



THINK SAFETY

If you were asked to define “Safety” in one word, what would be your reply? Would you define safety as alertness, always ready for the unexpected? Would you define safety as skill, the art of being ultra-adept? Would you define safety as experience, asserting that the veteran never gets hurt? Would you define safety as cooperation, the ability to exercise patience and get along with your fellow worker? Or, after due deliberation, would you finally define safety with the use of the single word **THINK**?

Perhaps Alertness, Skill, Experience and Cooperation could be associated with safety, but these are subservient to the word **Think** and must be construed as secondary definitions. A well-known business executive has made the word “THINK” synonymous with success, and as in other phases of industry, the application of the meaning of the word is also very necessary if we are to reduce the number of accidents and injuries. As had been so often stated, ninety percent of all accidents are attributed to unsafe acts on the part of the individual/worker, and failure to **think** before acting is the cause of practically all accidents in this category.

A technician removes a guard from a bench grinder for the purpose of expediency; an injury results. The technician has not given thought to the original purpose of the guard and has suffered the unfortunate consequences. Another individual, again in the interest of time, fails to don safety goggles for a project “that will take only a minute.” Again, injury results because of failure to think of the possible negative consequences. A driver is involved in an accident because he knew he had the right-of-way but failed to think that perhaps the second party involved would not recognize this established right.

Many accidents could be averted if we would only discipline ourselves to give full thought prior to the application of our actions.

Think Safety—Then Act Safely

LAST MINUTE SAFETY ASSESSMENT

BEFORE BEGINNING ANY ACTIVITY/TASK/JOB

ASSESS the risk

What could go wrong?

What is the worst thing that could happen if something does go wrong?

ANALYZE how to reduce the risk

Do I have all the necessary *Training and Knowledge* to do this job safely?

Do I have all the proper *Tools and Personal Protective Equipment*?

ACT to ensure safe operations

Take necessary Action to ensure the job is done safely!

Follow written procedures! Ask for assistance, if needed!

“IF IT’S NOT SAFE, STOP....DO IT THE SAFE WAY.”

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Safety Question:

Which PPE will protect an employee from impacts to the eyes?

- A. Safety Glasses**
- B. Safety Goggles**
- C. Face Shield**
- D. A&B**
- E. All the above**

Answer on page 5



Process Safety Management

Why is Process Safety Management necessary? Unexpected releases of toxic, reactive, or flammable liquids and gases in processes involving highly hazardous chemicals have been reported for many years in various industries that use chemicals with such characteristics. Regardless of the industry that uses these highly hazardous chemicals, there is a potential for an accidental release any time they are not properly controlled, and the associated possibility of disaster.

To help ensure safe and healthful workplaces, OSHA has issued the Process Safety Management (PSM) of Highly Hazardous Chemicals standard ([29 CFR 1910.119](#)), which contains requirements for the management of hazards associated with processes using highly hazardous chemicals. Many of Ardaman's clients operate facilities that contain hazardous chemicals. These facilities have PSM standards in place and we are required to understand the PSM processes that are in place at their facility and to follow them.

Process safety management (PSM) is addressed in specific standards for general industries and construction industries. OSHA's standard emphasizes the management of hazards associated with highly hazardous chemicals and establishes a comprehensive management program that integrates technologies, procedures, and management practices.

Many of our employees, work at project sites that require a PSM program at that facility, and must comply with the site specific PSM program that is in place at those facilities. It is very important that employees pay attention during site specific training at these facilities. During this training, important PSM processes are discussed along with emergency actions that must be followed in case a release does occur. Always be familiar with the procedures (notification and response) and the location of areas for evacuation.

1. Process Safety Management is a way to prevent or minimize the consequences of a catastrophic release of toxic, reactive, flammable, or explosive highly hazardous chemicals from a process.

- A process is defined by OSHA as "any activity or combination of activities including any use, storage, manufacturing, handling, or the on-site movement of highly hazardous chemicals."
- An analysis is designed to identify, evaluate, and control the hazards of processes involving highly hazardous chemicals.
- The analysis is performed by a team experienced in engineering and process operations.

2. Key safety issues that a process hazard analysis should look at include:

- Hazards of the process
- Any previous accidents with the potential for catastrophic consequences
- Applicable engineering and administrative controls
- The consequences of failure of those controls
- Human factors

3. Employees must take an active role in developing the analysis.

- The team must include at least one employee who has experience and knowledge specific to the process.
- Another member must be experienced in the methods used to analyze the hazards.

4. OSHA regulations require you to use one or more of the following methods (or an equivalent) to evaluate hazards:

- What if/Checklist (used to determine what worst case scenario could be)
- Hazard and operability study (HAZOP)
- Failure mode and effects analysis (FMEA)
- Fault tree analysis (figure the root cause of how the release may have occurred)

5. A process hazard analysis must be based on reliable and current safety information about the hazards of the chemicals, the technology, and the equipment used in the process.

- Chemical hazard information should include physical hazards (corrosive, explosive, reactive), health hazards (toxicity), and permissible exposure limits.
- Technology information should include such items as a process flow diagram, process chemistry information, and safe upper and lower limits of temperatures and pressures.
- Information about equipment used in the process should include such items as information about materials used in construction, piping and instruments, safety systems, and ventilation systems.





Process Safety Management Continued

6. OSHA requires a process hazard analysis to be updated at least once every 5 years.

- In addition, any change in process technology requires close review and potential reassessment of the process hazard analysis.
- Analysis should be viewed as an ongoing priority; a daily practice in which all process personnel should be directly and actively involved.

No one wants to experience catastrophic release of toxic, reactive, flammable, or explosive chemicals. The whole purpose of a process hazard analysis is to prevent such a tragedy that could endanger workers' lives and the surrounding community as well.

Pay Attention While Driving!

"I never saw him!" is the most common excuse heard after a collision. Was the other vehicle invisible? Virtually all collisions involve inattention on the part of one or both drivers. Inattention can involve many things, some of which are daydreaming, distractions, eating, sleepiness, fatigue, "highway hypnosis", talking to others, talking on the phone, etc.

A moving vehicle develops thousands of foot-pounds of energy. YOU as a driver have the responsibility not to use that energy to injure or kill others, or damage their property. Paying attention makes it possible for you to see, recognize and avoid the hazards lurking on the road; these are the three basic elements of defensive driving. The primary attribute necessary for a safe driver is alertness, and paying attention is the most important driving task because it helps create the time you need to recognize hazards and avoid a collision.

One statistic often quoted is that most collisions happen within a short distance from home. Why is this true? Since we mostly drive in our own neighborhoods, the odds are we'll have most of our mishaps there. We also are more comfortable closer to home and perhaps we let our guard down (and the other driver may do the same thing). You have heard that "familiarity breeds contempt"? Better yet, familiarity breeds inattention. This also applies to the area around our offices. We don't often consider that serious or fatal injuries can occur in low speed collisions.

While it is important for you to be alert and aware, it isn't an easy task. Here is a challenge for you. The next time you drive, try concentrating solely on the driving task. Think of nothing else. Then see how far you get before your mind wanders. Many drivers will not even get out of the parking lot! Seasoned drivers don't have to think about driving much. It's something we do automatically, and our minds are free to wander. And our minds want to wander. Have you ever driven somewhere and been so lost in thought that you could not remember anything about the trip itself? Is this a problem?

Is this a curable problem? Paying attention can become a habit, but you have to work at it. Make conscious, persistent choices not to eat while driving, or whatever you do that takes your attention off where your moving vehicle is pointed. Connect your mind to your eyes and work at consciously analyzing what you see while you drive. This is called "situational awareness." Driving is the most dangerous thing most of us ever do. It deserves your full attention.

"It is better to arrive late somewhere than to never arrive at all."

Defensive Driving: The 5 Keys

1. Aim High In Steering
2. Get The Big Picture
3. Keep Your Eyes Moving
4. Leave Yourself An Out
5. Make Sure They See You

Before Driving

1. Walk Around the Vehicle.
2. Adjust your Seat.
3. Adjust Your Mirrors.
4. Adjust Your Headrest.
5. Adjust the steering wheel.
6. Do your "Seatbelt Check!"
7. Lock the doors.



Ardaman Update

Injury Incidents:

- Employee was performing one last punch on the punch machine for cutting the HDPE liner in the lab. He had taken his gloves off prior to performing the last punch. After punching the HDPE liner, he began to raise the control arms and punch frame. His thumb contacted the cutting area/frame and caused a cut. PPE must be used until the entire task is completed. Once the hazard is no longer present, the PPE can be removed. First Aid Only.
- Employee was helping with soil sampling while using a hand auger. After the sample was retrieved he reached down to catch a soil sample falling from the bucket auger and felt pain in his left elbow. When performing tasks, ensure you are using proper ergonomics to minimize the potential for strains or overexertion. Ask for assistance as needed. First Aid Only.

Vehicle/Equipment Incidents:

- Employee was getting ready to move the drill rig to the next borehole location. He began to lower the mast/derrick but forgot to disengage the Kelly bar coupler, which resulted in bending the Kelly bar. All CME 55, 75, and Ardco Drill Rigs must have the Kelly Bar Coupler removed prior to lowering the drill mast to avoid bending the Kelly bar. After the Kelly Bar Coupler is removed and secured with the proper pin, the tower bolt must be removed to be able to lower the mast. Additional safety measures are being developed to incorporate a relief valve to mitigate this hazard in the future.
- Employee was driving in stop and go traffic. The vehicle in front of our driver proceeded forward and quickly applied their brakes. Our driver hit his brakes and our vehicle continued forward and our driver may have made contact with the vehicle in front of him. Per the Smith System, we must always keep a one car length buffer zone between our vehicle and the vehicle in front of us when coming to a stop. This extra space cushion provides our driver additional space if needed when reacting to situations around their vehicle. Always visually verify that the area around your vehicle is clear before moving.

Ardaman Health and Safety Recognition Awards



A safety sticker was awarded to the following individuals:

- ♦ **Robert Lockley** for recognition and actions regarding a potential struck by hazard while driving. Employee identified a road block/hazard ahead of him on an on ramp to the interstate. He proactively pulled off onto the shoulder of the road and avoided impact from other vehicles that failed to look around before entering the area. (Ft. Myers)
- ♦ **Khaloud Allaz** for recognition and actions regarding an unmarked trip hazard and improper transport of equipment. A contractor on site failed to remove a trip hazard and was also transporting an overhead light tower without the trailer mounted onto the trailer hitch and the outriggers up and secured. Employee notified the contractor and they stopped immediately and avoided damage to the equipment and workers. (Orlando)

How Do I Find The Correct Tire Pressure For My Vehicle?

Having the correct tire pressure is extremely important for safety, and getting good gas mileage and the most life out of your tires. Your vehicle has a specific tire pressure that will give the best gas mileage, handling and tire life for that car, and it's written right on the driver side door jamb of the car. That's the one you should follow when airing up your tires.

On newer vehicles, the recommended pressure is most commonly listed on a sticker inside the driver's door. If there's no sticker on the door, you can usually find the specs in the owner's manual. The recommended pressure applies to a cold tire. The reason you check when cold is that as tires roll along the road, friction between them and the road generates heat, increasing tire pressure. For the most consistent tire-pressure reading, make sure the vehicle has been sitting overnight, or at least has been parked for a few hours.

Do not inflate your tires to the pressure listed on the tire itself. That number is the maximum pressure the tire can hold, not the recommended pressure for the vehicle. Check the door sticker to see if the front pressure is different from the rear which is common in newer vehicles. Tricky, huh?

Over-inflated tires will give you a bouncy ride and an ill-handling car, while under-inflated tires can develop premature wear from increased friction. Either way, not having your tires at their recommended pressure compromises safety and will negatively affect tire wear and vehicle performance.





Ardaman Update Continued

Safety Audits: Identified Hazards from 37 Safety audits conducted in the month of July

Labeling: Cone Rig operators panel did not have proper labels for the levers. All equipment must have proper labeling to ensure the operator is able to identify the function of each switch, lever, and button.

Exclusion Zone: Employee was standing in the exclusion zone around the concrete compression breaking machine in the lab while it was operating. Exclusion zones have been identified and marked on the floors in all labs to ensure individuals are aware to stay out of these areas when the equipment is operating.

Exclusion Zone: Drill crews failed to place four high visibility cones around their work areas to designate their work space around the rig. The exclusion zone around a drill rig must be identified as this notifies others of their work area along with the PPE requirements that must be followed while within this area. AAI drill rigs have a 25 foot exclusion zone around them for non-authorized personnel.

Near Miss/ Hazard Identification:

Highlighted Near Misses from 22 reports received for the Month of August.

- Employee was driving on the on ramp to enter the interstate along a construction zone area. He was following a haul truck onto the ramp and observed them coming to a stop at the top of the ramp. Since our driver was following the Smith System 4 second rule he had plenty of time and space to recognize the hazard ahead. Our driver pulled off on to the shoulder of the ramp to wait for the roadway to clear. The haul truck had stopped due to another construction vehicle blocking the roadway that was trying to back off the road into the construction area. The haul truck then decided to enter the interstate but due to the roadway being partially blocked, he had to cut into the interstate earlier and impeded the traffic in the right lane. The haul truck cut off a truck that was pulling a trailer. The driver of the truck was able to swerve out of the way of the haul truck, but the trailer did not make it clear in time and sideswiped the haul truck. This is an excellent example of our driver using the Smith System. He was looking ahead, got the big picture around his vehicle, and stayed clear of identified hazards until it was safe to reenter the roadway.
- Employee observed a contractor on site removing the handrails that had been in place during the construction of a box culvert. After removing the handrails, the contractor left several four inch tall bolts protruding from the top portion of the box which created a trip and impalement hazard. Our employee notified the contractor and had them temporarily cover each bolt with a traffic cone until they could safely be removed. Always ensure all hazards are identified and marked immediately until they can be mitigated. If they cannot be mitigated, the work should stop in that area until a solution can be implemented.
- Employee observed a sheared off section of PVC pipe on the construction site roadway. The post was damaged during recent mowing activities on the site. The sharp jagged edge of the post section was a short section only a few inches above the ground and could have caused a puncture to a vehicle tire or exposed a worker to a trip and impalement hazard. The crew removed the damage PVC pipe from the ground and discarded it in the proper dumpster.
- Employee entered an empty lot to stake the area for the proposed monitoring wells and soil borings. The site has a section with overgrown grass. Before entering the area, the employee parked the vehicle in a clear area of the site and then walked towards the vegetative area. Upon entering the area, she observed a 2' x 2' open excavation that was covered by the vegetation. She marked the area with stakes and high visibility paint and alerted the contractor. This is a great example of the proper proactive approach when driving on a site as there may be hazards hidden.

Safety Question Answer: D

Safety Glasses and Goggles with the American National Standards Institute (ANSI) Z 87.1 stamp are certified for impact hazards. However, face shields alone do not protect employees from impact hazards. Face shields may be used in combination with safety goggles or safety glasses to protect against impact.

September 2020 Safety Quiz

Please circle the letter of the answer that fits best. Some answers can be found in the newsletter

1. Process safety management is a way to prevent or minimize the consequences of a catastrophic release of toxic, reactive, flammable, or explosive highly hazardous chemicals from a process.
A. True B. False
2. Key safety issues that a process hazard analysis should look at include:
A. Hazards of the process B. Applicable engineering and administrative controls
C. The consequences of failure of those controls D. All the above
3. Only top management is active in developing the process hazard analysis.
A. True B. False
4. A process hazard analysis should include hazard information, technology information, and equipment information.
A. True B. False
5. Which of the following is a method to reduce the spread of COVID-19?
A. Social Distancing > 6 feet B. Face Coverings C. Not touching your eyes, mouth, nose, and wash your hands
D. All the above
6. Equipment should be inspected _____
A. Prior to each use B. After each use C. Never D. All the above
7. When you are unable to see or judge distances to objects when driving, you should stop and get out of the vehicle to verify the distance or ask for assistance from a spotter.
A. False B. True
8. OSHA requires a process hazard analysis to be updated at least once every 7 years
A. True B. False
9. Before driving or moving a vehicle, the first thing you should do is _____.
A. Put on your seat belt B. Adjust your seat C. Adjust your mirrors
D. Walk around the vehicle
10. A Process Hazard Analysis is designed to identify, evaluate, and control the hazards.
A. True B. False
11. Site specific training at a client's facility is a crucial component in our ability to understand the PSM process at their site, know what chemicals might be on site, and how to respond if a release occurs.
A. True B. False
12. All employees can make an important contribution by sharing their knowledge and experience with the process hazard analysis team.
A. True B. False

All Ardaman employees must complete the quiz and turn it in by the end of each month. For those individuals who cannot attend the monthly safety meeting please complete the quiz and submit it to your supervisor for approval. These will be sent to HR/H&S. All others must submit the quiz at the designated location at your office. The supervisor only needs to sign the quiz if you are unable to attend the meeting, you must explain the reason in the box below:

Print Name Here

Sign Name Here

Date

Supervisor Print Name Here

Supervisor Sign Name Here

Date