

Wisconsin General Industry Safety Newsletter

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Warehousing Hazards

Everyone has a “WAREHOUSE” in their facility. It may only be a closet or a dock with two shipping doors or it may be a “big box” distribution center! Materials need to be received, stored and shipped somewhere by someone. It is a commonly overlooked portion of the worksite especially if it is not the core function of the business.

In the past 5 years, over 500 accidents were investigated nationwide by OSHA in warehouses with over 150 of those accidents resulting in a fatality. The fatality rate for the warehousing industry is higher than the national average for all industries.

OSHA has a very short and generic section in Subpart N titled “Materials Handling and Storage” (1910.176). It discusses use of mechanical equipment having sufficient safe clearances, no obstructions and having marked aisle ways. Storage of materials shall not create a hazard. Storage areas shall be kept free from accumulation of materials that constitute a tripping, fire, explosion, or pest harborage.

Since OSHA doesn’t have a vertical standard covering warehousing, the employer must apply all the general industry standards along with applicable industry standards. A thorough worksite analysis will determine the hazards and the appropriate controls and applicable OSHA standard. “Focus Four” refers to the top four hazards in construction and is very appropriate for

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Tripping hazard and fire safety egress hazard.



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warehouse conditions. The Focus Four are:

1. Fall,
2. Electrical,
3. Struck-By, and
4. Caught In-between.

As space becomes more limited, storage at a facility becomes more vertical and so is the need to access elevated areas. Falls routinely occur from the order picking style forklifts, mezzanines, conveyors, elevated pallet racking, and dock areas. [Guarding floor and wall openings and holes. - 1910.23](#) Any elevated platform, greater than 4 feet above the adjacent area, needs to have standard guard rails. Fall protection is required for workers operating order picker style forklifts.

Although electrically related fatalities in warehouses are not common, electrical wiring and design is one of the top ten cited standards for warehouses. [Wiring design and protection. - 1910.304](#) Electrical conduit and outlets are often damaged by forklifts and materials. Temporary wiring is used frequently.

Being “struck-by” material or an object happens when material is not properly stored or secured. Swinging semi-trailer doors have struck workers causing fatalities. Things to look for are loose boxes on pallets, heavier material on the top of racking, larger rolls stacked on top of smaller diameter rolls, units not interlocked, and/or material not banded or wrapped securely. [\(1910.176\)](#) Checks and observations of such conditions should occur at least daily if not more frequently. Industry standards such as ANSI/RMI M:H16 address the condition and use of pallet racking.

A worker could be either “struck-by” or “caught in-between” a forklift, or both. If the forklift counterweight “strikes” the worker which causes the worker to fall, then the forklift proceeds to drive over the worker. Either

way, a severe injury or death is likely to occur. [\(1910.178\)](#) Barriers for pedestrians are a more positive means of separating forklift traffic from the workers on foot. Eliminate or minimize visitors or the semi-truck drivers in the warehouse area.



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Damaged parts of this storage rack indicate that the unit should be taken out of service until repairs are completed.



Unsecured storage of materials.

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Light assembly or manufacturing processes can overflow to the warehouse areas or operations such as when building shipping crates or repairing pallets is done. Conveyors are commonly used along with cardboard compactors and pallet wrappers. Equipment needs to be evaluated and inspected for proper machine guarding. ([Subpart O](#))

Chemicals are not frequently used in warehouses; however, their effects can be deadly. Hazard Communication ([1910.1200](#)) The trend is to go to battery operated equipment to eliminate the LP (Liquefied Petroleum) handling and storage concerns along with potential carbon monoxide exposures. But battery charging has the potential of contact with battery acid, hydrogen emissions and explosions. Other chemical concerns are striking or breaking piped material (ammonia and natural gas) with forklift loads. Warehoused chemicals could spill or be released which may trigger an emergency response. ([1910.120](#)) When receiving returned products (chemicals), are the containers always properly labeled and caps or covers secured?

Fire and emergency evacuation plans need to be reviewed. Spacing within the pallet racking and appropriate sprinkler placement is essential to the company surviving a fire. Exits and aisles need to be clearly marked, unobstructed and exit doors unlocked.

Last but not least, ERGONOMICS! Not everything can be moved via a pallet and forklift. There are numerous operations that require re-palletizing, hand-loading or stacking, maneuvering pallet jacks, and loading various delivery vehicles. NIOSH has a good guideline for assessing the ergonomic risks [NIOSH Document: Ergonomic Guidelines for Manual Material Handling - NIOSH Publication 2007-131 | CDC/NIOSH](#)

For more information on Warehousing, OSHA 3220 ([OSHA Publications](#)) is an excellent source.

Fatigue at Work

Is there a problem???

Safety Partnership is a consortium of private sector, state and federal organizations dedicated to collecting information on workplace safety and health and distributing it to Wisconsin workers and employers. Members of this Partnership have performed numerous accident investigations where the underlying cause or contributing factor was fatigue. However, since there is no OSHA standard and there is no tool to measure the amount of fatigue, it is not mentioned in the accident summary.

Worker fatigue is the inability of a worker to perform reasonable and necessary physical or mental activity. There are a number of factors employers consider when setting schedules for a workplace. However, there are also limits to human performance. At some point, fatigue sets in and a worker's ability to process information and perform

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This abrasive blasting nozzle has a bungee which is used to by-pass or disable the dead man control.

Save The Date 6th Annual Safety Day

On **Thursday, June 11, 2009**, the Milwaukee Area OSHA Office, in cooperation with the Waukesha County Technical College (WCTC) and the Wisconsin Chapter of the American Society of Safety Engineers (ASSE), will present their sixth annual Safety Day conference for businesses in Southeastern Wisconsin. Waukesha County Technical College is located in Pewaukee, Wisconsin.

The ASSE Wisconsin Chapter, local OSHA Staff, and Wisconsin Consultation Program Staff will be presenting information on many topics affecting small to medium size employers. The conference is an opportunity for small to medium size businesses in general industry to attend and learn more about safety and health requirements for their workplaces. For further information, or to put your name on our mailing list for a registration package, call the Milwaukee Area OSHA Office at 414-297-3315.

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tasks successfully is affected.

With the “right-sizing” of companies, many staff’s have been contracted to the point where fewer individuals are doing more work which creates the need for over time and stress. Many facilities will not hire more workers until the economy shows a sustained, steady improvement and are willing to pay the overtime for workers. Many workers are working a second job to make ends meet. Shift workers may have difficulty sleeping or have child care responsibilities that take away sleep opportunities.

Safety Partnership has been meeting for over a year and has developed a PowerPoint, delivered presentations and collected management strategies in dealing with fatigue. They are currently hosting a 12 question survey to get personal experiences with fatigue. Find the survey at www.safetypartnership.blogspot.com.

The survey asks for personal experiences where fatigue was involved in some manner during work hours and also during the commute. Nearly all respondents have a personal experience to share that demonstrated that fatigue played a role in an accident, near miss, quality control issue, patient care error, or some mishap. For example; shortcuts were taken, wrong button pushed which dropped a paper roll, lockout procedure not performed, forklift speed misjudged and didn’t stop before hitting an object, and an increase in slip/trips/falls. It is an eye-opener reading the accounts of the affects of fatigue on the commute!

OSHA does not have a standard on how many hours a worker can work or times between shifts. However, the Safety Partnership encourages employers to develop a strategy for dealing with extended shifts or fatigued workers. The Safety Partnership is interested in learning about workers’ experience with fatigue and the strategies employers use when scheduling employees to prevent worker fatigue. By completing this 12 question survey, you’ll assist the Safety Partnership in their mission. The Safety Partnership will also be posting the PowerPoint, Management Strategies, and survey results on the above site.



This abrasive blasting hood is being fed with air that is contaminated with carbon monoxide. The source of the air is not from outside, the air is not being passed through a sorbent bed and there is no carbon monoxide monitor or alarm.

The meter shows 51 PPM and the limit is 10 PPM.

Region 5 General Industry Fatalities for February 2009 to May 2009

SIC code and accident description

0783—Ornamental Shrub and Tree Services

A work crew of four employees were driving back to a crew meeting location when the driver fell asleep and struck another vehicle on the public roadway. Three employees were injured.

2079—Shortening, Table Oils, Margarine, and Other Edible Fats and Oils, Not Elsewhere Classified

An employee was preparing to load a rail car with oil. The supervisor began looking for the employee when he noticed the oil not yet in the rail car. The supervisor climbed to the top of the rail car and saw the employee in the bottom of the car. After calling for emergency assistance the supervisor lowered a 4-gas meter into the rail car and found the oxygen content to be 14.6%.

2421—Sawmills and Planing Mills, General

Two employees were operating the gang saw and edger. The gang saw was set up to saw logs into 3 boards. One employee, a helper, was working at the take-off or outfeed side of the machine. A jam up occurred and the helper was holding the three boards while the operator tried to unjam. The operator then left the saws running and moved over to the other side of the feed chute. At this time the boards flew out of the machine and struck the operator.

3089—Plastics Products, Not Elsewhere Classified

The operator of a hydraulic plastic trim press had just placed a plastic part into the press and was in the process of removing a piece of scrap from the press. The operator experience severe crushing injury while she was between the light curtain and the point of operation when the press cycle was inadvertently initiated.

2411—Logging

Two employees had finished loading the last truck with wood chips conveyed from a Vermeer HG600 horizontal grinder. One employee was refueling a machine and did not see the victim and went to the side of the grinder to investigate where he found the co-worker entangled in the conveyor and idler roller.



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The painter was exposed to 5.6 ppm xylene and 0.6 ppm 2-butanone on this day of painting.

Selection of an inadequate glove has caused chemical exposure to this employee and resulting rash.



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2771—Greeting Cards

An employee had slipped on the floor while moving a debris hauler down a hallway and had broken his hip. The employee was participating in therapy for hip surgery recover when he died about one month after the fall.

2677—Envelopes

An employee a machine that prints and cuts paper for envelopes and was crushed between rollers.

3443—Fabricated Plate Work (Boiler Shops)

An employee was welding 1-inch thick steel stiffeners onto an 8 foot by 20 foot, 2-inch thick steel plate. The large steel plate was standing on end and was tack welded to two large steel saw horses. While welding the stiffeners the plate came loose from the saw horses and fell onto the employee.

4813—Telephone Communications, Except Radiotelephone

An employee was installing a telephone line and was working from a ladder when he fell about 17 feet to the pavement. The ladder was resting against the telephone line at mid-span between two utility poles and was equipped with cable hooks. There was wind and heavy rain at the time of the accident.

4213—Trucking, Except Local

An employee had backed his tractor-trailer rig containing waste materials into position on the tipper lift. He was disconnecting hoses between the tractor and trailer when he fell over a rail system located around the tipper lift and fell about 7 feet.

4789—Transportation Services, Not Elsewhere Classified

An employee was adjusting the chassis on a tractor-trailer rig when the driver drove away and ran over the employee.

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Wisconsin Safety Partnership Committee Worker Fatigue Survey

The Wisconsin Safety Partnership Committee, composed of representatives from Wisconsin Council of Safety, Wisconsin Manufacturers and Commerce, Department of Health Services, Department of Public Instruction, Wisconsin State AFL-CIO, OSHA, and American Family Insurance, is dedicated to collecting information on workplace safety and health and distributing it to Wisconsin workers and employers. As part of their mission they ask that you complete their 12 question survey located at www.safetypartnership.blogspot.com.

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4213—Trucking, Except Local

An employee was struck by a yard truck used to move trailers around the trailer yard. He had just finished his shift and had went to retrieve his private automobile to warm up the engine. He had parked his car near the trailer yard and was walking to remove the keys from the yard truck that he had been operating when he was struck by another yard truck that was making a U-turn and was maneuvering to pick up a trailer. There were no documented safety rules and training on safety requirements had not been done. No warning devices were in consistent use that may have warned pedestrians of moving vehicles.

5191—Farm Supplies

An employee reached under a grain truck and was caught and entangled in the rotating power take-off shaft.

5211—Lumber and Other Building Materials Dealers

An employee was attempting to transfer a pallet of fiberglass insulation on the second floor mezzanine to the forks of a forklift. He was pulling on the plastic banding strap that was holding the insulation on the pallet when the strap broke and the employee fell to the lower level, about 9 feet below.

7389—Business Services, Not Elsewhere Classified

An employee, helping to repair an elevator, was standing on a fixed ladder inside the elevator pit when the elevator car descended. The employee was in the elevator pit to determine how wood panels in the elevator car were attached.

7699—Repair Shops and Related Services, Not Elsewhere Classified

An employee was using a scissors lift to remove a pipe. Either his coveralls or his fall protection lanyard caught on the scissors lift controls which caused the lift to rise up and caused a crushing accident between the lift and the pipe.

7349—Building Cleaning and Maintenance Services, Not Elsewhere Classified

An employee was attempting to anchor himself to an anchor point engineered on the exterior of a building when he fell. He was one of four window washers in the work crew.

8082—Home Health Care Services

The employee, a home health care nurse, was at a clients residence and felt dizzy. The nurse was leaving the home and slipped and fell off of the porch and onto the driveway. The nurse experienced fatal head injuries from the fall.

7538—General Automotive Repair Shops

An employee was installing an air shock on a vehicle. He was using a pry bar to get the holes to line up when the air shock moved off of the axle and struck him in the head.

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7539—Automotive Repair Shops, Not Elsewhere Classified

An employee was working under a bus which had not been blocked or supported with jacks. The shock absorber was broken and had created suspension problems and the employee was working on the airbag. The airbag was over-pressurized which caused it to rupture and allow the bus to settle onto the employee.



The banner features a yellow and blue color scheme. At the top left, the text reads "REGION V O.S.H.A. • LABOR • MANAGEMENT Working Together CONFERENCE-2009" in bold, stylized fonts. To the right, it says "May 27-28, 2009" and "Monona Terrace Community and Convention Center Madison, WI". Below this, the VPPPA logo is shown with the text "Voluntary Protection Programs Participants' Association". The central graphic is a yellow hard hat with a white label that says "REGION V VPPPA". To the left of the hard hat, the slogan "Safety isn't CHEESY in Wisconsin" is displayed, with "CHEESY" in large, yellow, block letters. At the bottom, a grey box contains the text: "Region V VPPPA Conference 2009 Register online before May 15, 2009 for the Region V Voluntary Protection Programs Participants' Association Conference 2009 in Madison, Wisconsin. The website is www.vpppa.org. Also use that web address to register for the VPP Application Workshop which is held on May 29, 2009."

Top Ten Violations

Listed below are the “top ten” cited violations found during Federal OSHA general industry inspections from October 2007 through September 2008.

<u>Rank</u>	<u>Standard</u>	<u>Hazard</u>
1.	29 CFR 1910.147	The Control of Hazardous Energy
2.	29 CFR 1910.1200	Hazard Communication
3.	29 CFR 1910.212	General Requirements for All Machines
4.	29 CFR 1910.134	Respiratory Protection
5.	29 CFR 1910.305	Wiring Methods, Components, and Equipment for General Use
6.	29 CFR 1910.178	Powered Industrial Trucks
7.	29 CFR 1910.303	General Electrical Requirements
8.	29 CFR 1910.219	Mechanical Power-Transmission Apparatus
9.	29 CFR 1910.215	Abrasive Wheel Machinery
10.	29 CFR 1910.132	General Personal Protective Equipment Requirements

This newsletter provides an overview of OSHA standards and does not alter or determine compliance responsibilities, which are described in the OSHA standards and the *Occupational Safety and Health Act*. Because interpretations and enforcement policy may change over time, the best sources for additional guidance on OSHA compliance requirements are current administrative interpretations and decisions by the Occupational Safety and Health Review Commission and the courts.



The personal air sample for this welder showed exposure at 37% of the iron oxide limit, 14% of the copper fume limit, and 10% of the manganese limit.

Wisconsin Contact Information

Wisconsin OSHA Consultation Offices:

- Wisconsin State Laboratory of Hygiene, University of Wisconsin
2601 Agriculture Drive, Madison, WI 53718-6780
(608) 226-5240 (Health)
- Wisconsin State Laboratory of Hygiene, University of Wisconsin
141 NW Barstow Street, Fourth Floor, Waukesha, Wisconsin 53188-3789
800-947-0553 (Safety)

Wisconsin OSHA Enforcement Offices:

- Appleton Area Office, 1648 Tri Park Way, Appleton, Wisconsin 54914,
(920) 734-4521, (920) 734-2661 FAX
- Eau Claire Area Office, 1310 W. Clairemont Avenue, Eau Claire, Wisconsin 54701
(715) 832-9019, (715) 832-1147 FAX
- Madison Area Office, 4802 E. Broadway, Madison, Wisconsin 53716
(608) 441-5388, (608) 441-5400 FAX
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Do you have comments or ideas for articles?

E-mail them to the Wisconsin General Industry Safety Newsletter at Zortman.Chris@dol.gov

Ideas for Articles for Upcoming Issues

Do you have any ideas for articles that you want to see or topics that you think are important?
Please let us know at the email address listed just above.