



Risk Management Solutions



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Confined Spaces Harbor Hidden Hazards

Todd McCarley • Loss Control Representative • AMIC/MWCF

The National Institute for Occupational Safety and Health (NIOSH) defines a confined space as one which, by design, has limited opening for entry and exit; unfavorable natural ventilation which could contain or produce dangerous air contaminants; and is not intended for continuous employee occupancy. Confined spaces include but are not limited to storage tanks, compartments of ships, process vessels, pits, silos, vats, wells, sewers, digesters, degreasers, reaction vessels, boilers, ventilation and exhaust ducts, tunnels, underground utility vaults and pipelines.

Confined spaces can be found in many industrial settings; from steel mills to paper mills; from shipyards to farms; and from public utilities to the construction industry. The hazards associated with confined spaces can cause serious injury and death to workers. Two major factors lead to fatal injuries in confined spaces: 1) failure to recognize and control the hazards associated with confined spaces, and 2) inadequate or incorrect emergency response. The emergency response is usually a spontaneous reaction to an emergency situation, and can lead to multiple fatalities.

Confined spaces may be classified into two categories: 1) open-topped enclosures with depths which restrict the natural movement of air (e.g., degreasers, pits, selected types of tanks and excavations), and 2) enclosures with limited openings for entry and exit (e.g., sewers, tanks and silos).

The hazards found in any confined space are determined by the material being stored or used; by the process taking place inside the space; and by the effects of the external environment. Worker entry into the confined spaces may occur during construction activities or during frequent necessary functions such as inspection, repair or maintenance. To further exemplify the hazards associated with confined spaces, some examples of atmospheric hazards are provided below.

Oxygen Deficiency

Oxygen deficiency occurs from chemical or biological reactions which displace or consume oxygen from a confined space. The consumption of oxygen takes place during combustion of flammable substances, as in welding, cutting or brazing. A more subtle form of consumption of oxygen occurs during bacterial action, as in the fermentation process. Oxygen may also be consumed during slow chemical reactions, as in the formation of rust on the exposed surface of metal tanks, vats and ship holds.

Ambient air has an oxygen content of 21 percent. When the oxygen level drops below 17 percent, the first sign of hypoxia is a deterioration of night vision, which is not usually noticeable. Physiological effects include increased breathing volume and accelerated heartbeat. Between 14 percent and 16 percent, physiological effects are increased breathing volume, accelerated heartbeat, poor muscular coordination, rapid fatigue and intermittent respiration. Between 6 percent and 10 percent, the effects are nausea, vomiting, inability to perform and unconsciousness. At concentrations less than 6 percent, there is a rapid loss of consciousness, and death in minutes.

Oxygen Displacement: Inert Gases and Simple Asphyxiants

A simple asphyxiating atmosphere contains a gas or gases that are physiologically inert and which do not produce any ill effects on the body. However, in sufficient quantity, a simple asphyxiant will displace oxygen and may result in an atmosphere unable to support respiration. The ambient,

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Depending on the material stored, toxic gases may be present in confined spaces. Oxygen deficiency is another associated danger.

Confined Spaces continued from cover

or normal, atmosphere is composed of approximately 21 percent oxygen, 78 percent nitrogen and 1 percent argon with small amounts of various other gases. For example, if 100 percent nitrogen – a non-toxic, colorless, odorless gas – is used to inert (displace oxygen in) a confined space, it will cause immediate collapse and death to the worker if the confined space is not adequately ventilated before worker entry. Other examples of simple asphyxiants which have claimed lives in confined spaces include carbon dioxide, argon, and helium.

Flammable Atmospheres

A flammable atmosphere generally results from vaporization of flammable liquids, by-products of chemical reaction, enriched oxygen atmospheres or concentrations of combustible dusts. Three components are necessary for an atmosphere to become flammable: fuel and oxygen will vary from gas to gas within a fixed range and is referred to as the lower flammability limit (LFL) and upper flammability limit (UFL).

These terms are synonymous with the lower explosive limit (LEL) and upper explosive limit (UEL). For example, the explosive range for methane is between 5 percent and 15 percent in air. Concentrations below 5 percent methane are below the explosive range, and concentrations about 15 percent are too rich to support combustion. A confined space may dilute the methane in the air, taking it into the explosive range.

Toxic Gases

Toxic gases may be present in confined spaces because:

1. The manufacturing process uses toxic gases. For example, in producing polyvinyl chloride, hydrogen chloride is used, as well as vinyl chloride monomer.
2. There are biological or chemical processes occurring in the product stored in the confined space. For example, decomposing organic material in a tank or sump can liberate hydrogen sulfide.
3. The operation performed in the confined space can release a toxic gas. For example, welding can release oxides of nitrogen, ozone and carbon monoxide.

Some toxic gases such as phosgene or carbon monoxide are particularly treacherous because of their poor warning properties. Toxic gases which have been reported to cause death in workers in confined spaces include carbon monoxide, hydrogen cyanide, hydrogen sulfide, arsine, chlorine, oxides of nitrogen and ammonia.

Toxic gases may be evolved when acids are used for cleaning the interior of a confined space. For example, hydrochloric acid can react chemically with iron sulfide to produce hydrogen sulfide. Hydrogen sulfide is heavier than air and will settle out at the bottom of a confined space. Hydrogen sulfide is extremely toxic and exposure can cause paralysis of the olfactory system (making the victim unable to smell the gas), loss of reasoning, respiratory failure, unconsciousness and death.

Conclusion

Hazards related to confined spaces are not limited to those discussed here. The hazards and their conditions are subject to change – sometimes very rapidly – creating special concerns. Entry into a confined space should be planned and carried out by trained personnel only.

This article IS NOT a comprehensive outline of dangers associated with confined spaces. Instead, it is intended to be a brief overview of some of the deadly dangers found within confined spaces. Extreme caution should be used in every situation involving a confined space. For more information on this subject, please contact your loss control representative at 334-262-2566. ■

Injury Triage Program Offered through MWCF

Whenever an employee is hurt on the job, obtaining the best and most appropriate medical care as soon as possible is always the top priority. Fortunately, most on-the-job injuries do not need emergency care and are not life threatening. That being said, we are frequently asked if all incidents require a doctor's visit. Consider the most common injuries reported in your municipality. Many are minor strains, sprains, cuts and bruises. Do those injuries always require a trip to the doctor's office or clinic?

NOTE: The Triage Program is NOT designed for medical emergencies or life-threatening injuries.

Currently, a supervisor may be required to follow a strict policy of sending ALL workplace injuries to the doctor as a precaution – even when they suspect after a long wait in the doctor's office, the employee will simply be told to ice it down and take some over-the-counter pain medications for a few days. MWCF has partnered with D&D Occupational Triage, an Alabama-based company, to provide an alternative to some employee trips to the doctor's office. The Triage Program, provided by MWCF through D&D Occupational Triage, gives a better way to handle these very minor injuries via "self-care" directed by a medical provider without a trip to the doctor.

When an employee reports a minor workplace injury, the employer and supervisor can immediately call the Triage Hotline and speak DIRECTLY with a Registered Nurse trained and experienced in occupational triage. Unlike a clinic or doctor's office, the Triage Hotline is staffed 24 hours a day, 7 days a week, 365 days a year. The foremost goal of the triage call is to determine the appropriate level of care. Based on occupational triage experience and established protocols, the Triage Nurse will gather specific information, which may require texted or emailed photographs of the injury, to determine whether first-aid/self-care is appropriate or if a referral to a locally designated doctor or clinic – or a specialist or even transport to an emergency care facility – is needed.

The Triage Nurse does NOT make a diagnosis. The Triage Nurse provides recommendations for referral to an approved provider if medical attention is needed or gives detailed instructions on self-care steps the employee can take without a medical referral. Please note that if the employee wants to see the doctor in person, the Triage Nurse will not refuse that request and will arrange for the referral immediately. At the end of the triage call, the Triage Nurse will forward a detailed Triage Report to the designated person with the municipality, the claims adjuster and, if a referral was made, directly to that facility before the employee even arrives. Except for large deductible members, all of this is at ZERO COST to your municipality! MWCF will pay for the triage call and, unless follow up medical care is needed, the incident never appears on your claims history.

Significant advantages of the Triage Program:

- Employee receives immediate access to a Medical Professional.
- No need to leave work and endure long delays in a doctor's waiting room.
- Possibly reduces workers comp claims costs.
- Much of the reporting and referral paperwork is done automatically for you.

**To learn more about the Triage Program,
including how to enroll, please contact Kendra Harrington at**

1-205-730-2868

Kyle Hines Joins Loss Control Team



Originally from Montgomery, **Kyle Hines** joined the Loss Control Division this past August as a Loss Control Representative. He is a 2021 graduate of Troy University with a bachelor's degree in Risk Management Insurance. Kyle previously interned at AMIC during the summer of 2019 and joined the Loss Control Division when Aaron Reeves moved into a new role with AMIC. He now resides in Birmingham and

enjoys spending time with his family as well as reading and working on his cars. **Welcome, Kyle!**

Defining Moment

According to the Electrical Safety Foundation International, every year 150 home/business fires start with holiday lights and other decorative lighting. And another 260 home/business fires begin with Christmas trees. Innovations in holiday décor, however, help make the bright nights safer and less expensive. **Before you start stringing up lights:**

- Make sure you're using lights that have been safety tested and are appropriate for the way they'll be used.
- Ensure that lights being placed outside are labeled for outdoor use.
- Check all of your lights, especially older ones, for broken or cracked sockets, frayed or bare wires or loose connections and toss any damaged sets. Inspect your extension cords as well.
- Practice good extension cord safety. Never run cords under rugs or coil them tightly around themselves, which can cause them to overheat.
- Consider a programmable timer to your strings of lights to ensure lights are not accidentally left on. This also helps regulate energy use and reduce cost.
- Plug outdoor lights and decorations into "GFCI" grounding outlets. Portable GFCI units can be purchased where electric supplies are sold.
- Always look up before decorating outdoors. Never raise ladders or extend objects into or near power lines.
- Use only lights approved by OSHA-certified laboratories, like Underwriters Laboratory (UL).
- Holiday lights using light-emitting diodes (LEDs) use one-tenth the energy of traditional mini-lights and are cooler to the touch, reducing the risk of fire.
- Always turn off lights when you are not home.
- Use extension cords that are rated to carry the electrical loads connected to them.
- To reduce the risk of fire, don't overload a circuit.
- Use caution not to drive nails, staples or tacks through wiring insulation.

Source: *Eversource*

New Workers Comp Premium Discounts for 2022!

The Municipal Workers Comp Fund (MWCF) Board of Directors is continually reviewing and evaluating the discounts offered to ensure MWCF members are provided the best possible benefits, and we are excited to announce our *new* 2022 discount program structure!

Premium Discount Changes Coming in 2022!

MWCF works diligently to keep the premiums for our members as low as possible. To that end, we are making a significant change for 2022 and we want to make sure all our members have the necessary time to prepare in order to take full advantage of the new discount program.

In 2022, MWCF will be **discontinuing the *Safe Workplace Guidelines*** and replacing it with participation in the ***Injury Triage Program*** (see previous page) as one of its three discount programs. The ***Medical Protocol*** and adoption of a ***Drug & Alcohol Testing Program*** will continue as before, each carrying a 3% premium discount. Participation in the ***Injury Triage Program*** will also carry the same 3% premium discount as signing the *Safe Workplace Guidelines* did previously. MWCF will also continue to reward members that adopt all three programs with a 10%, rather than a 9%, total premium discount.

And the news gets even better! As with the ***Medical Protocol*** and adopting a ***Drug & Alcohol Testing Program***, joining the ***Injury Triage Program*** does **NOT** need renewing each year like the *Safe Workplace Guidelines* did. So, if you adopt all three discount programs, the full 10% will **automatically** be applied to your MWCF renewal each year moving forward. No further action needed!

Injury Triage Program

Signing up for this program allows employees and their supervisor immediate telephone access to a Medical Professional for minor workplace injuries. The foremost goal of the triage call is to determine the appropriate level of care needed. The triage nurse does NOT make a diagnosis. Utilizing this program can help with minor injuries and potentially reduce the need to leave work and endure long delays in a doctor's waiting room for injuries where "self-care" is appropriate. This program possibly helps reduce workers comp claims costs with the additional benefit that much of the reporting and referral paperwork is **done automatically for you**. An Injury Triage Enrollment Form will be included in the November mailing for those members that do not yet have one on file. For more information on the ***Injury Triage Program***, please read the article on the previous page of this newsletter.

Post-Accident Drug and Alcohol Testing Program

MWCF provides an additional 3% discount for those members that commit to a ***Post-Accident Drug and Alcohol Testing Program***. To qualify, a member must sign a "Participating Commitment" and have such a program certified by their attorney that the member's drug and alcohol policy is Fourth Amendment compliant. A Participating Commitment form will be included in the November mailing for those members that do not yet have one on file.

Medical Protocol

Another 3% discount is available to those members who establish and implement a ***Medical Protocol***. This document outlines the medical protocol your employees should follow in the event of a work-related injury. It includes naming your designated workers comp doctor along with other key medical facilities. It guides your employees in the event of an accident and enables your named doctors and facilities to be better prepared so they can handle your workers comp claims more efficiently. A Medical Protocol form will be included in the November mailing for those members that do not yet have one on file.

Remember, MWCF members who participate in all three programs will receive a **bonus** 1% discount – earning those members a full 10% discount on their annual premium for 2022! These programs not only help to reduce claims but also put thousands of dollars back into the budget of those municipalities and municipal entities to be used elsewhere.

If you are currently NOT signed up for one or more of these programs, you will receive the ***MWCF Premium Discounts*** information packet in November. Members are encouraged to watch for their packet as it will **ONLY** contain the information on the discount program(s) you are currently not signed up for. If you are already signed up for all three programs, you will NOT receive a ***MWCF Premium Discounts*** packet, and the full 10% discount will be automatically applied to your renewal!

For further information, call MWCF at 1-888-736-0210.

2021 SKIDCAR Schedule

Through an advanced, computer-controlled driver training vehicle known as the SKIDCAR System, trainees learn how to react quickly and safely to a range of hazardous driving conditions. Training is conducted throughout the state at a minimal cost. Visit www.losscontrol.org for more information.

Sept. 29 – Oct. 1 Jacksonville

October 18 – 22 Pelham



Register at www.losscontrol.org!



Loss Control Division

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Fall Safety DVDs

- 5.061 – Road Rage & Aggressive Driving
- 5.080 – Tractor Safety
- 7.026 – Tick Bite Prevention & Response
- 7.057 – Mobile Elevating Work Platforms
- 7.079 – Tree Trimming Safety
- 7.131 – Social Media – Reduce the Risk
- 7.133 – Resisting the Flu
- 7.154 – Chainsaw Safety
- 10.015 – Remote Worker: Safety, Health & Security
- 10.016 – Covid 19: Staying Safe at Work – Employees
- 10.017 – Covid 19: Staying Safe at Work – Employers

Video/DVD requests to: **Sonya McCarley** at: **334-386-8114**
smccarley@almonline.org or FAX at **334-262-2809**

Need Help Filing Work Comp Claims?

For step-by-step instructions, visit:

www.almwcf.org

Employment Practices Law Hotline

1-800-864-5324

Through a toll-free Employment Practices Law Hotline, members can be in direct contact with an attorney specializing in employment-related issues. When faced with a potential employment situation, the hotline provides a no-cost, 30-minute consultation.

www.losscontrol.org