

Date Revised:	March 2022	Overall Task Risk Rating:	Before Controls	A	After Controls	C
Description:	Activities that require workers to work around physical hazardous agents or activities that may expose workers to these agents. Physical hazardous agents that Gazzola employees are commonly exposed to include: Ergonomics, hot & cold temperatures, loud environments, etc....					
Location(s):	Office, Shop, Asphalt Plant & Construction Projects					
Associated Documents: Power and hand tools WTS, Night Work WTS, Manual Material Handling WTS, Noise WTS						

## RED FLAGS (HOLD WORK UNTIL CORRECTED):

**Note:**

- Do not start work before obtaining and donning the appropriate PPE

## PERSONAL PROTECTIVE EQUIPMENT (CSA APPROVED)

									
Head Protection	Foot Protection	High-Vis Protection	Hearing Protection	Hand Protection	Eye Protection	Respiratory Protection	Skin Protection	Face Protection	Fall Protection
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- When onsite one must adhere to the minimum site requirements (i.e. Safety Boots, Hard Hat & High Visibility Protection). Safety Glasses when necessary (e.g. UV Protection).
- Additional PPE requirements specific to a tool or a hazardous product will be stated in the SDS or manufacturer instructions.

## SAFE WORK PRACTICES (SWP)

**General Safe Work Practices:**

- Workers who are uncertain how to work safely with a hazardous agent are to ask their foreman/superintendent for assistance before starting
- Start the work only when you are certain that you understand the work, the hazards and you have implemented the appropriate controls
- Unsafe conditions and situations must be reported to Foreman/Superintendents immediately (and stop work until the hazard is controlled)

**Physical Hazardous Agents Practices:**

Ergonomics:

- Ergonomic hazards where not controlled may result in Musculoskeletal Disorders (MSD). MSDs are injuries and disorders that affect our musculoskeletal system (i.e. muscles, tendons, ligaments, nerves, discs and blood vessels)
- While a number of things can increase MSD risk, the primary MSD hazards are **force, fixed or awkward positions and repetition.**
- Engineering controls reduce or eliminate the worker's exposure to MSD hazards by modifying the work or workplace. They include:
  - Changing the way materials, parts, people and products are transported (e.g., using mechanical assistance devices to eliminate heavy lifting and carrying)
  - Changing the process or product to reduce exposure to MSD hazards (e.g., reorienting or redesigning equipment parts, workstations or work areas to allow for easier access)
  - Modifying containers, carts, bins or stands to improve work postures (e.g., cutting the sides out of deep bins, providing height-adjustable bin inserts)
  - Changing the design and/or layout of a workstation (e.g., using height-adjustable tables, relocating tools, materials or other items to reduce reaching)
  - Changing the way parts, tools, equipment and materials are manipulated (e.g., using fixtures to hold work pieces, suspending tools to reduce the weight and allow easier access)
  - Changing tool designs (e.g., "pistol" grips for knives to improve wrist postures, full hand squeeze-actuated triggers to replace finger-actuated triggers)
  - Changing materials and fasteners (e.g., lighter-weight materials to reduce lifting loads)
  - Changing the layout of the work environment (e.g., removing physical and visual obstructions that cause awkward postures or static exertions), and adjusting the speed of production machines, conveyors, etc., to reduce repetitive motion risks and give workers more control of the work process.

- The following are methods that may be implemented for controlling MSD(s) in our workplaces:
  - Rotating workers through several jobs with different physical demands to reduce the stress on limbs and body regions (job rotation)
  - Broadening or varying the job content (job enlargement)
  - Implementing appropriate work-hardening procedures for new workers.
  - Scheduling more breaks to allow rest and recovery.
  - Reducing shift length or the amount of overtime allowed.
  - Training workers to recognize MSD hazards and to use work practices that can ease the demands or burden of tasks.
  - Changing a lifting task from a 1-person lift to a 2-person lift.
  - Training workers to use good manual handling methods and techniques, good body mechanics and adopt neutral work postures.
  - Encouraging workers to rest muscles, relax and change their posture during brief pauses in the work cycle.
  - Implementing warm-up and stretching exercises.

#### Lighting & Ventilation:

- Lighting should be sufficient to enable to work, use facilities and move about safely and without eye strain and other health effects.
- Good lighting conditions involve:
  - Maximum provision of natural daylight.
  - Careful planning to minimise the effect of shadows.
  - Maximum control by individual workers of ambient lighting, (e.g. by the provision of desk lights).
  - Selection of suitable lighting for the task being performed, (e.g. very precise work may need additional lighting).
  - Avoidance of dazzle or glare, including natural light, by the repositioning of the lighting or the workplace
- There should be suitable and sufficient lighting where people are especially exposed to danger (e.g. Night Work around traffic).
- Work performed in enclosed spaces must have effective and suitable ventilation, which provides a sufficient quantity of fresh or purified air. (Natural or Mechanical Ventilation)
- Mechanical ventilation systems (e.g. fans) may have to be used if natural ventilation is not enough:
  - Replacement air should be as free of impurities as possible
  - Air inlets should be sited where they can draw fresh air
  - They should not be sited near source of fumes or other impurities.
- Re-circulated air (e.g. in air conditioning systems) should be adequately filtered to remove impurities and the purified air should have some fresh air added.

#### Noise:

- The following can produce harmful levels of noise: equipment engines, power drilling / sawing, air hammering / blasting, compressors, drills, jack hammers and quick cut saws
- Depending on the noise level, duration of exposure, and other factors, a temporary or permanent hearing loss may result
- Noise may be harmful at levels that one does not find irritating - therefore, controls are based on general potential for hearing loss
- Waiting for personal discomfort before taking preventive measures may be too late to avoid a permanent noise-induced hearing loss
- Ensure workers wear CSA approved hearing protection, appropriate for the noise levels to which they may be exposed, when allowable noise exposure limits are exceeded (85dBA over an 8-hour period)
- Ensure workers are trained on the selection and use of hearing protection
- Safety processes can be ineffective when a site has excessive noise: back up beepers, communication with others on site, etc....

#### Vibration:

- Whole body vibration can be caused by working in the cab of a vibrating vehicle with an ineffective suspension system. Symptoms of whole-body vibration include fatigue, motion sickness, low back pain and damage to the spine
- Only trained competent persons are allowed to operate equipment
- Machinery must be maintained as per manufacturer's instructions, particularly suspension seats components
- Use low vibration tools and equipment, whenever possible
- Do not modify or remove safety devices from tools or machinery
- Modify work procedures to reduce the vibration exposure, time and frequency
- Get out of your vehicle (in a safe location) for a few minutes to stand, stretch, and give your body a break from vibration
- Workers can reduce risk of tissue damage by maintaining good circulatory health (not smoking), keeping hands warm while working, not gripping too hard, wearing anti-vibration gloves, rotating tasks or engineering a solution i.e: insulating tools or improving a vehicle's suspension system
- Making these changes before experiencing symptoms is the best way to prevent injury. Stopping and making changes at the first sign of a problem is the next best prevention method. Tell your supervisor immediately if you experience any vibration related symptoms

## Heat Stress:


- High temperatures, strenuous work activity and dehydration are some of the many factors that can lead to heat stress. Heat stress can result in heat exhaustion, or more seriously, heat stroke, which requires immediate medical attention. Factors such as body size, age, acclimatization and underlying medical issues have an impact on the effects of heat on the body.
- When the weather forecast predicts a Humidex exceeding 42° Celsius, management will discuss with foreman / superintendents what measures to employ to best protect the workers

## Heat



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### Other Risk Factors:

- High Humidity
- Specialized PPE 
- Physical Activity
- Dehydration
- Fatigue
- Direct Sun Exposure
- No Breeze
- Not Acclimatized
- Pre existing health problems & associated medications

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### Heat Related Illnesses:

- Sunburn
- Heat Cramps
- Fainting
- Heat Exhaustion
- Heat Stroke



- Signs and Symptoms of heat related illnesses in general are high body temperature, confusion, headache, nausea, thirst, rapid /or/ weak pulse
- Signs and Symptoms of **Heat Exhaustion**: weakness, difficulty continuing work, headache, breathlessness, nausea or vomiting, feeling faint or actually fainting.
- Signs and Symptoms of **Heat Stroke**: confusion, irrational behaviour, loss of consciousness, lack of sweating, hot, dry skin, abnormally high body temperature anything over 41 degrees Celsius.
- Controls for prevention of heat related illnesses include:
  - Dress appropriately for the weather, wear light colours and loose clothing.
  - Remain hydrated throughout the day by drinking water, Gatorade, etc.
  - Avoid caffeine and alcoholic beverages.
  - Apply and reapply sunscreen as required.
  - Take micro-breaks, as required in a shady or cool area.
  - Use the Buddy System (work in pairs and look out for your co-workers)
- If you think someone has heat stroke or heat exhaustion: call 911, inform the foreman / superintendent and begin First Aid

## Cold Stress:

- Frostbite and hypothermia are caused by exposure to severe cold or by contact with extremely cold objects (i.e. metallic objects). Once damaged, tissues will always be more susceptible to future frostbite
- Frostbite Signs and Symptoms are sharp, prickling sensation, skin looks waxy and feels numb
- Hypothermia Signs and Symptoms are shivering, blue lips and fingers, lack of coordination, drowsiness
- Controls for prevention of cold related illnesses include:
  - Dress properly for the weather conditions – cover all exposed areas of skin, wear several layers.
  - Wear synthetic fabrics next to the skin, which will wick sweat away instead of absorbing it.
  - Remove and change any clothing that gets wet immediately.
  - Eat a high calorie meal and consume warm drinks throughout the day.
  - Avoid the consumption of excessive caffeine, as it increases blood flow to extremities, thus decreasing core body temperature.
- Monitor yourself and fellow workers for signs and symptoms of cold stress. If you think someone has signs of cold related illnesses, inform the foreman / superintendent, begin treatment as soon as possible by moving the person to a warm area, removing wet clothing, warming affected area gradually, seek medical attention in severe cases

## Radiation:



# HAZARDOUS AGENTS (PHYSICAL)

- Sunburn is the effect of ultraviolet (UV) radiation on the skin. Sunlight is the main source of UV radiation known to damage the skin and cause skin cancer. Exposure to the sun's UV radiation is a highly preventable cause of skin cancer.
- In addition to cancer, UV radiation can cause cataracts, other eye damage, and premature aging of the skin.
- Sunlight doesn't have to be direct to do damage. Light reflected off surfaces such as sand, water, concrete, and snow also cause UV exposure.
- For protection from UV radiation:
  - Wear a shirt and long pants to cover most of your skin. Tightly woven material will offer more protection. Wet clothing loses some of its ability to block out the sun's rays.
  - Protect any exposed skin with sunscreen. Reapply sunscreen every two hours. The more you sweat, the more often you need to reapply.
  - Examine your skin regularly for any unusual changes such as a spot on the skin that is changing size, shape, or colour.
  - Protect your eyes. Wear UV-absorbent safety glasses (e.g., CSA-approved polycarbonate glasses) or safety sunglasses. Even clear safety glasses will decrease your UV exposure.
  - Find a shaded area for your breaks and lunch.
- Foreman / superintendents must identify workplace activities, where there is a risk of exposing workers to radiation
- Workers must be removed from workplace activities, where there is a risk of exposing workers to radiation

Inspections:

- Supervisors must monitor physical agents in the workplace, to ensure workers are not overexposed to respective allowable levels

Training:

- Employee Orientations (including roles, responsibilities, applicable workplace task standards, etc.)
- Workers who may be exposed to hazardous agents will receive training regarding the potential hazards and controls
- Ensure workers are trained on the selection and use of hearing protection

Personal Protective Equipment:

- All workers exposed to Physical Agents, must wear the required personal protective equipment
- Workers on construction projects must wear, at a minimum, Safety Boots, Hard Hat & High Visibility Protection. Safety Glasses when necessary or required or as required by SDS's
- Eye protection is required when completing tasks that may cause debris / objects to dislodge or become airborne
- Ensure workers wear CSA approved hearing protection appropriate for the noise levels to which they may be exposed
- All employees shall wear the appropriate PPE where the potential exposure of a physical agent cannot be reduced below the occupational exposure limit
- When there is likelihood of site exposure, appropriate PPE will be provided with instructions covering use, care and maintenance
- No modification or removal of the specified PPE will be tolerated inside identified area

JOB HAZARD AND RISK ANALYSIS		RISK RATING SYSTEM	
		A	B
TASK HAZARDS	RATING BEFORE CONTROLS	TASK CONTROLS	RATING AFTER CONTROLS
<ul style="list-style-type: none"> <li>• Lack of training and education</li> </ul>	B	<ul style="list-style-type: none"> <li>• Workers receive training during employee orientations &amp; specific, task-related training</li> <li>• Workers who may be exposed to hazardous agents will receive training regarding the potential hazards and controls</li> </ul>	C
<ul style="list-style-type: none"> <li>• Lack of proper PPE</li> </ul>	B	<ul style="list-style-type: none"> <li>• Workers exposed to Physical Agents, must wear the required PPE</li> <li>• Ensure all workers are trained in the PPE that is required for the work performed</li> <li>• Do not start work until appropriate PPE is obtained</li> </ul>	C



# HAZARDOUS AGENTS (PHYSICAL)

<ul style="list-style-type: none"> <li>Improper lighting or ventilation</li> </ul>	<b>C</b>	<ul style="list-style-type: none"> <li>Suitable and sufficient lighting</li> <li>Work performed in enclosed spaces must have effective and suitable ventilation, which provides a sufficient quantity of fresh or purified air. (Natural or Mechanical Ventilation)</li> </ul>	<b>C</b>
<ul style="list-style-type: none"> <li>Ergonomics</li> </ul>	<b>B</b>	<ul style="list-style-type: none"> <li>Mechanical assist devices to eliminate heavy lifting and carrying</li> <li>Modifying workplace layouts, changing workplace and tools design</li> <li>Proper manual handling techniques and good body mechanics</li> <li>Job rotation and scheduling frequent breaks</li> <li>Warming-up and stretching</li> </ul>	<b>C</b>
<ul style="list-style-type: none"> <li>High Noise Levels</li> </ul>	<b>A</b>	<ul style="list-style-type: none"> <li>Monitor noise levels to determine if allowable exposure limits are exceeded (85dBA over an 8-hour period)</li> <li>Ensure workers wear CSA approved hearing protection appropriate for the noise levels to which they may be exposed</li> </ul>	<b>C</b>
<ul style="list-style-type: none"> <li>Repetitive Vibrations</li> </ul>	<b>B</b>	<ul style="list-style-type: none"> <li>When possible, use low vibration tools and equipment</li> <li>Maintain tools and equipment properly</li> <li>Minimize exposure time and frequency of vibrations</li> </ul>	<b>C</b>
<ul style="list-style-type: none"> <li>Heat Stress</li> </ul>	<b>A</b>	<ul style="list-style-type: none"> <li>Drink water throughout the day (don't wait until you're thirsty)</li> <li>Taking rest breaks as needed (in a cool, shady spot)</li> <li>When possible, do the heaviest work at the coolest times</li> <li>Use the Buddy System – watch for signs of heat related illnesses in your co-workers</li> <li>If you think someone has heat stroke or heat exhaustion: call 911, inform the Foreman /Superintendent and begin First Aid</li> </ul>	<b>B</b>
<ul style="list-style-type: none"> <li>Cold Stress</li> </ul>	<b>A</b>	<ul style="list-style-type: none"> <li>Wearing several layers of warm clothing with a waterproof and wind-resistant outer layer</li> <li>Use the Buddy System – watch for signs of cold related illnesses in your co-workers</li> <li>If you think someone has a cold related illness, inform the foreman / superintendent, move the person to a warm area, remove wet clothing, warm affected area gradually, seek medical attention in severe cases</li> </ul>	<b>B</b>
<ul style="list-style-type: none"> <li>Exposure to Radiation</li> </ul>	<b>B</b>	<ul style="list-style-type: none"> <li>Ensure the use of skin and eye protection.</li> <li>Foreman /Superintendents shall identify workplace activities, where there is a risk of overexposure to radiation</li> <li>Workers shall be removed from workplace activities, where there is a risk of overexposure to radiation</li> </ul>	<b>C</b>

## SAFE JOB PROCEDURES (SJP)

- Pre-Task Commencement:**
- Gather and wear the required PPE for the task - on construction sites, all must wear head, foot and high visibility protection. Eye protection when necessary
  - Consult SDS for required PPE, handling and preventative measures



# HAZARDOUS AGENTS (PHYSICAL)

3. Eye protection is required for protection from UV radiation in addition to tasks that may cause debris / objects to dislodge or become airborne
4. Ensure workers wear CSA approved hearing protection appropriate for the noise levels to which they may be exposed
5. Determine what physical agents may be encountered such as site conditions and weather
6. Determine if Heat / Cold Stress Management Plan is needed
7. Ensure the site-specific workplace violence assessment is complete
8. Complete the Daily GAZZ Card and review with all workers the shift's tasks with any associated Physical Agents and the associated control strategies
9. Ensure all workers understand the GAZZ Card contents, and sign off in acknowledgement
10. Ensure controls are in place prior to commencing work so risks are mitigated / eliminated
11. Determine what equipment / machinery / tools and material, are required for the completion of the task
12. Inspect all equipment / machinery / tools prior to use and document the inspections on appropriate forms when required
13. Ensure preventative maintenance activities have been completed where required, prior to using equipment / machinery / tools
14. Install fencing and hording where needed
15. Locate utilities – Call "Ontario One Call" for locate services (when necessary)

### **During Task:**

1. Wear all appropriate additional PPE
2. Commence activities when it is safe to do so (abiding by the information presented in the SDS)
3. Supervisors are to monitor all hazardous agents within the workplace and if exposure levels are exceeded, implement corrective actions
4. Operate equipment machinery and/or tools as per manufacturer's instructions
5. When in operation, do not leave equipment or controls unattended

### **Heat Stress:**

1. On hot days, Foreman / Superintendents shall remind workers of the hazards and controls relating to hot temperatures
2. Supervisors and workers shall monitor coworkers for symptoms of heat related illness
3. More frequent breaks may need to be taken
4. If a worker is exhibiting signs of heat related illnesses they shall take a break in a cool area (such as an air-conditioned office trailer or vehicle), and given water to drink - if signs persist, the worker will be advised to seek professional health care
5. If signs of heat stroke are exhibited, call 911 and while waiting, cool down the worker by having them rest in shade and immersing their limbs in a tub of water - if the worker is unconscious they shall NOT be given anything to drink
6. After such incidents supervisors shall produce appropriate incident reports

### **Cold Stress:**

1. On cold days, Foreman / Superintendents shall remind workers of the hazards and controls relating to cold temperatures
2. Supervisors and workers shall monitor coworkers for symptoms of cold related illness
3. If a worker is exhibiting signs of Hypothermia call 911, move the worker to shelter and remove any wet clothing
4. If worker is exhibiting signs of frostbite call 911, move the worker to shelter and gradually begin to warm them
5. After such incidents supervisors shall produce appropriate incident reports

### **Task Completion:**

1. Consult the SDS and implement storage requirements in the designated location
2. Ensure all equipment / machinery / tools are maintained and stored appropriately in the designated locations
3. Implement any housekeeping or maintenance as required