](#) (OHSA).

Workplace parties should refer to the narrative portion of the field visit report, if they have received one, for further information or contact their [health and safety association](#) for guidance.

In addition to any other hazards which may be present in a workplace, all employers covered by the OHSA must comply with the requirements for workplace violence and harassment. The act sets out requirements for workplace violence and harassment in sections 32.0.1 to 32.0.8. Further information regarding the requirements related to workplace violence can be found in the Ministry of Labour (MOL) guide [Workplace violence and harassment: Understanding the law](#).

Additional information, including more information about new workplace harassment provisions, can be found on the MOL topic webpages for [Workplace Violence and Workplace Harassment](#). Employers may wish to consider the use of the ministry's [Code of Practice to Address Workplace Harassment](#) under the *Occupational health and safety Act*.

Musculoskeletal disorders (MSDs)

Workplace pains and strains can be serious and disabling for workers, causing pain and suffering ranging from discomfort to severe disability.

MSD is not a medical diagnosis; it is an umbrella term for a group of injuries. Some of these injuries include: back pain, muscle strain, tendonitis, carpal tunnel syndrome (CTS), rotator cuff syndrome, tennis elbow and shoulder pain.

- Identify and assess job-related MSD risk factors (i.e. identify tasks and activities involving manual material handling, use of ladders, static or repetitive movements etc.).
- Review training on job-specific MSD risk factors.
- Assess controls to reduce worker exposure to MSDs.
- Contact your health and safety association for guidance in assessments and prevention of MSDs.

Slips, trips and falls

Slips, trips and falls hazards include hazards that result in workers falling onto the same surface or falling from a height.

Injuries to workers can include fractures, lacerations and loss of consciousness. In extreme circumstances injuries caused from a fall can lead to permanent disability or death.

The Regulation for Industrial Establishments ([Regulation 851](#)) applies to industrial establishments (such as an office building, factory, arena, shop or office or any land, buildings and structures pertaining thereto) and sets out a number of requirements for worker protection against slips, trips and falls, including but not limited to sections 11, 13, 14, 15, 73 and 85.

- Floors and other surfaces used by workers must be free of obstructions, hazards, accumulations of ice and snow and not have a slippery surface [section 11].
- Review fall protection equipment required when working from heights [section 85].
- Ensure that training is provided to a worker on the use of protective clothing and equipment (i.e. fall arrest equipment [section 79]).
- In areas requiring ladder use, review compliance with section 73.
- Employers must provide information, instruction and supervision to protect workers from slips, trips and falls and acquaint workers with the hazards [OHSa clauses 25(2)(a) and 25(2)(d)].

Material handling hazards: struck by objects, caught between or crushed by objects

Injuries associated with material handling can include workers being struck by objects, caught between objects and/or crushed by mechanical compression. Manual material handling may also lead to MSDs.

Regulation 851 sets out requirements for material handling in sections 45, 46, 47, 48, 49 and 50. Section 51 contains requirements regarding mechanical lifting devices.

- Review operations/processes involving the movement of material and product to and from receiving areas or to shipping areas.

- Ensure that products, equipment and materials are stored safely and that workers can move or handle products, materials and equipment safely [section 45].
- Review warehousing/storage operations [clause 45(b)].
- Ensure that mechanical lifting devices are maintained in good condition, are operated by a competent person and are capable of handling loads [section 51].

Noise

Injuries to workers can include varying degrees of noise-induced hearing loss.

The Noise Regulation [O. Reg. 381/15](#) sets out workplace requirements regarding noise.

- Review the engineering controls and administrative (work practices) controls in place to reduce noise levels and exposures (mufflers on air exhausts, mechanical damping, vibration isolators, enclosures, limiting worker's exposure time) [subsection 2(2)].
- Review the availability and use of hearing protection [subsection 2(6)].
- Review the type of hearing protection provided [subsection 4(1)].
- Review placement of warning signs at approaches to noisy areas [subsection 2(7)].
- Review the training provided to workers [section 3].
- Personal protective equipment is to be used only as a last resort. Engineering controls and work practices must be used where practicable [subsection 2(5)].

Transportation equipment and vehicle traffic

Workers can be involved in serious collisions with tragic consequences. Injuries can also occur when workers are struck by or come into contact with vehicles while attending at scenes or locations where vehicle traffic is present.

A workplace includes the motor vehicle that workers operate. Employers should continue to promote a culture of safety that includes a focus on safe driving.

Employers must also ensure that vehicles used by workers are maintained in good condition and are safe to use.

Where vehicles are present:

- review locations where pedestrians and vehicles may be present in/or at a workplace, including roadways
- ensure that controls are in place to adequately protect workers from vehicle traffic.

A comprehensive program to protect workers may include an assessment of the risks and implementation of measures and procedures appropriate in the circumstances, such as warning lights, signs, signallers, barriers and worker training. The use of reflective clothing appropriate for the circumstances is also important. Workplace parties may wish to refer to the Canadian Standards Association (CSA) standard CSA Z96-15 which contains performance criteria for high visibility garments. CSA Standard Z96-15 - *High-visibility safety apparel* is available through the [Canadian Standards Association](#).

Exposures - infectious agents

Infectious agents may be present in workplaces that can be a hazard to workers. Workers may encounter a variety of infectious agents from specific tasks that are performed (e.g. during cleaning or maintenance

activities) or workers may encounter members of the public who are sick (e.g. norovirus, common cold, influenza) or infected with a communicable disease (such as a blood borne pathogen).

Where there is a hazard of infection, employers must ensure that appropriate precautions are put into place.

- Ensure that workers are educated about routine infection control precautions appropriate for their work.
- Ensure that appropriate personal protective equipment is available as required.

Trends

Table 1: Fatalities and critical injuries in transportation by fiscal year

Events	2012-13	2013-14	2014-15	2015-16	2016-17
Fatalities	6	4	3	0	2
Critical injuries	32	33	41	48	24

- Only critical injury events reported to the ministry are included here.
- These represent data that were reported to the ministry and may not represent what actually occurred at the workplace.
- The critical injury numbers represent critical injuries reported to the ministry and not necessarily critical injuries as defined by the [Occupational health and safety Act](#).
- Non-workers who are **critically injured** may also be included in the ministry's data.
- The Ministry of Labour tracks and reports **fatalities** at workplaces covered by the OHSA. This excludes death from natural causes, death of non-workers at a workplace, suicides, death as a result of a criminal act or traffic accident (unless the OHSA is also implicated) and death from occupational exposures that occurred many years ago.
- Data is subject to change because of inspectors' updates to the database.

Table 2: Events and activities in transportation by fiscal year

Events and activities	2012-13	2013-14	2014-15	2015-16	2016-17
Field visits	1,045	1,196	1,117	959	938
Orders	1,169	1,324	1,490	1,056	1,125
Complaints	223	260	294	276	304
Work refusals	13	16	15	18	15

Most common orders issued under the OHSA

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under the OHSA were:

- An employer shall ensure that, the equipment, materials and protective devices provided by the employer are maintained in good condition [clause 25(1)(b)].
- An employer shall take every precaution reasonable in the circumstances for the protection of a worker [clause 25(2)(h)].
- An employer shall provide information, instruction and supervision to a worker to protect the health or safety of the worker [clause 25(2)(a)].

- An employer shall post, in the workplace, a copy of this Act and any explanatory material prepared by the Ministry, both in English and the majority language of the workplace, outlining the rights, responsibilities and duties of workers [clause 25(2)(i)].

Most common orders issued under the Industrial Regulations

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under *Regulation 851* were:

- A floor or other surface used by any worker shall be kept free of obstructions, hazards, and accumulations of refuse, snow or ice, and not have any finish or protective material used on it that is likely to make the surface slippery [section 11].
- A lifting device shall, be thoroughly examined by a competent person to determine its capability of handling the maximum load as rated, prior to being used for the first time, and thereafter as often as necessary but not less frequently than recommended by the manufacturer and in any case, at least once a year, and a permanent record shall be kept, signed by the competent person doing the examination [clause 51(1)(b)].
- Machinery, equipment or material that may tip or fall and endanger any worker shall be secured against tipping or falling [section 46].
- An in-running nip hazard or any part of a machine, device or thing that may endanger the safety of any worker shall be equipped with and guarded by a guard or other device that prevents access to the pinch point [section 25].
- Material, articles or things shall be transported, placed or stored so that the material, articles or things (i) will not tip, collapse or fall, and (ii) can be removed or withdrawn without endangering the safety of any worker [clause 45(b)].

Industrial Regulations identified by section

Inspectors may issue orders in the transportation sector under the following sections of the [Regulation for Industrial Establishments](#) where appropriate.

- Section 7 – pre-start health and safety review
- Section 11 – safe work surfaces
- Sections 13 and 14 – guardrails
- Sections 22 and 23 – flammable liquids
- Section 45 – material handling and storage
- Section 57 – inadvertent vehicle movement
- Section 73 – portable ladder
- Section 76 – machine lockout
- Section 79 – personal protective equipment instruction
- Section 80 – head protection
- Section 81 – eye protection
- Section 82 – foot protection
- Section 85 – fall arrest

Applicable regulations

- Critical Injury – Defined [Regulation 834](#)
- Control of Exposure to Biological or Chemical Agents [Regulation 833](#)

- Designated Substance – Asbestos on Construction Projects and in Buildings and Repair Operations [O. Reg. 278/05](#)
- Noise Regulation [O. Reg. 381/15](#)
- Occupational Health and Safety Awareness and Training [O. Reg. 297/13](#)
- Regulation for Industrial Establishments [Regulation 851](#)
- Workplace Hazardous Materials Information System (WHMIS) [Regulation 860](#)

Regulation for Construction Projects

Employers should be aware that in situations where construction work is undertaken, the Construction Projects Regulation ([O. Reg. 213/91](#)) may apply.

Construction work can be described as new work, additions, alterations, or maintenance and repairs. The *Occupational health and safety Act* defines “construction” as including “erection, alteration, repair, dismantling, demolition, structural maintenance, painting, land clearing, earth moving, grading, excavating, trenching, digging, boring, drilling, blasting, or concreting, the installation of any machinery or plant, and any work or undertaking in connection with a project but does not include any work or undertaking underground in a mine.”

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Emergency medical services (EMS): What is Bill 163, the *Supporting Ontario’s First Responders Act, 2016*?

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To learn about sector-assigned health and safety associations.

[By the numbers: WSIB statistical report](#)

To review [Workplace safety and insurance board](#) (WSIB) injury experience data.

Utilities

Sector summary

The utilities sector comprises firms involved in line clearing, telecommunications, utilities, municipal power, private power and water. Examples include pipelines, telephone firms and cable television firms.

Key hazards

The following list represents hazards to which workers are commonly exposed in the utilities sector:

- activities that may lead to musculoskeletal disorders (MSDs)
- machine (and powered equipment) hazards such as improper lock-out and unguarded equipment
- machine – rollover
- electrical contact
- material handling hazards (such as workers being struck by objects, caught or crushed between objects)
- slips, trips and falls
- exposures
- noise
- transportation equipment and vehicle traffic
- confined spaces.

In general, hazards that are not covered by a regulation and hazards in workplaces not covered by a sector-specific regulation are addressed through the application of the “general duty” clause 25(2)(h) of the [Occupational health and safety Act](#) (OHSA).

Workplace parties should refer to the narrative portion of the field visit report, if they have received one, for further information or contact their [health and safety association](#) for guidance.

In addition to any other hazards which may be present in a workplace, all employers covered by the OHSA must comply with the requirements for workplace violence and harassment. The act sets out requirements for workplace violence and harassment in sections 32.0.1 to 32.0.8. Further information regarding the requirements related to workplace violence can be found in the Ministry of Labour (MOL) guide [Workplace violence and harassment: Understanding the law](#).

Additional information, including more information about new workplace harassment provisions, can be found on the MOL topic webpages for [Workplace Violence and Workplace Harassment](#). Employers may wish to consider the use of the ministry’s [Code of Practice to Address Workplace Harassment](#) under the *Occupational health and safety Act*.

Musculoskeletal disorders (MSDs)

Workplace pains and strains can be serious and disabling for workers, causing pain and suffering ranging from discomfort to severe disability.

MSD is not a medical diagnosis; it is an umbrella term for a group of injuries. Some of these injuries include: back pain, muscle strain, tendonitis, carpal tunnel syndrome (CTS), rotator cuff syndrome, tennis elbow and shoulder pain.

- Identify and assess job-related MSD risk factors (i.e. identify tasks and activities involving manual material handling, use of ladders, static or repetitive movements etc.).
- Review training on job-specific MSD risk factors.
- Assess controls to reduce worker exposure to MSDs.
- Contact your health and safety association for guidance in assessments and prevention of MSDs.

Machine hazards

Machine or transmission start-up (improper lockout)

Injuries experienced by accidental machine start-up can include lacerations, crushing and amputations. In some circumstances these injuries can cause permanent disability or death.

The Regulation for Industrial Establishments ([Regulation 851](#)) applies to industrial establishments (such as an office building, factory, arena, shop or office or any land, buildings and structures pertaining there to) and sets out requirements for worker protection against machine start-up in sections 75 and 76.

- Review repair/maintenance of machinery [section 75].
- Ensure requirement/compliance with lockout procedures [sections 75 and 76].
- Ensure that instruction and information is provided to a worker on the hazard and the requirements to isolate and lockout hazardous energy [OHSA clauses 25(2)(a) and 25(2)(d)].

Unguarded equipment

Injuries to workers can include lacerations, amputations, crush by entanglement and loss of consciousness. Serious injuries can lead to permanent disability or death.

Hazards due to unguarded equipment include worker exposure to pinch points, moving (rotating) equipment, and in-running nip hazards. Equipment that has exposed moving parts such as cutting equipment, conveyors and exposed drive-motor assemblies used to power compressors and/or ventilation fans may endanger a worker. *Regulation 851* sets out requirements for guarding of equipment in sections 24, 25, 26, 28, 31 and 32.

- Ensure that the requirements for the guarding of prime movers or transmission equipment are followed [section 24].
- Ensure that pinch points are guarded [section 25].

Machine roll-over

The Roll-Over Protective Structure (ROPS) Regulation ([Regulation 856](#)) applies to all workplaces (except farming operations) covered by the *Occupational health and safety Act*.

Machines that fall into the categories of “lawn ride-on tractors” and “lawn and garden ride-on tractors” can be equipped with implements and are considered “tractors,” a type of machine to which the ROPS regulation can apply.

The smaller riding lawn *mowers* are unable to accommodate implements, and are not “tractors” within the commonly understood meaning of the term, and are not machines to which the ROPS Regulation applies.

Injuries from equipment roll-over can include fractures, loss of consciousness, internal injuries and lacerations. Severe incidents can lead to permanent disability (amputation) or death (mechanical compression) when workers are trapped or caught between equipment and the ground or other object.

Regulation 856 sets out the requirements regarding roll-over protective structures.

The ROPS Regulation applies to a “lawn tractor” or “lawn and garden tractor” that is designed to accommodate other implements and that is rated at more than 15 kW (20 hp) or weighs more than 700 kg (1,500 lbs).

Review the requirements of *Regulation 856*, section 2 to determine which equipment is available in the workplace where roll-over protective structures are required. Exceptions include equipment which is:

- a. 15 kW(20 hp) or less OR 700 kg (1,500 lbs) or less
 - b. manufactured before 1980.
- Ensure that workers comply with the requirement to use a seatbelt [subsection 3(1)].
 - Acquaint a worker of any known hazards [OHSA clause 25(2)(d)].
 - Ensure that workers are provided information, instruction and supervision related to the operation of machines and the requirement of ROPS [OHSA clause 25(2)(a)].

Electrical contact

Injuries to workers can include loss of consciousness, burns, lacerations and fractures as a result of contact with the live electrical apparatus or fall to the ground from the same level, or from an elevated working height.

The lack of muscular self-control after electrical shock and the inability of workers to protect themselves or brace for the impact can contribute to serious head, neck and back injuries. Severe incidents involving electric shock can lead to permanent disability or death.

Regulation 851 sets out requirements for working with electrical equipment and around electrical installations in sections 40 to 40.2.

- Ensure that proper procedures are followed when performing electrical maintenance [sections 42-44.2].
- Ensure that proper lock-out procedures are followed [subsections 42(1) and 42(7)]. Ensure that workers are provided information, instruction and supervision [OHSA clause 25(2)(a)].

Material handling hazards: struck by objects, caught between or crushed by objects

Injuries associated with material handling can include workers being struck by objects, caught between objects and/or crushed by mechanical compression. Manual material handling may also lead to MSDs.

Regulation 851 sets out requirements for material handling in sections 45, 46, 47, 48, 49 and 50. Section 51 contains requirements regarding mechanical lifting devices.

- Review operations/processes involving the movement of material, equipment and product in the workplace.
- Ensure that materials, equipment and product are stored safely and can be removed and handled by workers safely [section 45]. Ensure that mechanical lifting devices are maintained in good condition, are operated by a competent person and are capable of handling loads [section 51].

Slips, trips and falls

Slips, trips and falls hazards include hazards that result in workers falling onto the same surface or falling from a height.

Injuries to workers can include fractures, lacerations and loss of consciousness. In extreme circumstances, injuries caused from a fall can lead to permanent disability or death.

The Regulation for Industrial Establishments ([*Regulation 851*](#)) sets out a number of requirements for worker protection against slips, trips and falls, including but not limited to sections 11, 13, 14, 15, 73 and 85.

- Floors and other surfaces used by workers must be free of obstructions, hazards, accumulations of ice and snow and not have a slippery surface [section 11].
- Review requirements for guardrails to protect from falls [sections 13 and 14].
- Review fall protection equipment required when working from heights [section 85].
- Ensure that training is provided to a worker on the use of protective clothing and equipment (i.e. fall arrest equipment [section 79].
- In areas requiring ladder use, review compliance with section 73.
- Employers must provide information, instruction and supervision to protect workers from slips, trips and falls and acquaint workers with the hazards [OHSА clauses 25(2)(a) and 25(2)(d)].

Exposures

Chemical exposures

Chemicals can present hazards to workers by a variety of different mechanisms such as causing chemical burns to skin, irritation to eyes and airways and by absorption or injection into the body.

- Review the use of chemicals used in the workplace such as cleaners, disinfectants and any other chemicals used.
- Ensure compliance with requirement for skin protection [*Regulation 851*, section 84].
- Ensure compliance with requirement for eye protection [section 81].
- Ensure compliance with requirement for emergency eyewash facilities [section 124].
- Ensure compliance with requirement for emergency shower facilities [section 125].
- Ensure that workers are trained about precautions to take, use of protective equipment and emergency procedures [section 130].
- Ensure that the requirements outlined in the Workplace Hazardous Materials Information System (WHMIS) ([Regulation 860](#)), and the requirements to monitor and control exposure limits as identified in the Control of Exposure to Biological or Chemical Agents Regulation ([Regulation 833](#)) are followed.

General workplace environment

Workplace hazards related to the general workplace environment may include exposure to fumes and other contaminants related to poor or inadequate ventilation. Exposure to cold or heat may also be a hazard to worker health and safety.

- Ensure workplace ventilation is adequate [*Regulation 851*, sections 127 and 128].
- Ensure that a workplace is adequately heated where appropriate [section 129].
- Review sources of heat or excessive temperatures in the workplace and ensure that adequate controls are in place to protect workers.

Noise

Injuries to workers can include varying degrees of noise-induced hearing loss.

The Noise Regulation [O. Reg. 381/15](#) sets out workplace requirements regarding noise.

- Review the engineering controls and administrative (work practices) controls in place to reduce noise levels and exposures (mufflers on air exhausts, mechanical damping, vibration isolators, enclosures, limiting worker's exposure time) [subsection 2(2)].
- Review the availability and use of hearing protection [subsection 2(6)].

- Review the type of hearing protection provided [subsection 4(1)].
- Review placement of warning signs at approaches to noisy areas [subsection 2(7)].
- Review the training provided to workers [section 3].
- Personal protective equipment is to be used only as a last resort. Engineering controls and work practices must be used where practicable [subsection 2(5)].

Transportation equipment and vehicle traffic

Injuries can occur when workers are struck by or come into contact with motorized equipment or vehicles in a workplace.

Where vehicles or motorized equipment are present:

- review locations where pedestrians and vehicles may be present in a workplace.
- ensure that controls are in place to adequately protect workers from vehicles and motorized equipment. [*Regulation 851*, section 20].

A comprehensive program to protect workers may include an assessment of the risks and implementation of measures and procedures appropriate in the circumstances, such as warning lights, signs, signallers, barriers and worker training. The use of reflective clothing appropriate for the circumstances is also important. Workplace parties may wish to refer to the Canadian Standards Association (CSA) standard CSA Z96-15 which contains performance criteria for high visibility garments. CSA Standard Z96-15 - *High-visibility safety apparel* is available through the [Canadian Standards Association](#).

Confined space

A “confined space” means a fully or partially enclosed space that is not both designed and constructed for continuous human occupancy, and in which atmospheric hazards may occur because of its construction, location or contents or because of work that is done in it.

Injuries to workers can include loss of consciousness and collateral injuries sustained as a result of loss of consciousness.

In some circumstances such as oxygen depletion, toxic substance inhalation, or explosive atmosphere, injuries to workers can lead to permanent disability or death.

The Regulation for Confined Spaces ([O. Reg. 632/05](#)) sets out workplace requirements regarding confined spaces.

- Review work locations that meet the definition of “confined space.”
- Ensure compliance with the requirement to have a program in place for confined spaces [section 5].
- Ensure compliance with the requirement to have adequate assessments of confined spaces carried out [section 6].
- Ensure compliance with requirement to have an adequate plan developed and implemented for confined space entry [section 7].
- Review compliance with requirement for worker training [section 9].

Trends

Table 1: Fatalities and critical injuries in utilities by fiscal year

Events	2012-13	2013-14	2014-15	2015-16	2016-17

Events	2012-13	2013-14	2014-15	2015-16	2016-17
Fatalities	0	0	0	0	0
Critical injuries	7	16	12	8	14

- Only critical injury events reported to the ministry are included here.
- These represent data that were reported to the ministry and may not represent what actually occurred at the workplace.
- The critical injury numbers represent critical injuries reported to the ministry and not necessarily critical injuries as defined by the [Occupational health and safety Act](#).
- Non-workers who are **critically injured** may also be included in the ministry's data.
- The Ministry of Labour tracks and reports **fatalities** at workplaces covered by the OHSA. This excludes death from natural causes, death of non-workers at a workplace, suicides, death as a result of a criminal act or traffic accident (unless the OHSA is also implicated) and death from occupational exposures that occurred many years ago.
- Data are subject to change because of inspectors' updates to the database.

Table 2: Events and activities in utilities by fiscal year

Events and activities	2012-13	2013-14	2014-15	2015-16	2016-17
Field visits	325	433	327	306	227
Orders	339	483	288	297	184
Complaints	53	60	60	37	38
Work refusals	8	2	5	2	3

Most common orders issued under the OHSA

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under the OHSA were:

- An employer shall take every precaution reasonable in the circumstances for the protection of a worker [clause 25(2)(h)].
- An employer shall ensure that, the equipment, materials and protective devices provided by the employer are maintained in good condition [clause 25(1)(b)].
- An employer shall provide information, instruction and supervision to a worker to protect the health or safety of the worker [clause 25(2)(a)].

Most common orders issued under the Industrial Regulations

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under *Regulation 851* were:

- A floor or other surface used by any worker shall, be kept free of (i) obstructions, (ii) hazards, and (iii) accumulations of refuse, snow or ice [clause 11 (a)].
- An in-running nip hazard or any part of a machine, device or thing that may endanger the safety of any worker shall be equipped with and guarded by a guard or other device that prevents access to the pinch point [section 25].

- Material, articles or things shall be transported, placed or stored so that the material, articles or things (i) will not tip, collapse or fall, and (ii) can be removed or withdrawn without endangering the safety of any worker [clause 45(b)].
- Where a machine or prime mover or transmission equipment has an exposed moving part that may endanger the safety of any worker, the machine or prime mover or transmission equipment shall be equipped with and guarded by a guard or other device that prevents access to the moving part [section 24].

Industrial Regulations identified by section

Inspectors may issue orders in the utilities sector under the following sections of the [Regulation for Industrial Establishments](#) where appropriate.

Section 11 – safe work surfaces

Sections 13 and 14 – guardrails

Sections 22 and 23 – flammable liquids

Sections 24, 25, 26, 28 and 32 – guarding of equipment

Section 45 – material handling and storage

Section 49 – compressed gas cylinders

Clause 51(1)(b) – examination of lifting device

Clause 51(1)(c) – maximum rated load plainly marked on lifting device

Section 57 – inadvertent vehicle movement

Section 73 – portable ladder

Section 76 – machine lockout

Section 79 – personal protective equipment instruction

Section 80 – head protection

Section 81 – eye protection

Section 82 – foot protection

Section 84 – protection from noxious gas, liquid fume or dust

Section 85 – fall arrest

Applicable regulations

- Critical Injury – Defined [Regulation 834](#)
- Confined Spaces [O. Reg. 632/05](#)
- Control of Exposure to Biological or Chemical Agents [Regulation 833](#)
- Designated Substances [O. Reg. 490/09](#)

- Designated Substance – Asbestos on Construction Projects and in Building Repair Operations Regulation [O. Reg. 278/05](#)
- Noise Regulation [O. Reg. 381/15](#)
- Occupational Health and Safety Awareness and Training [O. Reg. 297/13](#)
- Regulation for Industrial Establishments [Regulation 851](#)
- Roll-Over Protective Structures [Regulation 856](#)
- Workplace Hazardous Materials Information System (WHMIS) [Regulation 860](#)

Construction

Employers should be aware that in situations where construction work is undertaken, the Construction Projects Regulation ([O. Reg. 213/91](#)) may apply.

Construction work can be described as new work, additions, alterations, or maintenance and repairs. The *Occupational health and safety Act* defines “construction” as including “erection, alteration, repair, dismantling, demolition, structural maintenance, painting, land clearing, earth moving, grading, excavating, trenching, digging, boring, drilling, blasting, or concreting, the installation of any machinery or plant, and any work or undertaking in connection with a project but does not include any work or undertaking underground in a mine.”

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[Electrical Utility Safety Rules](#) - Infrastructure Health and Safety Association

[Electrical Safety Authority](#) (Ontario)

[Electricity Act](#) (and regulations made under the act)

Vehicle sales and service

Sector summary

This sector comprises establishments engaged primarily in the retailing of motor vehicles (new and used), providing complementary services and retailing motor vehicle parts and accessories. Examples are auto body repair shops, tow truck operators, general garage repairs and gas stations.

Key hazards

The following list represents hazards to which workers are commonly exposed in the vehicle sales and service sector:

- activities that may lead to musculoskeletal disorders (MSDs)
- machine (and powered equipment) hazards such as improper lock-out and unguarded equipment
- slips, trips and falls
- exposures (such as chemicals, designated substances and environmental conditions)
- noise
- vehicle traffic (road-side assistance providers)
- fire and explosion
- confined spaces
- tire explosion: over-inflation and pyrolysis.

In general, hazards that are not covered by a regulation and hazards in workplaces not covered by a sector-specific regulation are addressed through the application of the “general duty” clause 25(2)(h) of the [Occupational health and safety Act](#) (OHSA).

Workplace parties should refer to the narrative portion of the field visit report, if they have received one, for further information or contact their [health and safety association](#) for guidance.

In addition to any other hazards which may be present in a workplace, all employers covered by the OHSA must comply with the requirements for workplace violence and harassment. The act sets out requirements for workplace violence and harassment in sections 32.0.1 to 32.0.8. Further information regarding the requirements related to workplace violence can be found in the Ministry of Labour (MOL) guide [Workplace violence and harassment: Understanding the law](#).

Additional information, including more information about new workplace harassment provisions, can be found on the MOL topic webpages for [Workplace Violence and Workplace Harassment](#). Employers may wish to consider the use of the ministry’s [Code of Practice to Address Workplace Harassment](#) under the *Occupational health and safety Act*.

Musculoskeletal disorders (MSDs)

Workplace pains and strains can be serious and disabling for workers, causing pain and suffering ranging from discomfort to severe disability.

MSD is not a medical diagnosis; it is an umbrella term for a group of injuries. Some of these injuries include: back pain, muscle strain, tendonitis, carpal tunnel syndrome (CTS), rotator cuff syndrome, tennis elbow and shoulder pain.

- Identify and assess job-related MSD risk factors (i.e. identify tasks and activities involving manual material handling, use of ladders, static or repetitive movements etc.).
- Review training on job-specific risk factors.
- Assess controls to reduce worker exposure to MSDs.
- Contact your health and safety association for guidance in assessments and prevention of MSDs.

Machine hazards

Machine or transmission start-up (improper lockout)

Injuries experienced by accidental machine start-up can include lacerations, crushing and amputations. In some circumstances these injuries can cause permanent disability or death.

The Regulation for Industrial Establishments ([Regulation 851](#)) applies to industrial establishments (such as an office building, factory, arena, shop or office or any land, buildings and structures pertaining there to) and sets out requirements for worker protection against machine start-up in sections 75 and 76.

- Review repair/maintenance of machinery [section 75].
- Ensure requirement/compliance with lockout procedures [sections 75 and 76].
- Ensure that instruction and information is provided to a worker on the hazard and the requirements to isolate and lockout hazardous energy [OHSA clauses 25(2)(a) and 25(2)(d)].

Unguarded equipment

Injuries to workers can include lacerations, amputations, crush by entanglement and loss of consciousness. Serious injuries can lead to permanent disability or death.

Hazards due to unguarded equipment include worker exposure to pinch points, moving (rotating) equipment and in-running nip hazards. Equipment that has exposed moving parts such as cutting equipment and exposed drive-motor assemblies used to power compressors and/or ventilation fans may endanger a worker.

Regulation 851 sets out requirements for guarding of equipment in sections, 24, 25, 26, 28, 31 and 32.

- Ensure that the requirements for the guarding of prime movers or transmission equipment are followed [section 24].
- Ensure that pinch points are guarded [section 25].

Slips, trips and falls

Slips, trips and falls hazards include hazards that result in workers falling onto the same surface or falling from a height.

Injuries to workers can include fractures, lacerations and loss of consciousness. In extreme circumstances injuries caused from a fall can lead to permanent disability or death.

The Regulation for Industrial Establishments ([Regulation 851](#)) sets out a number of requirements for worker protection against slips, trips and falls, including but not limited to sections 11, 13, 14, 15, 73 and 85.

- Floors and other surfaces used by workers must be free of obstructions, hazards, accumulations of ice and snow and not have a slippery surface [section 11].
- In areas requiring ladder use, review compliance with section 73.
- Employers must provide information, instruction and supervision to protect workers from slips, trips and falls and acquaint workers with the hazards [OHSA clauses 25(2)(a) and 25(2)(d)].

Exposures

Chemical exposures

Chemicals can present hazards to workers by a variety of different mechanisms such as causing chemical burns to skin, irritation to eyes and airways and by absorption or injection into the body.

- Review the use of chemicals used in the workplace.
- Ensure compliance with requirement for skin protection [*Regulation 851*, section 84].
- Ensure compliance with requirement for eye protection [section 81].
- Ensure compliance with requirement for emergency eyewash facilities [section 124].
- Ensure compliance with requirement for emergency shower facilities [section 125].
- Ensure that workers are trained about precautions to take, use of protective equipment and emergency procedures [section 130].
- Ensure that the requirements outlined in the Workplace Hazardous Materials Information System (WHMIS) ([Regulation 860](#)), and the requirements to monitor and control exposure limits as identified in the Control of Exposure to Biological or Chemical Agents ([Regulation 833](#)) are followed.

Designated substances

- Asbestos is a designated substance which has been found in after-market motor vehicle brakes. Isocyanates is also a designated substance, often found in resins and paints used in workplaces where auto-body repair work occurs. Refer to the regulatory requirements as outlined in the Designated Substances Regulation ([O. Reg. 490/09](#)).
- Employers should inventory all designated substances to determine their presence and develop control programs as required under the Designated Substances Regulation ([O. Reg. 490/09](#)).

General workplace environment

Workplace hazards related to the general workplace environment may include exposure to fumes and other contaminants related to poor or inadequate ventilation. Exposure to cold or heat may also be a hazard to worker health and safety.

- Ensure workplace ventilation is adequate [*Regulation 851*, sections 127 and 128].
- Ensure that a workplace is adequately heated where appropriate [section 129].
- Review sources of heat or excessive temperatures in the workplace and ensure that adequate controls are in place to protect workers.

Noise

Injuries to workers can include varying degrees of noise-induced hearing loss.

The Noise Regulation [O. Reg. 381/15](#) sets out workplace requirements regarding noise.

- Review the engineering controls and administrative (work practices) controls in place to reduce noise levels and exposures (mufflers on air exhausts, mechanical damping, vibration isolators, enclosures, limiting worker's exposure time) [subsection 2(2)].
- Review the availability and use of hearing protection [subsection 2(6)].
- Review the type of hearing protection provided [subsection 4(1)].
- Review placement of warning signs at approaches to noisy areas [subsection 2(7)].
- Review the training provided to workers [section 3].
- Personal protective equipment is to be used only as a last resort. Engineering controls and work practices must be used where practicable [subsection 2(5)].

Vehicle traffic

Injuries can occur when workers are struck by or come into contact with motorized equipment or vehicles in a workplace.

Where vehicles or motorized equipment are present:

- review locations where pedestrians and vehicles may be present in a workplace.
- ensure that controls are in place to adequately protect workers from vehicles and motorized equipment. [*Regulation 851, section 20*].

A comprehensive program to protect workers may include an assessment of the risks and implementation of measures and procedures appropriate in the circumstances, such as warning lights, signs, signallers, barriers and worker training. The use of reflective clothing appropriate for the circumstances is also important. Workplace parties may wish to refer to the Canadian Standards Association (CSA) standard CSA Z96-15 which contains performance criteria for high visibility garments. CSA Standard Z96-15 - *High-visibility safety apparel* is available through the [Canadian Standards Association](#).

Fire and Explosion

Flammable liquids

Flammable liquids are defined in *Regulation 851* as: “a liquid having a flash point below 37.8°C [100°F] and vapour pressure below 275 kilopascals absolute [40 psi] at 37.8°C.” While this definition covers flammable liquids in general, those that have a “flash point below 22.8°C [73°F] and a boiling point below 37.8°C” are highly volatile and therefore require greater control.

Injuries from fire and/or explosion can include burns, lacerations, fractures and loss of consciousness.

Regulation 851 sets out requirements for storage and dispensing of flammable liquids in sections 22, 23, 61 and 63.

- Ensure the safe use of solvents in the workplace in processes such as parts washing.
- Review requirements for flammable liquids such as the requirements for:
 - grounding and bonding [clause 22(4)(b)].
 - proper storage of flammable liquids [section 22].
 - ventilation and work area protection [sections 22 and 63].
- Review the requirements outlined in the WHMIS *Regulation 860* and the requirements to monitor and control exposure limits as identified in *Regulation 833*.

Confined space

A “confined space” means a fully or partially enclosed space that is not both designed and constructed for continuous human occupancy, and in which atmospheric hazards may occur because of its construction, location or contents or because of work that is done in it.

Injuries to workers can include loss of consciousness and collateral injuries sustained as a result of loss of consciousness.

In some circumstances such as oxygen depletion, toxic substance inhalation or explosive atmosphere, injuries to workers can lead to permanent disability or death.

The Regulation for Confined Spaces ([O. Reg. 632/05](#)) sets out workplace requirements regarding confined spaces.

- Review work locations that meet the definition of “confined space.”
- Ensure compliance with the requirement to have a program in place for confined spaces [section 5].
- Ensure compliance with the requirement to have adequate assessments of confined spaces carried out [section 6].
- Ensure compliance with requirement to have an adequate plan developed and implemented for confined space entry [section 7].
- Review compliance with requirement for worker training [section 9].

Tire explosion: over-inflation and pyrolysis

Injuries from contact with wheel, rim and tire parts can include cuts, bruises, lacerations, fractures and severe impact trauma to the body. In extreme circumstances injuries can lead to permanent disability or death.

Large rubber tires for trucks and heavy equipment have the potential to explode with devastating force as the result of a decomposition process, which can occur when the tire overheats or is exposed to a heat source. This is known as pyrolysis. This can occur after the vehicle comes near or touches a high voltage power line, after a brake has been overheated, after the wheel has been heated with a torch, after a stud has been cut off a wheel or by welding on the wheel. Workers and others may sustain critical or fatal injuries as a result.

- Review controls to prevent worker injury during tire/rim replacement.
- Review worker protection from blow-off [*Regulation 851*, section 77].
- Employer must acquaint a worker with any known hazards, such as the risk of pyrolysis [OHSa clause 25(2)(d)]
- Review training provided to a worker on the hazards of pyrolysis [OHSa clauses 25(2)(a) and 25(2)(d)].

Trends

Table 1: Fatalities and critical injuries in vehicle sales and service by fiscal year

Events	2012-13	2013-14	2014-15	2015-16	2016-17
Fatalities	2	1	0	1	0
Critical injuries	13	13	21	7	18

- Only critical injury events reported to the ministry are included here.
- These represent data that were reported to the ministry and may not represent what actually occurred at the workplace.
- The critical injury numbers represent critical injuries reported to the ministry and not necessarily critical injuries as defined by the [Occupational health and safety Act](#).
- Non-workers who are **critically injured** may also be included in the ministry’s data.
- The Ministry of Labour tracks and reports **fatalities** at workplaces covered by the OHSA. This excludes death from natural causes, death of non-workers at a workplace, suicides, death as a result of a criminal act or traffic accident (unless the OHSA is also implicated) and death from occupational exposures that occurred many years ago.
- Data are subject to change because of inspectors’ updates to the database.

Table 2: Events and activities in vehicle sales and service by fiscal year

Events and activities	2012-13	2013-14	2014-15	2015-16	2016-17
Field visits	1,631	1,572	1,382	1,711	1,415
Orders	3,976	3,469	3,380	4,352	2,879
Complaints	246	241	263	353	262
Work refusals	0	2	2	2	0

Most common orders issued under the OHSA

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under the OHSA were:

- An employer shall ensure that, the equipment, materials and protective devices provided by the employer are maintained in good condition [clause 25(1)(b)].
- An employer shall take every precaution reasonable in the circumstances for the protection of a worker [clause 25(2)(h)].
- An employer shall post, in the workplace, a copy of this act and any explanatory material prepared by the ministry, both in English and the majority language of the workplace, outlining the rights, responsibilities and duties of workers [clause 25(2)(i)].
- An employer shall provide information, instruction and supervision to a worker to protect the health or safety of the worker [clause 25(2)(a)].
- An employer shall prepare and review at least annually a written occupational health and safety policy and develop and maintain a program to implement that policy [clause 25(2)(j)].

Most common orders issued under the Industrial Regulations

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under *Regulation 851* were:

- A lifting device shall, be thoroughly examined by a competent person to determine its capability of handling the maximum load as rated, prior to being used for the first time, and thereafter as often as necessary but not less frequently than recommended by the manufacturer and in any case, at least once a year, and a permanent record shall be kept, signed by the competent person doing the examination [clause 51(1)(b)].
- Where a worker is exposed to a potential hazard of injury to the eye due to contact with a biological or chemical substance, an eyewash fountain shall be provided [section 124].
- An in-running nip hazard or any part of a machine, device or thing that may endanger the safety of any worker shall be equipped with and guarded by a guard or other device that prevents access to the pinch point [section 25].
- Material, articles or things shall be transported, placed or stored so that the material, articles or things, will not tip, collapse or fall, and can be removed or withdrawn without endangering the safety of any worker [clause 45(b)].

Industrial Regulations identified by section

Inspectors may issue orders in the vehicle sales service sector under the following sections of the [Regulation for Industrial Establishments](#) where appropriate.

- Section 7 – pre-start health and safety review
- Section 11 – safe work surfaces
- Sections 13 and 14 – guardrails
- Sections 22 and 23 – flammable liquids
- Sections 24, 25, 26, 28 and 32 – guarding of equipment
- Section 45 – material handling and storage
- Section 49 – compressed gas cylinders
- Clause 51(1)(a) – examination of lifting device
- Clause 51(1)(b) – maximum rated load plainly marked on lifting device
- Section 57 – inadvertent vehicle movement
- Section 73 – portable ladder
- Section 84 – protection from noxious gas, liquid fume or dust
- Section 85 – fall arrest
- Section 124 – eyewash
- Section 125 – deluge shower

Applicable regulations

- Critical Injury – Defined [Regulation 834](#)
- Confined Spaces [O. Reg. 632/05](#)
- Control of Exposure to Biological or Chemical Agents [Regulation 833](#)
- Designated Substances [O. Reg. 490/09](#)
- Noise Regulation [O. Reg. 381/15](#)
- Occupational Health and Safety Awareness and Training [O. Reg. 297/13](#)
- Regulation for Industrial Establishments [Regulation 851](#)
- Workplace Hazardous Materials Information System (WHMIS) [Regulation 860](#)

Construction

Employers should be aware that in situations where construction work is undertaken, the Construction Projects Regulation ([O. Reg. 213/91](#)) may apply.

Construction work can be described as new work, additions, alterations or maintenance and repairs. The *Occupational health and safety Act* defines “construction” as including “erection, alteration, repair, dismantling, demolition, structural maintenance, painting, land clearing, earth moving, grading, excavating, trenching, digging, boring, drilling, blasting, or concreting, the installation of any machinery or plant, and any work or undertaking in connection with a project but does not include any work or undertaking underground in a mine.”

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Wholesalers

Sector summary

This sector comprises establishments primarily engaged in the wholesaling process and distribution of goods such as food wholesalers, paper wholesalers, lumber and building material, “big box” stores and recyclers.

Key hazards

The following list represents hazards to which workers are commonly exposed in the wholesalers sector:

- slips, trips and falls
- activities that may lead to musculoskeletal disorders (MSDs)
- material handling hazards (such as workers being struck by objects, caught or crushed between objects)
- workplace violence and workplace harassment
- transportation equipment and vehicle traffic.

In general, hazards that are not covered by a regulation and hazards in workplaces not covered by a sector-specific regulation are addressed through the application of the “general duty” clause 25(2)(h) of the [Occupational health and safety Act](#) (OHSA).

Workplace parties should refer to the narrative portion of the field visit report, if they have received one, for further information or contact their [health and safety association](#) for guidance.

Slips, trips and falls

Slips, trips and falls hazards include hazards that result in workers falling onto the same surface or falling from a height.

Injuries to workers can include fractures, lacerations and loss of consciousness. In extreme circumstances injuries caused from a fall can lead to permanent disability or death.

The Regulation for Industrial Establishments ([Regulation 851](#)) applies to industrial establishments (such as an office building, factory, arena, shop or office or any land, buildings and structures pertaining there to) and sets out a number of requirements for worker protection against slips, trips and falls, including but not limited to sections 11, 13, 14, 15, 73 and 85.

- Floors and other surfaces used by workers must be free of obstructions, hazards, accumulations of ice and snow and not have a slippery surface [section 11].
- Review fall protection equipment required when working from heights [section 85].
- Ensure that training is provided to a worker on the use of protective clothing and equipment (i.e. fall arrest equipment) [section 79].
- In areas requiring ladder use, review compliance with section 73.

- Employers must provide information, instruction and supervision to protect workers from slips, trips and falls and acquaint workers with the hazards [OHSA clauses 25(2)(a) and 25(2)(d)].

Musculoskeletal disorders (MSDs)

Workplace pains and strains can be serious and disabling for workers, causing pain and suffering ranging from discomfort to severe disability.

MSD is not a medical diagnosis; it is an umbrella term for a group of injuries. Some of these injuries include: back pain, muscle strain, tendonitis, carpal tunnel syndrome (CTS), rotator cuff syndrome, tennis elbow and shoulder pain.

- Identify and assess job-related MSD risk factors (i.e. identify tasks and activities involving manual material handling, use of ladders, static or repetitive movements etc.).
- Review training on job-specific MSD risk factors.
- Assess controls to reduce worker exposure to MSDs.
- Contact your health and safety association for guidance in assessments and prevention of MSDs.

Material handling hazards: struck by objects, caught between or crushed by objects

Injuries associated with material handling can include workers being struck by objects, caught between objects and/or crushed by mechanical compression. Manual material handling may also lead to MSDs.

Regulation 851 sets out requirements for material handling in sections 45, 46, 47, 48, 49 and 50. Section 51 contains requirements regarding mechanical lifting devices.

- Review operations/processes involving the movement material and product from receiving areas to areas where they are stored or made available to consumers.
- Ensure that products and materials are stored safely and can be retrieved or moved by workers safely [section 45].
- Ensure that mechanical lifting devices are maintained in good condition, are operated by a competent person and are capable of handling loads [section 51].

Workplace violence and workplace harassment

The OHSA sets out requirements for workplace violence and harassment in sections 32.0.1 to 32.0.8.

- Ensure that appropriate workplace violence and harassment policies have been established in accordance with the OHSA [section 32.0.1].
- Conduct a workplace violence risk assessment or re-assessment [section 32.0.3].
- Ensure that workplace violence and workplace harassment programs are developed and maintained to implement the policies [sections 32.0.2 and 32.0.6].
- Ensure that workers have received information and instruction on the workplace violence and harassment policy and program [section 32.0.5 and 32.0.7].
- Subject to some conditions, the employer must provide information to a worker related to the risk of workplace violence from a person with a history of violent behaviour [subsection 32.0.5(3)].
- Employers may wish to consider the use of the ministry's [Code of Practice to Address Workplace Harassment](#) under the *Occupational health and safety Act*.

Further information regarding the requirements related to workplace violence can be found in the Ministry of Labour (MOL) guide [Workplace violence and harassment: Understanding the law](#).

Additional information, including more information about new workplace harassment provisions, can be found on the MOL topic webpages for [Workplace Violence and Workplace Harassment](#).

Transportation equipment and vehicle traffic

Injuries can occur when workers are struck by or come into contact with motorized equipment or vehicles in a workplace.

Where vehicles or motorized equipment are present:

- review locations where pedestrians and vehicles may be present in a workplace.
- ensure that controls are in place to adequately protect workers from vehicles and motorized equipment [*Regulation 851*, section 20].

A comprehensive program to protect workers may include an assessment of the risks and implementation of measures and procedures appropriate in the circumstances, such as warning lights, signs, signallers, barriers and worker training. The use of reflective clothing appropriate for the circumstances is also important. Workplace parties may wish to refer to the Canadian Standards Association (CSA) standard CSA Z96-15 which contains performance criteria for high visibility garments. CSA Standard Z96-15 - *High-visibility safety apparel* is available through the [Canadian Standards Association](#).

Trends

Table 1: Fatalities and critical injuries in wholesale by fiscal year

Events	2012-13	2013-14	2014-15	2015-16	2016-17
Fatalities	2	4	1	0	0
Critical injuries	30	38	25	25	33

- Only critical injury events reported to the ministry are included here.
- These represent data that were reported to the ministry and may not represent what actually occurred at the workplace.
- The critical injury numbers represent critical injuries reported to the ministry and not necessarily critical injuries as defined by the [Occupational health and safety Act](#).
- Non-workers who are **critically injured** may also be included in the ministry's data.
- The Ministry of Labour tracks and reports **fatalities** at workplaces covered by the OHSA. This excludes death from natural causes, death of non-workers at a workplace, suicides, death as a result of a criminal act or traffic accident (unless the OHSA is also implicated) and death from occupational exposures that occurred many years ago.
- Data are subject to change because of inspectors' updates to the database.

Table 2: Events and activities in wholesale by fiscal year

Events and activities	2012-13	2013-14	2014-15	2015-16	2016-17
Field visits	1,930	2,255	1,664	2,131	1,795
Orders	4,169	4,524	3,444	4,459	3,460
Complaints	288	301	316	369	366
Work refusals	3	3	1	7	1

Most common orders issued under the OHSA

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under the OHSA were:

- An employer shall ensure that, the equipment, materials and protective devices provided by the employer are maintained in good condition [clause 25(1)(b)].
- An employer shall post, in the workplace, a copy of this act and any explanatory material prepared by the ministry, both in English and the majority language of the workplace, outlining the rights, responsibilities and duties of workers [clause 25(2)(i)].
- An employer shall provide information, instruction and supervision to a worker to protect the health or safety of the worker [clause 25(2)(a)].
- An employer shall take every precaution reasonable in the circumstances for the protection of a worker [clause 25(2)(h)]

Most common orders issued under the Industrial Regulations

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under *Regulation 851* were:

- A lifting device shall, be thoroughly examined by a competent person to determine its capability of handling the maximum load as rated, prior to being used for the first time, and thereafter as often as necessary but not less frequently than recommended by the manufacturer and in any case, at least once a year, and a permanent record shall be kept, signed by the competent person doing the examination [clause 51(1)(b)].
- Material, articles or things shall be transported, placed or stored so that the material, articles or things, will not tip, collapse or fall, and can be removed or withdrawn without endangering the safety of any worker [clause 45(b)].
- A floor or other surface used by any worker shall be kept free of obstructions, hazards, and accumulations of refuse, snow or ice, and not have any finish or protective material used on it that is likely to make the surface slippery [section 11].
- Machinery, equipment or material that may tip or fall and endanger any worker shall be secured against tipping or falling [section 46].
- An in-running nip hazard or any part of a machine, device or thing that may endanger the safety of any worker shall be equipped with and guarded by a guard or other device that prevents access to the pinch point [section 25].

Industrial Regulations identified by section

Inspectors may issue orders in the wholesalers sector under the following sections of the [Regulation for Industrial Establishments](#) where appropriate.

- Section 11 – safe work surfaces
- Sections 13 and 14 – guardrails
- Sections 24, 25, 26, 28 and 32 – guarding of equipment
- Section 34 – conveyor guarding
- Section 45 – material handling and storage
- Section 49 – compressed gas cylinders
- Clause 51(1)(a) – examination of lifting device
- Clause 51(1)(b) – maximum rated load plainly marked on lifting device
- Section 57 – inadvertent vehicle movement

- Section 73 – portable ladder
- Section 76 – machine lockout
- Section 79 – personal protective equipment instruction
- Section 80 – head protection
- Section 81 – eye protection
- Section 82 – foot protection

Applicable regulations

- Critical Injury – Defined [Regulation 834](#)
- Noise Regulation [O. Reg. 381/15](#)
- Occupational Health and Safety Awareness and Training [O. Reg. 297/13](#)
- Regulation for Industrial Establishments [Regulation 851](#)
- Workplace Hazardous Materials Information System (WHMIS) [Regulation 860](#)

Construction

Employers should be aware that in situations where construction work is undertaken, the Construction Projects Regulation ([O. Reg. 213/91](#)) may apply.

Construction work can be described as new work, additions, alterations or maintenance and repairs. The *Occupational health and safety Act* defines “construction” as including “erection, alteration, repair, dismantling, demolition, structural maintenance, painting, land clearing, earth moving, grading, excavating, trenching, digging, boring, drilling, blasting, or concreting, the installation of any machinery or plant, and any work or undertaking in connection with a project but does not include any work or undertaking underground in a mine.”

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Wood and metal fabrication

Sector summary

The wood and metal fabrication sector is large and diverse. It includes the production of wood and metal furniture and fixtures, primary metal and metal fabricating, containers, building products, hardware and tools, sporting goods, machinery and equipment, transportation parts and equipment and other heavy equipment manufacturing.

Key hazards

The following list represents hazards to which workers are commonly exposed in the wood and metal fabrication sector:

- activities that may lead to musculoskeletal disorders (MSDs)
- machine (and powered equipment) hazards such as improper lock-out and unguarded equipment
- material handling hazards (such as workers being struck by objects, caught or crushed between objects)
- slips, trips and falls
- exposures (such as chemicals, dust and environmental conditions)
- noise
- fire and explosion
- confined spaces.

In general, hazards that are not covered by a regulation and hazards in workplaces not covered by a sector-specific regulation are addressed through the application of the “general duty” clause 25(2)(h) of the [*Occupational health and safety Act*](#) (OHSA).

Workplace parties should refer to the narrative portion of the field visit report, if they have received one, for further information or contact their [health and safety association](#) for guidance.

In addition to any other hazards which may be present in a workplace, all employers covered by the OHSA must comply with the requirements for workplace violence and harassment. The act sets out requirements for workplace violence and harassment in sections 32.0.1 to 32.0.8. Further information regarding the requirements related to workplace violence can be found in the Ministry of Labour (MOL) guide [Workplace violence and harassment: Understanding the law](#).

Additional information, including more information about new workplace harassment provisions, can be found on the MOL topic webpages for [Workplace Violence and Workplace Harassment](#). Employers may wish to consider the use of the ministry’s [Code of Practice to Address Workplace Harassment](#) under the *Occupational health and safety Act*.

Musculoskeletal disorders (MSDs)

Workplace pains and strains can be serious and disabling for workers, causing pain and suffering ranging from discomfort to severe disability.

MSD is not a medical diagnosis; it is an umbrella term for a group of injuries. Some of these injuries include: back pain, muscle strain, tendonitis, carpal tunnel syndrome (CTS), rotator cuff syndrome, tennis elbow and shoulder pain.

- Identify and assess job-related MSD risk factors (i.e. identify tasks and activities involving manual material handling, use of ladders, static or repetitive movements etc.)
- Review training on job-specific MSD risk factors.

- Assess controls to reduce worker exposure to MSDs.
- Contact your health and safety association for guidance in assessments and prevention of MSDs.

Machine hazards

A pre-start health and safety review may be required (as per section 7 of *Regulation 851*) if new equipment (or modifications to equipment) are installed that interface with certain electrical safeguarding devices. Please see the section “Pre-start health and safety review” found later in this document for more information.

Machine or transmission start-up (improper lockout)

Injuries caused by accidental machine start-up can include lacerations, crushing and amputations. In some circumstances these injuries can cause permanent disability or death.

The Regulation for Industrial Establishments ([*Regulation 851*](#)) applies to industrial establishments (such as an office building, factory, arena, shop or office or any land, buildings and structures pertaining thereto) and sets out requirements for worker protection against machine start-up in sections 75 and 76.

- Review repair/maintenance of machinery [section 75].
- Ensure requirement/compliance with lockout procedures [sections 75 and 76].
- Ensure that instruction and information is provided to a worker on the hazard and the requirements to isolate and lockout hazardous energy [OHSA clauses 25(2)(a) and 25(2)(d)].

Unguarded equipment

Injuries to workers can include lacerations, amputations, crush by entanglement and loss of consciousness. Serious injuries can lead to permanent disability or death.

Hazards due to unguarded equipment include worker exposure to pinch points, moving (rotating) equipment, and in-running nip hazards. Equipment that have exposed moving parts such as cutting equipment, conveyors and exposed drive-motor assemblies used to power compressors and/or ventilation fans may endanger a worker. *Regulation 851* sets out requirements for guarding of equipment in sections 24, 25, 26, 28, 31 and 32.

- Ensure that the requirements for the guarding of prime movers or transmission equipment are followed [section 24].
- Ensure that pinch points are guarded [section 25].

Material handling hazards: struck by objects, caught between or crushed by objects

Injuries associated with material handling can include workers being struck by objects, caught between objects, and/or crushed by mechanical compression. Manual material handling may also lead to MSDs.

Regulation 851 sets out requirements for material handling in sections, 45, 46, 47, 48, 49 and 50. Section 51 contains requirements regarding mechanical lifting devices.

- Review operations/processes involving the movement of raw material and product from receiving area to production line and from production line to shipping area [section 45].
- Review operations/processes involving assembly line or similar style of raw material or product movement [clause 45(a)].
- Review warehousing/storage operations [clause 45(b)].
- Ensure that mechanical lifting devices are maintained in good condition, are operated by a competent person and are capable of handling loads [section 51].

Slips, trips and falls

Slips, trips and falls hazards include hazards that result in workers falling onto the same surface or falling from a height.

Injuries to workers can include fractures, lacerations and loss of consciousness. In extreme circumstances injuries caused from a fall can lead to permanent disability or death.

The Regulation for Industrial Establishments ([Regulation 851](#)) sets out a number of requirements for worker protection against slips, trips and falls, including but not limited to sections 11, 13, 14, 15, 73 and 85.

- Floors and other surfaces used by workers must be free of obstructions, hazards, accumulations of ice and snow and not have a slippery surface [section 11].
- Review requirements for guardrails to protect from falls [section 13 and 14].
- Review fall protection equipment required when working from heights [section 85].
- Ensure that training is provided to a worker on the use of protective clothing and equipment (i.e. fall arrest equipment) [section 79].
- In areas requiring ladder use, review compliance with section 73.
- Employers must provide information, instruction and supervision to protect workers from slips, trips and falls and acquaint workers with the hazards [OHSA clauses 25(2)(a) and 25(2)(d)].

Exposures

Chemical exposures

Chemicals can present hazards to workers by a variety of different mechanisms such as causing chemical burns to skin, irritation to eyes and airways and by absorption or injection into the body.

- Review the use of chemicals used in the workplace.
- Ensure compliance with requirement for skin protection [[Regulation 851](#), section 84].
- Ensure compliance with requirement for eye protection [section 81].
- Ensure compliance with requirement for emergency eyewash facilities [section 124].
- Ensure compliance with requirement for emergency shower facilities [section 125].
- Ensure that workers are trained about precautions to take, use of protective equipment and emergency procedures [section 130].
- Ensure that the requirements outlined in the Workplace Hazardous Materials Information System (WHMIS) ([Regulation 860](#)) and the requirements to monitor and control exposure limits as identified in the Control of Exposure to Biological or Chemical Agents ([Regulation 833](#)) are followed.

General workplace environment

Workplace hazards related to the general workplace environment may include exposure to fumes and other contaminants related to poor or inadequate ventilation. Exposure to cold or heat may also be a hazard to worker health and safety.

- Ensure workplace ventilation is adequate [[Regulation 851](#), sections 127 and 128].
- Ensure that a workplace is adequately heated where appropriate [section 129].
- Review sources of heat or excessive temperatures in the workplace and ensure that adequate controls are in place to protect workers.

Noise

Injuries to workers can include varying degrees of noise-induced hearing loss.

The Noise Regulation [*O. Reg. 381/15*](#) sets out workplace requirements regarding noise.

- Review the engineering controls and administrative (work practices) controls in place to reduce noise levels and exposures (mufflers on air exhausts, mechanical damping, vibration isolators, enclosures, limiting worker's exposure time) [subsection 2(2)].
- Review the availability and use of hearing protection [subsection 2(6)].
- Review the type of hearing protection provided [subsection 4(1)].
- Review placement of warning signs at approaches to noisy areas [subsection 2(7)].
- Review the training provided to workers [section 3].
- Personal protective equipment is to be used only as a last resort. Engineering controls and work practices must be used where practicable [subsection 2(5)].

Fire and Explosion

Flammable liquids

Injuries from fire and/or explosion can include burns, lacerations, fractures and loss of consciousness. Serious injuries can lead to permanent disability or death.

- Ensure the safe use of solvents in the workplace.
- Ensure compliance with the requirements for flammable liquids such as the requirements for:
 - grounding and bonding [clause 22(4)(b)].
 - proper storage of flammable liquids [section 22].
 - ventilation and work area protection [sections 22 and 63].
- Review the requirements outlined in the WHMIS/*Regulation 860* and the requirements to monitor and control exposure limits as identified in *Regulation 833*.

Fire and explosion: dust collectors

Industrial dust collectors, hoppers and bins can contain combustible dusts, including metal shavings.

[*Regulation 851*](#) sets out requirements for dust collectors in sections 63, 64 and 65.

Confined space

A “confined space” means a fully or partially enclosed space that is not both designed and constructed for continuous human occupancy and in which atmospheric hazards may occur because of its construction, location or contents or because of work that is done in it.

Injuries to workers can include loss of consciousness and collateral injuries sustained as a result of loss of consciousness.

In some circumstances such as oxygen depletion, toxic substance inhalation or explosive atmosphere, injuries to workers can lead to permanent disability or death.

The Regulation for Confined Spaces ([*O. Reg. 632/05*](#)) sets out workplace requirements regarding confined spaces.

- Review work locations that meet the definition of “confined space.”
- Ensure compliance with the requirement to have a program in place for confined spaces [section 5].
- Ensure compliance with the requirement to have adequate assessments of confined spaces carried out [section 6].
- Ensure compliance with requirement to have an adequate plan developed and implemented for confined space entry [section 7].
- Review compliance with requirement for worker training [section 9].

Trends

Table 1: Fatalities and critical injuries in wood and metal fabrication by fiscal year

Events	2012-13	2013-14	2014-15	2015-16	2016-17
Fatalities	1	4	3	4	3
Critical injuries	55	58	55	55	52

- Only critical injury events reported to the ministry are included here.
- These represent data that were reported to the ministry and may not represent what actually occurred at the workplace.
- The critical injury numbers represent critical injuries reported to the ministry and not necessarily critical injuries as defined by the [Occupational health and safety Act](#).
- Non-workers who are **critically injured** may also be included in the ministry’s data.
- The Ministry of Labour tracks and reports **fatalities** at workplaces covered by the OHSA. This excludes death from natural causes, death of non-workers at a workplace, suicides, death as a result of a criminal act or traffic accident (unless the OHSA is also implicated) and death from occupational exposures that occurred many years ago.
- Data are subject to change because of inspectors’ updates to the database.

Table 2: Events and activities in wood and metal fabrication by fiscal year

Table 2: Events and activities in primary metals sector by fiscal year

Events and activities	2012-13	2013-14	2014-15	2015-16	2016-17
Field visits	3,737	3,627	3,591	3,795	3,400
Orders	7,893	6,705	8,178	8,383	5,702
Complaints	560	630	597	691	776
Work refusals	5	8	10	8	11

Most common orders issued under the OHSA

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under the OHSA were:

- An employer shall ensure that, the equipment, materials and protective devices provided by the employer are maintained in good condition [clause 25 (1)(b)].
- An employer shall take every precaution reasonable in the circumstances for the protection of a worker [clause 25(2)(h)].

- An employer shall provide information, instruction and supervision to a worker to protect the health or safety of the worker [clause 25(2)(a)].
- An employer shall post in the workplace a copy of this act and any explanatory material prepared by the ministry, both in English and the majority language of the workplace, outlining the rights, responsibilities and duties of workers [clause 25(2)(i)].
- Orders issued to an employer related to workplace violence and harassment provisions [sections 32.0.1 through 32.0.8].

Most common orders issued under the Industrial Regulations

From April 1, 2016, to March 31, 2017, the most common orders issued by the Ministry of Labour under *Regulation 851* were:

- A floor or other surface used by any worker shall be kept free of obstructions, hazards, and accumulations of refuse, snow or ice, and not have any finish or protective material used on it that is likely to make the surface slippery [section 11].
- Where a worker is exposed to a potential hazard of injury to the eye due to contact with a biological or chemical substance, an eyewash fountain shall be provided [section 124].
- There shall be a guardrail around the perimeter of an uncovered opening in a floor, roof or other surface to which a worker has access at an open side of a raised floor, mezzanine, balcony, gallery, landing, platform, walkway, stile, ramp or other surface [clause 13 (a) and (b)].
- A worker who may be exposed to a biological, chemical or physical agent that may endanger to worker's safety or health shall be trained in the proper use and care of required personal protective equipment [clause 130(b)].
- An in-running nip hazard or any part of a machine, device or thing that may endanger the safety of any worker shall be equipped with and guarded by a guard or other device that prevents access to the pinch point [section 25].

Industrial Regulations identified by section

Inspectors may issue orders in the wood and metal fabrication sector under the following sections of the [Regulation for Industrial Establishments](#) where appropriate.

- Section 7 – pre-start health and safety review
- Section 11 – safe work surfaces
- Sections 13 and 14 – guardrails
- Sections 22 and 23 – flammable liquids
- Sections 24, 25, 26, 28 and 32 – guarding of equipment
- Section 34 – conveyor guarding
- Section 45 – material handling and storage
- Section 49 – compressed gas cylinders
- Clause 51(1)(a) – examination of lifting device
- Clause 51(1)(b) – maximum rated load plainly marked on lifting device
- Section 57 – inadvertent vehicle movement
- Section 73 – portable ladder
- Section 76 – machine lockout
- Section 79 – personal protective equipment instruction
- Section 81 – eye protection
- Section 82 – foot protection
- Section 124 – eyewash

- Section 125 – deluge shower

Pre-start health and safety review

A pre-start review (PSR) may be required by section 7 of [Regulation 851](#). Section 7 applies to a factory as defined by the OHSA and is intended to ensure that hazards are removed or controlled before an apparatus or process is started up. If required, the PSR must be completed prior to the complete installation (in-service and operating) of any apparatus, structure or protective element.

Information about pre-start reviews can be found in the Ministry of Labour [Guidelines for Pre-Start Health and Safety Reviews: How to Apply Section 7 of the Industrial Establishments Regulation](#).

For further information contact your health and safety association or the Professional Engineers of Ontario (PEO) for guidance in conducting a PSR or contact a professional engineer or engineering company that performs PSRs.

Applicable regulations

- Critical Injury – Defined [Regulation 834](#)
- Confined Spaces [O. Reg. 632/05](#)
- Control of Exposure to Biological or Chemical Agents [Regulation 833](#)
- Designated Substances [O. Reg. 490/09](#)
- Designated Substance – Asbestos on Construction Projects and in Buildings and Repair [O. Reg. 278/05](#)
- Noise Regulation [O. Reg. 381/15](#)
- Occupational Health and Safety Awareness and Training [O. Reg. 297/13](#)
- Regulation for Industrial Establishments [Regulation 851](#)
- Workplace Hazardous Materials Information System (WHMIS) [Regulation 860](#)

Construction

Employers should be aware that in situations where construction work is undertaken, the Construction Projects Regulation ([O. Reg. 213/91](#)) may apply.

Construction work can be described as new work, additions, alterations or maintenance and repairs. The *Occupational health and safety Act* defines “construction” as including “erection, alteration, repair, dismantling, demolition, structural maintenance, painting, land clearing, earth moving, grading, excavating, trenching, digging, boring, drilling, blasting, or concreting, the installation of any machinery or plant, and any work or undertaking in connection with a project but does not include any work or undertaking underground in a mine.”

General resources

[Publications | Ministry of Labour](#)

For information and Guides, Fact Sheets, Information Bulletins, Guidelines, Alerts, Engineering Data Sheets, Extracts, Reports, Consultations, Codes, and Standards.

[Videos and photos | Ministry of Labour](#)

To view Ministry of Labour videos and photos.

[Health and Safety Partners](#)

To learn about sector-assigned health and safety associations.

[By the numbers: WSIB statistical report](#)

To review [Workplace safety and insurance board](#) (WSIB) injury experience data.

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