Manufacturing

Safety Talks Packet

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Safety Meeting Attendance Form

SAFETY MEETING INFORMATION (INSTRUCTOR USE ONLY)		
Site:	***Location:***	***Instructor:***
Date of Safety Meeting:	***Length of Safety Meeting:***	***Safety Meeting Topic:***

ATTENDANCE SHEET			
No.	**Name (Printed)**	**Signature**	**Company**

ATTENDANCE SHEET			
No.	**Name (Printed)**	**Signature**	**Company**

Provided by: [B_Officialname]

Acetone Safety Precautions

Dealing with acetone in the workplace requires special care and safety precautions. Acetone is highly flammable and although not highly toxic, exposure can be irritating and painful.

To help keep you safe on the job, it's important to know how to work with acetone safely, wear the proper protective gear and know what to do in an emergency.

Wear Personal Protective Equipment

Employees engaged in routine handling of acetone should wear milled butyl rubber gloves and rubber aprons for protection against skin contact. Chemical goggles should be worn, and when complete face protection is necessary, a face shield should be worn.

Fire Hazards and Prevention

Acetone is highly flammable and poses a serious fire hazard. It is capable of igniting materials even when at room temperature. All sources of ignition, including spark-producing machinery or equipment, should be eliminated in areas where acetone is stored, handled or used. An acetone explosion can occur when it is mixed with any of the following chemicals:

- Hydrogen peroxide
- Nitric acid
- Sulfur dichloride

Because acetone vapors have the capability to travel considerable distances in vapor form, confine it to a controlled, non-windy environment away from the above chemicals.

If an acetone fire breaks out, specific fire extinguishers must be used. These include foam, carbon dioxide and dry chemical extinguishers. To prevent spreading the fire, water used on an acetone fire should be in the form of a spray or fog. Ask your supervisor if you do not know of the extinguisher locations at your current job site.

Control Vapor Concentrations

For most operations, vapor can be kept at safe levels by enclosing the work area, properly ventilating or a combination of both. Opening windows or doors offers adequate ventilation for most small uses. Local exhaust may be needed with larger operations in order to capture the vapors at the source and keep them out of the breathing zone. Vapor concentrations may cause drowsiness and dizziness in workers. Contact your supervisor for specific ventilation information when working with acetone.

First Aid

If an employee has inhaled small amounts of acetone vapor, he or she should be moved to an area with fresh air. If large amounts have been inhaled, the person should be moved to an area with fresh air, and medical personnel should be called immediately.

If acetone is splashed in the eyes, flush out

immediately with large quantities of running water for at least 15 minutes by lifting the eyelids, and seek medical attention as soon as possible. Skin that comes in contact with acetone should be washed with soap and water, and any contaminated clothing should be removed.

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Provided by: [B_Officialname]

Avoid Accidents on the Plant Floor

While manufacturing is a much safer industry now than it was in the past, there are still hazards within the workplace. However, many on-the-job accidents can be avoided by focusing on safe practices and taking necessary precautions.

Most accidents are caused by an unsafe act, an unsafe working condition or a combination of the two. For example, removing a protective guard from a machine is an unsafe act that can easily cause an accident. On the other hand, a spill on the floor could cause someone to fall and get injured, and that accident would be due to an unsafe condition. In either instance, the accident could have been prevented by either following proper safety procedure or being alert to unsafe working conditions.

Hazards You May Encounter

Your job always has some potential for danger, so it's important to understand what causes accidents so that you can avoid them whenever possible. While it is impossible to list all of the hazards you may encounter while working, common ones include the following:

- Not wearing proper personal protective equipment
- Removing guards from machinery
- Using machines or tools improperly
- Unsafe handling of materials or chemicals
- Horseplay
- Debris or spills that are not cleaned up
- Wearing hanging jewelry or belts that could be caught in equipment

Safe Steps to Avoid Accidents

The first step to keeping yourself and co-workers safe is to stay alert on the job and don't let routine or familiarity lure you into carelessness. This can be challenging, especially if you do a repetitive task throughout the day. Always observe safety precautions before and during a task, even if those precautions make the task more inconvenient or take longer to complete. Cutting corners may not seem like a big deal, but doing so is a primary cause of accidents.

Next, know your job. The more you know about your job, the safer you'll be. Know the proper procedures and safety precautions for any task you do, and if any questions arise during your work day, be sure to talk to your supervisor. Be on the lookout for unsafe conditions near your workstation.

And finally, make a personal contribution. A good way to start this is to follow all safety rules and always wear required uniform and protective equipment, even if you think they are unnecessary or slow you down. Certain rules in the workplace are made for your protection, so

follow them. Also, just because an unsafe act is not specifically prohibited, it doesn't mean you should do it. Use your common sense when evaluating if an act is safe or not—there may be a very easy way to make it safer if you stop to think it through.

Focus on Good Habits

It's human nature to work yourself into habits, and when you break a safety rule, you've taken the first and most influential step in forming a bad habit—a habit that can lead to an injury. Good habits, such as noticing unsafe conditions, correcting them immediately or calling them to the attention of a supervisor, are just as easy to form.

Develop a safe attitude! This is probably one of the most difficult things to face because most of us have the mistaken notion that it's always someone else who gets hurt, never us. If we all do our share in observing safety rules and staying alert for unsafe conditions, everyone will benefit.

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Provided by: [B_Officialname]

Bench Grinders

Bench grinders, which are sometimes referred to as offhand or pedestal grinders, are some of the most common pieces of equipment in manufacturing. They are used for a variety of tasks, including sharpening, polishing, buffing and cleaning metal objects.

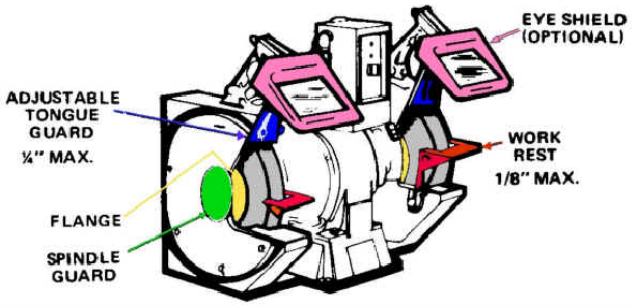
However, if used incorrectly, bench grinders can create a number of workplace hazards. For instance, if the bench grinder is poorly maintained, the abrasive wheel may shatter, creating dangerous projectiles. What's more, loose clothing and jewelry can become tangled in the bench grinder during use, which can cause serious injuries.

In order to keep individuals safe from these risks, the Occupational Safety and Health Administration (OSHA) has federal standards related to the use of bench grinders—OSHA 29 CFR 1910.215 - Abrasive Wheel Machinery. This Safety Matters highlights these requirements and provides ways you can stay safe on the job when using a bench grinder.

Guarding

Bench grinders are typically equipped with several types of guards, including tongue guards, work rests and side guards:

- **Tongue guards**—Tongue guards are metal plates located at the upper part of the wheel opening of the bench grinder. These guards prevent pieces of the grinding wheel from harming nearby workers should the wheel shatter. Per OSHA, tongue guards should be adjusted to ensure there's no more than a ¼-inch clearance between the guard itself and the grinding wheel.
- **Work rests**—Per OSHA, bench grinders must be equipped with a rest that can support workpieces. To prevent the workpiece from being jammed between the wheel and the rest, work rests must be adjusted in such a way that the gap between the face of the grinding wheel and work rest is no more than ⅛ of an inch.
- **Side guards**—Sometimes referred to as spindle guards, these guards are designed to enclose the wheel and spindle of a bench grinder. Per OSHA, side guards must cover the spindle and no less than 75% of the wheel.



For a visual representation of these guards, please review the above image.

Additional Safety Considerations

While machine guarding is critical when it comes

to bench grinder safety, there are additional precautions to keep in mind:

- Make sure the wheel you are using is compatible with the bench grinder. If the wheel isn't rated for the grinder, it could break and create serious injury risks.
- Perform a ring test before mounting a new wheel. These tests involve tapping the wheel with a nonmetallic object. If, during the test, you hear a dull, thud-like sound, the wheel may be damaged.
- Avoid standing directly in front of a bench grinder as you turn it on. If the wheel is damaged in any way, it may shatter as it gets up to speed.
- Wear the proper personal protective equipment when operating a bench grinder. This can include the following:
    - Face shields
    - Safety glasses
    - Hearing protection
    - Leather or canvas work gloves
- Be aware of items that could get caught in the bench grinder during use, such as loose clothing, jewelry or untied hair.
- Visually inspect the grinder before use, ensuring wheels, mounting flanges, electrical cords and other components are in good condition.
- Do not exceed the maximum recommended operating speed of the bench grinder.

Keeping in mind these precautions can go a long way toward ensuring your safety whenever you use a bench grinder. For more information, speak with your supervisor.

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Provided by: [B_Officialname]

Blasting Agents and Safety

Blasting agents are an important part of what we do at [C_Officialname]. However, if they are not handled properly, they can be extremely dangerous to you, co-workers and those who happen to be around the facility. To avoid disaster, it is important that you exercise extreme care when working with them.

Housekeeping

One of the most important things you can do to keep yourself and others safe is practice good housekeeping in the workplace. The entire mixing and packaging plant must be thoroughly cleaned on a regular basis.

Prohibited Materials

There are certain things that create a risk of explosion in a facility that works with blasting agents. For this reason, the following objects are prohibited on the grounds of [C_Officialname].

- Lit cigarettes
- Matches
- Open flames
- Spark-producing devices, such as lighters
- Firearms

Mixing Blasting Agents

Follow these guidelines to stay safe when in the mixing facility

- Keep metal powders, such as aluminum, dry and stored in moisture-resistant , weather-tight bins.
- Clean floors and equipment regularly to prevent buildup of oxidizers and other substances.
- Dispose of empty ammonium nitrate bags daily in a safe way.
- Never weld or use open flames in or around the mixing or storage area of the plant unless it has been completely washed down.
- Never bring explosives within 50 feet of building facilities.

Transporting Blasting Agents

- Vehicles in the blasting area should avoid driving over or dragging hoses over firing lines, cap wires or explosive materials.
- Use a second person to guide the driver's movements.
- Never place matches, firearms, acids or other corrosive liquids in the bed or body of any vehicle containing blasting agents.
- Never ride on, drive, load or unload a vehicle containing blasting agents while smoking or while under the influence of

intoxicants, narcotics or other dangerous drugs.

Stay Alert

If you are unsure of the proper procedure for handling a certain substance, or you have a doubt about safety in the workplace, do not hesitate to discuss it with your supervisor. Our first priority is keeping you, your co-workers and those around us safe.

Provided by: [B_Officialname]

Bloodborne Pathogen Awareness

While bloodborne pathogens are not usually a major concern in a manufacturing environment, it is still important that employees understand basic cautions and procedures in a first-aid situation. Knowing how to be safe around blood and other potentially infected material is important for your own health as well as that of your fellow employees.

Bloodborne Basics

Bloodborne pathogens are microorganisms that are present in blood and can cause diseases. Some well-known examples of bloodborne pathogens include human immunodeficiency virus (HIV), and Hepatitis B and C. Bloodborne pathogens can be life-threatening.

Assume It's Infected

The simplest way to protect yourself from bloodborne pathogens is to treat all blood as possibly infected. Even if you know a coworker very well, you should not assume that you are aware of whether they are carrying any bloodborne pathogens.

In order to prevent infection or spreading of bloodborne pathogens in the workplace, all employees should follow universal precautions, such as:

- Use appropriate personal protective equipment (PPE) such as gloves, safety glasses or masks.
- Clean up any blood present in the workplace with chemicals or cleaning products that will adequately kill the microorganisms responsible for bloodborne pathogens.
- Store needles and other sharp objects that could pierce PPE or your skin inside FDA-approved sharps containers.
- Use warning labels for containers carrying regulated waste or sharp objects.

Caution Comes First

In the event that there is blood in the workplace, only employees trained in first aid or designated to perform cleaning duties should address the situation. If you are involved in a situation involving blood or another potentially infectious material, do not attempt to help until you are certain that you are properly protected. First responders have to take care of themselves as well as those in need of assistance.

If you find that you have possibly been exposed to a bloodborne pathogen, wash the blood or other material off thoroughly with soap and warm water, and notify your supervisor. If blood or a potentially infected material gets inside your mouth, eyes, nose or your own broken skin, seek medical attention immediately.

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Provided by: [B_Officialname]

Concrete Manufacturing Hazards and Safety

The manufacturing industry itself can be dangerous, but working with concrete presents its own set of hazards. Following is a list of hazards and subsequent actions you should take if you encounter danger. Always observe the prevention methods to remain safe on the job.

Hazard: Exposure to Cement Dust

Dust can irritate the eyes, nose, throat and upper respiratory system. Silica exposure can lead to lung injuries and cancer.

- Rinse eyes with water if they come in contact with dust
- Seek medical attention if needed

Prevention:

- Wear P-, N- or R-95 respirators to minimize inhalation

Hazard: Wet Concrete

Workers exposed to wet concrete can suffer from skin irritation and third-degree burns.

- Wash contaminated skin with cold water immediately.
- Rinse eyes for at least 15 minutes and then seek medical treatment.

Prevention:

- Wear alkali-resistant gloves, long sleeves and pants, waterproof boots and eye protection.

Hazard: Unguarded Machinery

Machines that do not have guards in place can grab loose clothing, hair or fingers and cause amputation.

Prevention:

- Before using tools, ensure that the appropriate guarding is in place.
- Maintain conveyor belt systems to avoid jamming and use care when cleaning jams.
- Ensure that guards are in place when using mixers, cubers and metalworking machinery.
- Follow all lockout/tagout procedures when servicing the equipment.

Hazard: Falling Objects

On a job site, workers may be hit with falling objects from conveyor belt systems, elevators or concrete block stacking equipment.

Prevention:

- Avoid working beneath cuber elevators, conveyor belts and stacker/destacker machinery.
- Stack and store materials properly to

limit the risk of falling objects.

The Occupational Safety and Health Administration (OSHA) reports that over 10 percent of concrete manufacturing workers will experience a job-related injury or illness at some point during their career. Don't be one of them! Make sure to take all appropriate safety precautions when working with concrete

Provided by: [B_Officialname]

Control of Hazardous Energy (Lockout/Tagout)

Machines and equipment used in the workplace will inevitably require maintenance. Many of these machines can be dangerous for employees to work on due to having to reach into areas of operation where possible hazards exist. As such, it's important to make sure that a machine is turned off while an employee is working on it. Performing regular maintenance on a piece of equipment can result in serious injury or even death if part of their body is inside a machine and it is activated.

Controlling hazardous energy, also known as lockout, ensures that maintenance can be performed safely and that a machine's sources of energy are locked and unable to be turned on.

In some situations, lockout may not be possible. When this happens, the tagout process is used. Tagout refers to simply tagging a machine with language instructing employees not to use it, while the former physically prevents use. Tagout provides less safety for employees and should therefore only be used in situations in which equipment cannot be locked out.

Hazardous Sources of Energy

When applying lockout to a machine, it is important to understand all of its sources of energy. Possible hazardous sources of energy that employees may be dealing with include electrical, hydraulic, mechanical, pneumatic, gravity, chemical, thermal and steam.

All employees should be provided with a machine-specific procedure that documents all pieces of equipment that can be locked out for maintenance.

Machine-specific procedures are sets of written instructions that address each individual machine and detail the energy sources that must be controlled.

These procedures list the steps to shut down the equipment, perform lockout, isolate the energy sources, and, eventually, restore power to the machine safely. The procedures also explain the process of releasing stored energy and testing equipment to ensure there is no residual energy stored that could become hazardous.

Authorized & Affected Employees

Not all employees are authorized to perform lockout procedures on equipment. Even if you think you know how to conduct the process, the slightest error can still result in a serious accident.

Unauthorized employees should not only refrain from attempting to lock out a machine, but also avoid working on a machine that has been locked out by authorized personnel. Any employee who conducts maintenance should also be the one locking it, and, in situations when there is more than one employee working on a machine, each authorized employee should apply their own locks.

In Conclusion

Whenever a new piece of equipment is introduced to the workplace, lockout procedures will be developed.

If you ever notice that a machine does not have

its own machine-specific procedure, if the existing procedure is incorrect, or if you have any other questions or concerns about the control of hazardous energy, speak with your supervisor.

Provided by: [B_Officialname]

Control of Hazardous Energy (Lockout/Tagout) for Cord and Plug Equipment

When it comes to safety in the workplace, it is up to every employee to take every possible precaution to ensure it. One of the most important policies to adhere to is to perform lockout/tagout procedures when conducting maintenance on a machine. However, there are times when the lockout process is not required for all equipment.

Unplug the Risk

As its name would suggest, the cord and plug exception applies only to equipment that relies solely upon electrical energy acquired through a cord. In simple terms, if unplugging a machine guarantees that it will not be able to gain energy, lockout is not required. These are typically smaller machines such as portable power tools.

The cord and plug exception also has a strict requirement that the employee performing maintenance must be in sole control of the plug and, therefore, the ability for the piece of equipment to be activated. As such, the employee should not only be the one unplugging the device, but must also be able to see the plug at all times in order to ensure that another employee does not accidentally reconnect it to a power source.

Never Make an Exception for Safety

Even though the cord and plug exception does exist and might provide for convenience, conducting a regular lockout procedure on a machine may still be the right choice. Employees should always take the necessary steps to ensure safety. If you are planning to perform maintenance on equipment without lockout, be certain that the device's only source of hazardous energy is electricity fed through a cord and plug. Larger equipment is typically hardwired and powered by multiple sources.

If you are ever uncertain about when the cord and plug exception might apply, or have other questions about lockout and the control of hazardous energy, do not hesitate to speak with your supervisor.

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Provided by: [B_Officialname]

Dangers of Silica Exposure

Found in commonly used materials such as concrete, asphalt, coal dust and natural stone, silica particles can be inhaled when dust is created during handling.

What's a Little Dust?

Although silica looks like dust, it's much more harmful to your lungs. Silica dust is a human lung carcinogen, and breathing it in causes the formation of scar tissue on the lungs, reducing lungs' ability to take in oxygen. Without proper protection, exposure poses a serious threat to workers. The most severe exposures to silica dust result from abrasive blasting, but those working in cement and brick manufacturing, tool and die, maintenance, and steel and foundry manufacturing are at high risk as well.

Silica Safety Precautions

When working with silica, take the following precautions to protect yourself and others.

- Use all available work practices — water sprays, ventilation systems and blasting cabinets — to control dust exposures.
- If you're working with a new material, check the label for silica. If silica is listed, refer to the product's safety data sheet (SDS) for more information.
- Always wear proper personal protective equipment. When respirator protection is required, wear only a N100 NIOSH-certified respirator, or a Type CE abrasive-blast supplied-air respirator for abrasive blasting.
- Make sure you stay properly trained in the use and maintenance of your respirator. Contact your supervisor or other designated person if you need assistance or have any questions.
- Don't alter the respirator in any way.
- Always inspect your respirator before use. Alert your supervisor and replace your respirator if you find a crack, puncture, tear, leak or any other unusual condition.
- Shave facial hair when you're going to be working in environments that require a respirator. Even a tight-fitting respirator will not create a good seal between the respirator and your face if you have a beard or mustache.
- Wear disposable or washable work clothes and shower if facilities are available. Vacuum the dust from your clothes or change into clean clothing before leaving the worksite.
- Be aware of the operations and job tasks creating silica exposures in your workplace environment and know how to protect yourself. Ask your supervisor if you have any questions.
- Be aware of the health hazards related to crystalline silica exposure. Habits like smoking can add to lung damage caused by silica.
- Don't eat, drink, smoke or apply cosmetics in areas where silica dust is present. Wash

your hands and face outside of dusty areas before performing any of these activities.

Take Extra Care

Remember, take extra care at all times when working with silica – a little dust now can have negative affects later.

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Provided by: [B_Officialname]

Drill Press Safety

A drill press is a cutting machine that uses a rotating tool to remove wood, metal and other material to create a hole. Drill presses are versatile machines and are commonly used for production purposes and in maintenance departments.

While drill presses are simple to use and vital for a number of manufacturing-related tasks, they also present a number of safety risks. This Safety Matters highlights common hazards associated with drill presses and ways to remain safe whenever you operate one.

Drill Press Hazards and Safety Considerations

When it comes to drill presses, three of the most common hazards relate to entanglement, struck-by injuries and material chippings:

- Entanglement—The high-speed rotation of drill bits creates a significant entanglement hazard. If loose clothing or hair becomes caught in the machine, it can lead to serious injuries.
- Struck-by injuries—Workpieces, if improperly secured, can twist violently when they come into contact with a spinning drill bit. Should this occur, the workpiece can strike and injure drill press operators.
- Material chippings—Whenever a drill bit comes into contact with a workpiece, it can throw off potentially harmful wood or metal chippings. Not only can this material cause cuts and abrasions, but it can also get into an operator's eyes if they aren't equipped with the proper protection.

While drill presses can be dangerous if used improperly, there are a number of safety precautions that can help lower the risk of injury:

- Use drill presses for their intended purposes only.
- Ensure the point of operation of the drill press is guarded, if possible.
- Clamp down your workpieces before drilling them. Apply gradual pressure when drilling into a workpiece.
- Wear the proper personal protective equipment when using a drill press, including safety footwear, glasses and hearing protection.
- Use the proper cutting fluid for the material you are working on.
- Inspect drill presses and bits before use, ensuring they are in good working condition. Never use a dull or cracked drill bit.
- Avoid wearing loose clothing and jewelry, as they can increase

entanglement hazards.

- Tie back or confine long hair.
- Know how to turn off the drill press in the event of an emergency.
- Practice good housekeeping. Do not let material chippings build up on the floor, as this can create slip, trip and fall hazards.
- Adjust lighting as needed, ensuring the work area is adequately illuminated.
- Avoid adjusting drill speeds or workpieces while the drill press is running. Ensure drill presses are supervised at all times when they are in use.

For any questions regarding drill press safety, speak with your supervisor.

Provided by: [B_Officialname]

Ergonomics Precautions for Sheet Metal Workers

Working with sheet metal can put a lot of strain on your body. Many daily tasks cause fatigue, discomfort or pain when they are done repeatedly and without a lot of rest. For instance, when you exert a lot of force to use a tool, reach overhead, stand in the same position for an extended period of time or experience pressure from a hard surface, you run the risk of injury. However, there are many things you can do to reduce those risks and remain healthy on the job.

One of the most beneficial precautions you can take before starting your workday is to stretch, much like an athlete would before a race or a game. Start by walking or marching in place for five minutes. Then, do several arm circles followed by slowly stretching your legs, arms, shoulders and knees. It may sound silly, but it will get your blood pumping and your muscles ready to work.

Safety Tips

Once you're done stretching, it's time to get to work. Here are some easy safety alternatives that reduce the risk of injury:

- Keep your wrists straight by using an angled tool or re-position the material to avoid bending at the wrist.
- Create a workbench that allows you to stand upright as opposed to kneeling to do tasks.
- Center yourself and move as close as possible to work done overhead. Do not try to reach and extend a hand tool far away from your body.
- Choose power tools over hand tools whenever possible to avoid excess strain.
- Change body positions frequently and alternate tasks to give muscle groups a break.
- Increase the diameter on bucket handles by adding padding to lessen your grip and the strain on your hands.
- Bring loads close to your body when attempting to pick them up.
- Use mechanical aids and ask a fellow employee for assistance in carrying heavy loads.

Lacerations

As a sheet metal worker, you also run the risk of getting dangerous cuts. In fact, these are the most common injuries suffered by those in your field, according to the Electronic Library of Construction Occupational Safety and Health (eLCOSH).

Many workers have lost fingers and hands

during everyday tasks. It is wise to wear gloves while working with sheet metal. Though gloves do reduce your dexterity and the ability to move your fingers easily, they will prevent these types of dangerous injuries.

Warning Signs of Injury

Tell a supervisor if you experience the following symptoms:

- Constant fatigue
- Cold hands
- Swelling
- Numbness or shooting pains
- Tingling
- Changes in skin color
- Loss of sensation

You may need to seek medical attention or switch to a different task until your injury subsides.

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Provided by: [B_Officialname]

Falling and Flying Objects on the Floor

Objects falling from above can pose a serious danger, and you are at increased risk when others are working above you on the manufacturing floor. Employees on the manufacturing floor are also at risk of injury from flying objects when tools are pushed, pulled or pried and become airborne. Take this risk seriously; injuries resulting from flying objects can be severe, ranging from broken bones to paralysis to death.

Follow these guidelines to reduce your risk of injury from falling and flying objects.

General Precautions

- Always wear a hard hat and carefully maintain it. Excessive exposure to paint, some cleaning agents, sunlight and heat can all weaken hard hats. Wash them using warm water and never store them in the back window of your car.
- Stack materials to prevent sliding, falling and collapse.

When Working at a Height

- Do not work under moving loads.
- Barricade hazard areas and post warning signs of the dangers on the job site.
- Inspect hoists to make sure that wire rope, lifting hooks and chains are in good condition.
- Use toe boards, screens and guardrails on scaffolds to prevent objects from falling.
- Use debris nets, catch platforms or canopies to catch or deflect objects.
- Never exceed the lifting capacity of hoists.
- Secure tools and materials to prevent them from falling on others below.
- Never put hand tools in your pocket. They could slide out and injure a co-worker when you bend over.

Power Tool and Machine Precautions

- Wear safety goggles and face shields when operating machinery or tools that cause flying particles.
- Inspect tools to ensure that the protective guards are in good condition before each use.
- Do not use power tools unless you are properly trained on how to do so safely.

Air Compressor Precautions

- Reduce the amount of compressed air used for cleaning to 30 PSI.
- Only use this machine with the appropriate guarding and protective equipment.

Our Commitment to You

Your safety is our first priority at [C_Officialname]. If you have any doubt about safety on site—regarding falling objects or any other issue—talk to your supervisor. Keeping you and your co-workers safe requires everyone's cooperation.

Safety Matters Manufacturing

Provided by: [B_Officialname]

Flammable and Combustible Liquids

Flammable and combustible liquids are present in nearly every workplace. Gasoline, diesel fuel and many common products such as solvents, thinners, cleaners, adhesives, paints, waxes and polishes may be highly flammable or combustible. And if used or stored improperly, these types of liquids can cause serious injury or death.

To understand the dangers of flammable and combustible liquids, it is important to know that it is the vapor, not the liquid, that burns. For instance, an explosion can occur when a worker drains a gasoline tank and begins repairs involving welding or brazing on the tank. Although the tank is empty, it contains gasoline vapors. If the vapor concentration is within the explosive range and a source of ignition is introduced, an explosion can easily occur.

Safety Precautions

The following work practices must be followed when handling flammable and combustible liquids:

- Use Class I flammable liquids (any liquid that can ignite at less than 100° F) only where no open flame or other ignition source is in the path of the vapor.
- Remember that welding, flame cutting and soldering, and other flame-, heat- or spark-producing work is not allowed within 25 feet of liquid use and storage areas.
- Never smoke in storage and handling areas of combustible and flammable liquids, or in a 25-foot radius around these areas.
- All containers must be properly labeled and marked with the complete chemical name.
- All containers must be metal, sealed with a cap or lid, and not damaged or leaking.
- Don’t store flammable liquid containers next to exits, aisles, stairways or doors—even for a brief time. Flammable containers may also not be placed where they can interfere with the exit from an area or building in an emergency situation.
- Dispense flammable and combustible liquids with approved pump or metal self-closing faucets only.
- Do not transfer liquid unless a worker who is trained to stop the transfer in the event of a spill is present.
- When transferring flammable liquids from one container to another, the two containers must be connected by a conducting wire and one container must be grounded.

- Maintain access to fire extinguishers and other emergency response equipment at all times. At least one fire extinguisher must be located within 10 feet of any flammable and/or combustible liquid storage area, and within 50 feet of a flammable liquid use area.

If you have any questions or concerns regarding the safe handling of these liquids, contact your supervisor.

Safety Matters Manufacturing

Provided by: [B_Officialname]

Hand Tool Safety Tips

Imagine that when you are striking a nail with a hammer, part of the hammer's handle breaks off and hits you in the eye. How about breaking bones when your hand is crushed by a press you were attempting to adjust with slippery pliers instead of a wrench?

Keep Safety in Mind

Hand and power tools are such a common part of the job that we often take them for granted. However, their use can be extremely hazardous if the right safety procedures are not followed. To keep yourself safe, follow these basic rules:

- Keep all tools in good condition with regular maintenance.
    - If a wooden handle on a tool is loose, splintered or cracked, the head can fly off.
    - If the jaws of a wrench are sprung, the wrench can slip.
    - If impact tools such as chisels, wedges or drift pins have mushroomed heads, they can shatter on impact.
- Use the right tool for the job.
    - If a chisel is used as a screwdriver, there is a danger of the tip flying off.
    - Each job calls for a specific tool. Never deviate.
- Examine each tool for damage before using it and never use damaged tools. Alert your supervisor that these tools are in need of repair.
    - Wrenches must not be used when the jaws are sprung; they can slip and lead to injury.
    - Tools used for cutting edges must be sharp. Dull tools can be more hazardous as you must press harder when using them.
- Operate tools according to the manufacturer's instructions.
    - Iron or steel tools produce sparks that can ignite flammable substances. Check for spark-resistant tools made of alternative materials when you are around flammable gases, volatile liquids or other explosive materials.
    - When using sharp tools, direct the tools away from aisle areas and away from other employees working close to you.
- Use the right personal protective equipment (PPE).

    - Loose clothing, ties or jewelry should never be worn when using hand or power tools.

- Store and transport the tool properly as soon as you are done with it.
    - Put the tool away as soon as you are done with it. Leaving the tool in a pathway presents a tripping and impalement hazard.
    - Transport tools in a tool box or cart, or carry them in a tool belt. Never carry pointed tools in your pocket.
    - Never throw tools to another employee. Always pass them with the handle toward the receiver.
    - Use a bucket or bag for lifting or lowering tools from one level to another.
    - When carrying a tool on your shoulders, pay attention to clearances and other workers.

Speak Up

If you have any doubt about the safe use of a hand or power tool—or about any safety issue on the job—talk to your supervisor. Your safety is our first priority at [C_Officialname]!

Provided by: [B_Officialname]

Handling Toxic Chemicals Safely

Some chemicals used on the manufacturing floor are hazardous to your health and can cause illness and injury if they are not handled correctly. Before you begin working with any chemical, identify its potential hazards, become familiar with how to best protect yourself and be aware of the procedures to follow if an accident takes place.

General Safety Precautions

The manufacturer's label and Safety Data Sheet (SDS) for each chemical you handle provide important information regarding hazards, the use of personal protective equipment (PPE), proper handling, transport, storage and disposal of chemicals. Each time you encounter a chemical, read this information and take the appropriate precautions. In addition, the following recommendations apply when working with any toxic chemical.

- Wear the appropriate PPE when handling chemicals.
- Use the least hazardous chemical option for the task at hand and prepare only the amount that is absolutely necessary for completing the job.
- Never eat, drink, smoke or apply cosmetics while working with chemicals.
- Make sure that the equipment used to apply chemicals is in good working order and does not have any leaks.
- Do not work alone.
- Clean equipment thoroughly in an area where run-off will not create other hazards or contaminate the environment or water source.
- Wash work clothes separately from street clothes or wear disposable clothing.
- Wash your body thoroughly after using chemicals and before eating, drinking, smoking or using the restroom.

Exposure

If a co-worker is exposed to a toxic chemical, consult the SDS and the product label before taking action. The correct response to exposure is as important as immediate action.

If the injured or ill person is having trouble breathing, is having convulsions or is unconscious, provide the necessary first aid and call 9-1-1.

If the injured or ill person does not have any of the symptoms listed above, contact the Poison Control Center at 1-800-222-1222. When calling, keep the chemical container handy to accurately instruct the operator about the type of exposure the person has experienced. He or she will then be able to give you correct instructions.

Safety Matters Manufacturing

Provided by: [B_Officialname]

Head Protection

In manufacturing, head injuries may be caused by falling, flying or fixed objects. When these types of injuries occur, they can lead to significant head trauma or even irreversible, long-term damage.

To ensure your workplace safety, few things are more important than proper head protection. In fact, the proper head protection can:

- Prevent sharp objects from penetrating the head
- Absorb the shock of a blow
- Protect against electrical shock and burns

This Safety Matters provides a general overview of the different types and classes of head protection, as well as maintenance considerations to keep in mind.

Types and Classes of Head Protection

When it comes to head protection, there are several different types and classes. The list below highlights the distinctions between the different types of hard hats:

Types

- **Type 1**—Type 1 head protection is designed to reduce the impact of blows to the top of the head. While this type of protection is great for falling objects, Type 1 head protection provides no defense for blows to the sides of the head.
- **Type 2**—Type 2 head protection is intended to reduce the impact of blows to the top or sides of the head.
- **Bump caps—**Bump caps are designed to provide protection for employees who work in areas with low clearance. While they may offer a certain level of head protection in these situations, bump caps do no meet the definition of a hard hat as specified by OSHA and the American National Standards Institute (ANSI). As such, this type of head protection may not provide adequate defense against manufacturing hazards.

Classes

- **Class C—**Class C (conductive) head protection is not intended to provide protection should it come into contact with electrical hazards.
- **Class G**—Class G (general) head protection is intended to reduce the danger of contact with low-voltage conductors. This class of head protection is required to pass a proof test of 2,200 volts.
- **Class E**—Class E (electrical) head protection reduces the danger of contact with higher voltage conductors. This class of head protection is

nonconductive and proof-tested at 20,000 volts.

The type and class of head protection you use should be appropriate for the task you are performing.

Care and Maintenance

As with all types of personal protective equipment, head protection should be inspected regularly and well-maintained. The following are some care and maintenance tips to consider:

- Inspect head protection daily. When inspecting head protection, look closely for any cracks and holes on the shell. In addition, examine the suspension system to ensure it's installed correctly and shows no signs of damage.
- Avoid wearing head protection backward or in an unintended fashion.
- Store head protection in a clean area where it isn't exposed to direct sunlight.
- Clean head protection regularly with warm water and a mild soap.
- Follow the original manufacturer's guidelines on use, maintenance and replacement.

Above all, replace head protection if you notice any signs of wear or damage. For additional questions regarding head protection and safety, speak with your supervisor.

Safety Matters Manufacturing

Provided by: [B_Officialname]

Hearing Protection – How Loud Is Too Loud?

According to the American Journal of Industrial Medicine, around 46% of all workers in manufacturing have been exposed to hazardous noise at some point during their employment. Things like rotors, power tools, stators, gears, fans, impact processes and electrical machinery can all generate significant levels of noise, which, in turn, can negatively impact your hearing.

Prolonged exposure to excessive noise is particularly dangerous and can lead to tinnitus, which is characterized by ringing, buzzing and roaring in the ears. In some cases, harmful levels of noise can lead to permanent hearing loss.

To keep employees safe, the Occupational Safety and Health Administration (OSHA) has specific regulations related to workplace noise exposure. This Safety Matters provides a general overview of these regulations and ways you can stay safe on the job.

OSHA's Noise Permissible Exposure Limit (PEL)

Noise is measured in units of sound pressure levels called decibels (dB). Often, decibels are expressed as dBA, which refers to A-weighted sound levels. Essentially, this measurement is more specific than dB alone, as it accounts for relative loudness perceived by the human ear.

There are two specific noise measurements to keep in mind when it comes to hearing protection and workplace safety—the action level and permissible exposure limit (PEL):

1. Action level—For noise, OSHA's action level is 85 dBA averaged over an eight-hour workday. When workplace noise reaches this level, employers are required to implement a hearing conservation program and offer hearing protection.

2. PEL—Per OSHA, the PEL for noise is 90 dBA over an eight-hour workday. At this level, employees are required to wear hearing protection. In addition, for every 5 dBA above the action level, the duration of employee exposure to noise must be cut in half (e.g., 85 dBA/eight hours, 90 dBA/four hours, 95 dBA/two hours). Furthermore, exposure to noise should not exceed 140 dBA.

Protecting Yourself From Harmful Noise

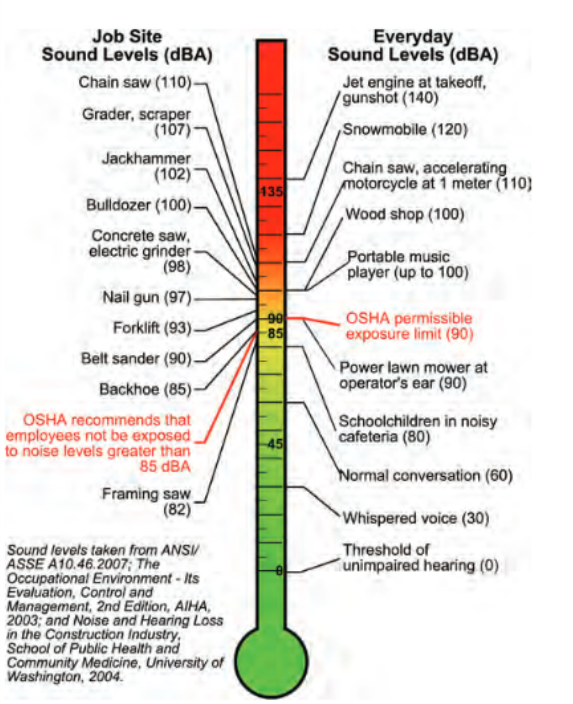
Tinnitus and hearing loss can be debilitating and irreversible. However, being aware of the symptoms of hearing loss can go a long way toward ensuring your health and safety at work. Common symptoms of hearing loss include the following:

- Straining to understand conversations
- Needing to have things repeated frequently

- Increasing television or radio volumes to excessive levels
- Ringing in your ears or feeling dizzy

If you are experiencing any of these symptoms, speak with your doctor and supervisor. To further protect yourself in the workplace, it's important to be aware of adverse noise levels that can lead hearing loss, and follow all relevant workplace safety policies and procedures.

For questions regarding workplace noise and safety, speak with your supervisor.



The above chart provides an overview of common sources of workplace noise and their accompanying dBA levels. Source: OSHA.

Safety Matters Manufacturing

Provided by: [B_Officialname]

Hearing Protection Devices

Your ears are very sensitive. Prolonged exposure to loud noise can lead to permanent hearing damage and even cause you to go deaf. OSHA requires that workers use hearing protection should noise levels reach or exceed 85 decibels across an eight-hour workday.

Noise Reduction Rating

All hearing protection devices have a noise reduction rating (NRR) listed on their respective packaging. The NRR refers to how many decibels by which an environment's noise levels will be reduced. For example, in an environment of 90 decibels, a hearing protection device with an NRR would reduce the noise levels to 57.

But, research suggests that NRRs tend to overestimate the effectiveness of devices. It is therefore suggested that devices undergo a "derating" process. Derating refers to the assumption that devices will generally not perform perfectly to their NRR due to them not fitting everyone perfectly. One method by which a device can be derated is to subtract seven from its NRR and divide the result in half. For example, an NNR of 33 would result in a derated rating of 13. In the previous example, the device in question would actually only reduce noise levels from 90 to 77, not 57.

According to industry experts, earmuffs are generally most accurate when it comes to NRR, while earplugs might have their ratings derated by as much as 70%.

Of course, different types of hearing protection have their own advantages and disadvantages.

Earplugs

Earplugs can be made from expandable foam or pre-molded using silicone, plastic or rubber. They provide blockage inside the ear canal.

Advantages:

- Typically provide a high noise reduction rating (NRR)
- Affordable
- Compatible with other forms of personal protective equipment (PPE) such as hard hats, glasses and goggles
- Small, light and easily transported
- More comfortable in hot, humid or confined work areas

Disadvantages:

- Easily misplaced
- Require good hygiene practices
- May be inserted incorrectly, resulting in inadequate protection
- May irritate the ear canal

When an earplug is inserted correctly, the sound of your own voice should be muffled.

Earmuffs

While earplugs are inserted inside the ear canal, earmuffs provide protection by covering the canal and sometimes the entire ear.

Advantages:

- Typically provide a high NRR
- Fast and simple to put on and take off
- One size fits most employees
- Easy for others to see that you are using them at a distance
- Not easily misplaced

Disadvantages:

- Less portable, heavier
- Sometimes incompatible with other PPE
- Can be uncomfortable or inconvenient in hot, humid or confined work areas

Canal Caps

Canal caps are somewhat of a hybrid between earplugs and earmuffs. They look similar to earplugs, but instead of being actually inserted into the ear canal, they form a lid over the entrance to the canal and are often connected by a band that can be worn around the head, around the neck or below the chin.

Advantages:

- Fast and simple to put on and take off
- One size fits most employees
- Light and easily transported

Disadvantages:

- Typically have a lower NRR than earplugs and earmuffs
- Band may be uncomfortable or inconvenient for employees
- More expensive than ear plugs

Summary

While there are some differences between different kinds of hearing protection equipment, their overall purpose remains the same: the safety of employees.

When using hearing protection, be sure that you are using it properly in order to make sure that it is as effective as possible. At times, it may be necessary to use two types of protection, such as both plugs and muffs, simultaneously.

If you have questions or concerns about hearing protection devices, contact your supervisor.

Safety Matters Manufacturing

Provided by: [B_Officialname]

Help Make Our Safety Program a Success

Safety on the job site is something all employees should take seriously—nothing less than the future of your family is at stake. They are counting on you to provide food and shelter, and an on-the-job accident could very easily disable you, leaving security and future plans up in the air.

Together, you and your co-workers can get your own safety program off the ground by giving your supervisors or safety leaders ideas on how things can be made safer. In a manufacturing environment, any idea—no matter how small it may seem to you—may prevent a serious accident.

If you are a seasoned employee, you can use your years of valuable experience to spot potential safety hazards. Or, if you are a new employee, you may be able to spot something right away that an old pro may have overlooked.

Here are some examples of rules you can follow to set an example for others and help your safety program succeed.

- Do not engage in horseplay on the manufacturing floor at any time—stay focused on the task at hand. If you are having trouble focusing, request ear plugs to block out heavy plant noise and distractions.
- Allow your co-workers to stay focused at all times by refraining from distracting actions.
- Always wear the required personal protective equipment (PPE).
- Watch your footing at all times, and never run through the plant.
- Remember that sanitation is key: keep yourself and your station clean and free from debris.
- Know your limits—if you feel fatigued or like you cannot complete your work safely, stop and decide what you need to do to stay out of harm's way.
- Never perform work that you are unauthorized to do.
- Know what to do in case of emergency, whether it's an on-the-job injury or natural disaster.

In short, safety takes teamwork. Whatever your job is or whatever your duties include, keep your eyes open for hazards and report them. Help keep our safety program on solid ground!

Safety Matters Manufacturing

Provided by: [B_Officialname]

Lathe Safety

Just because a piece of equipment is frequently used doesn't mean that it's okay to be careless in how you handle and operate it.

Lathes are often used in many different types of manufacturing for both production and maintenance, but these machines and their moving parts are serious hazards.

Entanglement

One of the primary hazards when it comes to using lathes is entanglement. The equipment has several different possible risk areas including the spinning chuck and the rotating stock, which can easily grab or trap clothing, jewelry, hair and even your hands.

Follow these tips to avoid entanglement accidents:

- Guard or shield the spinning chuck as much as possible while operating a lathe.
- Use clear guards so that you can still observe the machine.
- Avoid loose-fitting clothing and jewelry, and tie your hair back or up to keep it away from rotating parts.

Ejected Material

Rotating pieces in lathes can grab and latch onto things, causing entanglement, but the speed of the rotation also creates significant force that can result in projectiles being flung out at dangerous speeds. These projectiles could be part of the lathe itself or even a cutting tool.

To prevent an injury involving ejected material, follow these tips:

- Make sure tools are being used and adjusted properly.
- Hold hand-held tools firmly.
- Make sure that guards and shields are in place.
- If turning wood, make sure that the piece is not damaged and be certain that any glued joints are dry.

Chips

As lathes cut and shape your material, it is possible that chips of the material will be thrown off. Avoid suffering an injury from these chips with the following tips:

- Wear appropriate personal protective equipment (PPE) for your eyes.
- Practice good housekeeping, and clean chips off of the floor so that they do not become a slip hazard.
- Make sure that guards and shields are in place.

General Safety Tips

Lathes are useful equipment for employees in the manufacturing industry, but it is extremely important that employees take necessary precautions when using them in order to prevent workplace injuries and accidents. Other tips for ensuring safe lathe use include:

- Make sure that the start and stop button for the lathe is within comfortable reach of the operator.
- Check that there is a working emergency stop button.
- Maintain sharpness of all lathe cutting tools.
- Keep the working surface and the floor around the lathe clean.

There are also a number of bad habits that employees using a lathe should avoid:

- Do not lean on the machine.
- Wait to make any adjustments until the lathe has come to a complete stop.
- Do not place hands on work turning in the machine.
- Avoid using calipers or gauges on a piece while the lathe is running.
- Do not make heavy cuts on long, thin pieces of material, as this could cause it to bend and be flung from the machine.
- Never leave a running lathe unattended.

The safety of our employees is one of our highest priorities. Talk to your supervisor if you have any questions about lathes.

Safety Matters Manufacturing

Provided by: [B_Officialname]

Learn How to Handle Chemical Spills Safely

Working with chemicals on the manufacturing floor puts all employees at serious risk for injuries due to explosions. For this reason, the Occupational Safety and Health Administration (OSHA) requires worksites where hazardous chemicals are used to have an emergency action plan (EAP). [C_Officialname] takes this requirement seriously, as employee safety in the workplace is our top priority.

The EAP describes the procedures to follow during an emergency, such as a chemical spill, leak or explosion, including the following:

- Who to notify
- Who is in charge and who else has responsibilities in responding to the incident
- Who is responsible for each task
- How to evacuate the site

OSHA also requires all employees to be trained in EAP procedures, so that everyone is prepared in the event of an emergency. Notify your supervisor if you have not yet had training in EAP procedures or if you would like a refresher.

Prevention

The first priority when working with chemicals is to try and prevent a spill, leak or explosion. You can contribute to that goal by doing the following:

- Knowing and understanding the chemicals you're working with, including any hazards—refer to the appropriate Safety Data Sheet (SDS) or ask questions if you are unsure
- Following all safety precautions and wear proper personal protective gear
- Helping to make sure all chemicals are properly labeled in their container

When an Incident Occurs

To determine if a chemical spill, leak or explosion is hazardous or requires special cleanup procedures, do the following:

- Identify the chemical(s) involved.
- Refer to the SDS for any chemical involved to find out how flammable and/or reactive it is, what protective equipment is needed and spill cleanup procedures.
- For chemicals resulting in a hazardous fire or explosion, refer to the SDS also for firefighting instructions.

Emergency Procedures

In the event of a chemical spill, leak or explosion, be sure to do the following:

- Immediately notify your supervisor.

- Notify other workers on the floor.
- Activate emergency alarms.
- Call 911.
- Keep people out of the area.
- Leave the area if the spill cannot be readily contained, or if it presents an immediate danger to life or health.
- Follow the evacuation rules in the EAP.
- Leave cleanup to trained personnel, such as a Hazardous Materials team.

Do not try to do the following:

- Rescue or help injured people unless you are sure you will be safe
- Clean up a spill yourself, except where permitted or required by site rules and the EAP

OSHA requires these safety measures, and so do we. It is our hope that an accident like this never happens, but all employees should be prepared in case it does. Make sure you learn these precautions and follow them if you ever must respond to a hazardous chemical spill, leak or explosion, to help keep yourself and your co-workers safe.

Safety Matters Manufacturing

Provided by: [B_Officialname]

Lockout for Safety

Have you ever been working somewhere when someone unexpectedly turns off the lights? Suddenly you're in total darkness and your immediate reaction is to let out a yell. This usually brings the light back on, along with an apology from the person who absent-mindedly flipped the switch. In a case like this, there's usually no harm done. But what if you were checking a machine and someone flipped a switch that started gears turning?

This type of accident happens all too often. Each time, it points to the fact that shutting off machinery isn't enough—you have to lock out the main switch and tag it as well.

There are several reasons why a machine may run after it apparently has been shut off. For example:

- The machine can coast or it can cycle by gravity.
- The switch might malfunction or the machine might cycle if air or hydraulic pressure lines have not been bled off.
- Someone may unthinkingly turn on the switch, causing the machine to suddenly start up while it's being worked on.

Basic Lockout Procedures

Follow the steps below to protect yourself and others:

1. Before attempting to adjust or repair a machine, wait until it comes to a complete stop. Block the elevated ram or other mechanisms so that they cannot operate by gravity. Bleed air and hydraulic pressure lines and then lock out the main switch or valves to prevent unexpected energy release.
2. Attach a tag to the switch stating your name, department and the reason for taking the machine out of service.
3. Perform the necessary adjustment or repair, and when done, replace all guards and safety devices.

Then, after all is clear, restore power and check-run the equipment. When it's necessary to "jog" or make a brief trial run, warn everyone working on the line or equipment to make sure that they understand.

Are You Authorized?

It is important to remember that the tag and lockout device should be removed only by the person who originally attached them. The supervisor—and only the supervisor—may remove these devices in case of illness or absence of the person who attached them.

Take Time for Safety

Many people do not want to take time to go through the safe lockout procedures. Others may hurriedly attempt to make adjustments,

which they aren't authorized to handle, or do not take the time to shut off machines before making repairs. Sooner or later, people in a hurry are involved in accidents.

Never assume that other people will see you making adjustments and will know that they should not turn on the machine. They may be too absorbed in their own activities to recognize any danger.

Safety Matters Manufacturing

Provided by: [B_Officialname]

Machine Emergency Stops

One of the most important things to do when operating machinery is to ensure you're able to turn off the machine immediately if need be. Accidents and serious injuries can occur with the slightest malfunction, and every second counts in keeping the consequences to a minimum.

Machines typically have a manually operated emergency stop, or E-stop, device that can force equipment to shut down as quickly as possible. These devices are designed to protect operators, other employees and the machinery itself by causing a forced shutdown via a single motion should a situation or emergency arise in which the regular method of powering down is not adequate.

E-stop Buttons

E-stop buttons are the most common type of e-stop device and are simply operated by being pushed. They are red in color and, if there is a background, it will be yellow. The buttons are either mushroom or cone-shaped.

E-stop buttons are designed to latch when pressed in and remain in their depressed position. The devices will not return to a risen position until manually reset, usually either by being twisted or pulled. E-stop buttons may also require a key in order to be reset. Resetting an E-stop button will not automatically restart the machine.

Know Your E-stops

In the manufacturing industry, there are workplace hazards and risks that can lead to accidents, serious injuries and even fatalities. It is of the utmost importance that, whenever you are working on a machine, you know how to shut it down as quickly as possible. In the event of an emergency, you do not want to have to be searching for the E-stop device.

While E-stop devices are important for ensuring workplace safety, they are meant as a last resort. When using a machine, be sure that it is properly guarded and has adequate safety devices. Do not think that a defective guard or safety device can be overlooked just because the machine has an E-stop device.

If you ever notice that an E-stop is not working properly, or have any questions or concerns about E-stop devices, speak with your supervisor.

Safety Matters Manufacturing

Provided by: [B_Officialname]

Machine Guarding – Point of Operation Guarding

When operating machinery in the workplace, there are many hazards that need to be taken into account. Some of the most dangerous hazards occur around the point of operation, such as the blade of a saw or the slide of a power press.

To ensure your safety, it is important that points of operation be properly outfitted with guards to prevent injuries and accidents. However, effective guarding for hazardous motions is not always simple. Improper guarding could not only result in inadequate protection for you and your co-workers, but also cause a defect in the machine itself. The correct guard for the point of operation will depend on what machine you are using. Common types of guards that you should be familiar with include:

- Fixed guards: These types of guards are permanently affixed to their equipment. Due to its simplicity, a fixed guard is usually preferable to other types, but can cause issues with visibility, flexibility of suitable operations and with needing to be removed for repair or adjustments to equipment.
- Interlocked guards: These guards provide easier access than fixed guards, but include a failsafe that will automatically power down the machine if opened or removed. The machine cannot be restarted until the guard has been replaced. Replacing the guard will not automatically restart the machine. This type of guard can provide maximum protection while also allowing easy access to the machine, but may cause unintended shutdowns and require careful adjustment and maintenance.
- Adjustable guards: Adjustable guards are advantageous in that they allow a wide variety of sizes and materials to be used in the machine. Employees working with adjustable guards should be aware that protection may not be complete at all times and that their hands may come closer to point of operation hazards than with other guards. These guards can also interfere with visibility and require frequent adjustment.
- Self-adjusting guards: As the name would suggest, these guards adjust themselves according to the stock being fed into the machine. As the operator pushes material into the danger area, an opening only large enough for the stock is created. These guards provide a constant barrier between the danger area and the operator but may not provide maximum protection, can disrupt visibility and might need frequent maintenance and adjustment.

Machines are either outfitted with, or come equipped with guards for a reason. These pieces are integral to ensure that the workplace is as safe as possible. Make sure that you are familiar with different types of guards and are aware of

how to recognize issues or defects with them. Remember to never tamper with, remove or modify a guard.

Talk to your supervisor if you have any questions or concerns about point of operation guards.

Provided by: [B_Officialname]

Machine Guarding – Point of Operation Hazards

The point of operation is the part of the machine at which the equipment's work is actually being done, whether it be cutting, punching, shearing or bending. Employees in close proximity to points of operation are often at risk for serious injury.

Hazardous Motions

The exact hazards for any given pieces of machinery will vary depending on what type of equipment is being used and what kind of work is being done. Here are some of the more common examples of points of operation hazards that you are likely to encounter:

- **Cutting:** Cutting motions can be reciprocating, rotting or transverse using potentially dangerous equipment such as saw blades, drill heads, lathes or mills. Cutting action hazards exist at the point of operation where body parts may come into contact with the blade, as well as from flying chips or scrap material.
- **Punching:** Used by machines such as power presses and iron workers, punching action occurs when a slide or ram is used for stamping, drawing or blanking a material, such as metal. Punching action hazards at the point of operation occur where the material is inserted, held or withdrawn by hand.
- **Shearing:** Shearing action involves powering a slide or knife in order to trim or shear material. Point of operation hazards occur where the aforementioned material is inserted, held and withdrawn.
- **Bending:** Somewhat similar to punching, bending action occurs when power is applied to a slide to draw or stamp metal or another material. Possible hazards occur at the point of operation where stock is inserted, held and withdrawn.

There are many risks that come with operating machinery in the workplace, so it is important to be aware of the hazards that exist with different types of tasks. Make sure to never operate a machine without the proper guards and safety devices in place.

If you have any concerns or questions about equipment in the workplace and whether it is being used properly, talk to your supervisor immediately.

Safety Matters Manufacturing

Provided by: [B_Officialname]

Machine Guarding – Point of Operation Safety Devices

For the many hazards that come with operating machinery in the workplace, it is important that employees and operators are as careful as possible. With that being said, it is advantageous to have multiple means of protection.

While various types of guards work to keep employees from getting near point of operation hazards, safety devices function with the purpose of stopping hazardous motions before an injury occurs. Some examples of common safety devices include:

- Presence sensing devices: These devices are equipped to monitor an area, typically around the point of operation. They will interrupt the machine if an object, such as an employee's hand, is sensed to have entered the area.
- Two-hand controls: Two-hand control safety devices require workers to be constantly applying pressure with both hands in order for the machine to operate. This is to ensure that their hands are in safe positions as the equipment does its work.
- Two-hand trips: These devices function similarly to two-hand control devices in that the machine requires both hands to be applying pressure in order to start. However, pressure can be removed due to an assurance that the machine cycles quickly enough that the operator would not be able to reach the point of operation after removing their hands.
- Restraints: These cords or straps act as physical bindings between an operator's hands and a fixed point, preventing the hands from physically reaching the point of operation.
- Pullback devices: Similar to restraints, these bindings attach to an employee's hands, wrists or arms and will allow access to the point of operation when equipment is between cycles, such as when a slide/ram is at the top of its position. Pullback devices will detect when a cycle is going to begin and then ensure that the operator's hands are removed from the point of operation when necessary.
- Gates: These devices provide impassable barriers between the operator and the point of operation while a machine is in the middle of a cycle and are usually interlocked so that equipment will not start until the gate guard is in place.

There are many potential dangers in the workplace, and working with machinery presents plenty of hazards that can lead to accidents and serious injuries. All employees should be familiar with the different safety devices that may be used with machinery that they will be operating and know how to tell if any parts are missing or defective.

Talk to your supervisor if you have any questions or concerns about safety devices in the workplace.

Safety Matters Manufacturing

Provided by: [B_Officialname]

Machine Guards Keep You Safe

Machine guards are made to protect you when working with dangerous equipment on the manufacturing floor. Unfortunately, many workers also view them as an inconvenience or an obstacle to the task at hand. Regardless, guards are for your protection, and using them properly is a safety requirement here at [C_Officialname].

Guarding Against Hazards

Specifically, machine guards are used to protect against:

- Direct contact with moving parts
- Flying chips or other debris
- Kickbacks
- Splashing of metal or harmful liquids
- Mechanical and electrical failures
- Any number of potential human errors

While guards may often appear to be a hindrance, overall they have proven to be otherwise for both security and production. Greater machine speeds are made possible through proper guarding, as production does not have to stop due to injuries and employees can work quicker knowing they have the proper protection in place.

Types of Guards

Two types of guards are used to protect machine operators: fixed guards and interlocking guards. Fixed guards are most commonly used and are generally preferred because they protect you from dangerous parts of machines at all times. Interlocking guards are used if a fixed guard is not practical. This type will not allow the machine to operate until dangerous parts are guarded. The interlocking guard is designed to disconnect the source of power from the machine.

Safety devices such as pullbacks, sweeps and electronic devices are used where neither a fixed nor interlocking guard can be used satisfactorily. Safety devices are operated by the machine itself. Regardless of the type of guard or safety device used, all provide the operator with the greatest possible protection while using the machine in question.

Make Safety Your Priority

Of course, no guard can do the job without the cooperation of the person operating the machine. Machine guards are a part of our workplace, and using them properly is your responsibility as an employee. Please observe the following safety requirements:

- Do not adjust or remove a guard unless permission is given by your supervisor or unless the adjustment is a normal and accepted part of your job.
- Do not start machinery without the guards in place.

- If guards are missing or defective, report it to your supervisor immediately.
- If guards are removed for repair or adjustment, the power for the machine should be turned off and the main switch locked and tagged.
- Loose clothing, watches, rings and other jewelry should not be worn around mechanical equipment, and long hair should be tied back.

Safety is our top priority at [C_Officialname]. To accomplish this, we need the commitment of all employees to respect our safety rules and to use machine guards as intended, to keep everyone on the job safe and productive. If you have any questions regarding guards or other safety issues, please ask your supervisor.

Provided by: [B_Officialname]

Overhead Cranes

Overhead cranes are vital in many manufacturing operations and are often used to move large and heavy loads. However, due to the size and weight of these loads, there are a number of considerations to keep in mind in order to stay safe when using overhead cranes.

This Safety Matters provides an overview of overhead cranes and highlights precautions workers should take to avoid injuries.

Types of Overhead Cranes and Safety Considerations

Several types of overhead cranes are commonly used in manufacturing work. These cranes differ significantly from large construction cranes and include:

- Bridge cranes—A bridge crane has two raised runways that are connected by bridge or a beam from which the hoist is suspended.
- Gantry cranes—A gantry crane is similar to a bridge crane. However, instead of moving on suspended runways, the crane uses legs to support the bridge, trolley and hoist.
- Jib cranes—Jib cranes consist of a pillar mounted to a wall or floor. The pillar supports a horizontal jib or boom with a movable hoist, which is used to lift or lower a load.

The capacities of these cranes vary from just a few hundred pounds to hundreds of tons. The type of crane you use will largely depend on the work being performed.

Regardless, each of these cranes requires similar safety precautions, as even small capacity cranes have the potential to cause serious injury. In order to protect your health and safety, keep in mind the following:

- Never operate a crane you aren't properly trained to.
- Inspect all cranes prior to use. You should perform both an operation inspection and a physical inspection, examining the crane itself, as well as the hoist and all lifting devices. If a crane ever fails an inspection, notify your supervisor immediately.
- Never make modifications to a lifting device.
- Use cranes as directed by the manufacturer. Specifically, you should only pick up items within the rated load capacity. It's also important to remember that, if the load rating for the sling differs from that of the crane or hoist, you must defer to the lower rating.
- Never allow anyone to be under a raised load. Furthermore, raised loads should never be left unattended.

- Always return hoist hooks to their designated positions after use. They should never be left hanging where someone might run into them.
- Store all below-the-hook lifting devices (e.g., slings) off the ground and in an area where they will not be damaged.
- Practice safe lifting. Above all, when raising a load over an obstruction, the load must clear the obstruction by at least 3 inches.
- Never place your hand between a sling and load.

For questions regarding overhead crane safety, speak with your supervisor.

Safety Matters Manufacturing

Provided by: [B_Officialname]

Personal Protective Equipment – Safety Glasses

Your eyes are one of the most vulnerable parts of your body, and with all of the possible hazards that exist in the manufacturing industry, it's very important to take the necessary measures to protect them. Eye injuries can be life-changing events. Losing your sight, or even having it limited or lessened, can drastically lower your quality of life and even make you unable to work. With all of that in mind, [C_Officialname] takes safety glasses training and proper use extremely seriously.

The Safeguards of Safety Glasses

Safety glasses are a form of personal protective equipment (PPE) that are designed to protect your eyes from a variety of potential hazards. Regular glasses do not offer the same level of protection and should not be considered a suitable substitute at any time due to their lack of:

- Side shields/side protection
- Impact-resistant lenses, often made of polycarbonate
- Impact-resistant frames

Employees who require corrective vision equipment can be accommodated in one of the following ways:

- Use of prescription safety glasses that meet American National Standards Institute (ANSI) standards and also properly correct vision
- Use of safety glasses that can fit comfortably over regular glasses without disturbing alignment
- Use of safety glasses that can incorporate corrective lenses mounted behind the outer, protective lenses

In order to be considered safety glasses, the equipment in question must comply with ANSI. You can tell if your safety glasses are up to code by checking for a "Z87" marking.

Caring for Safety Glasses

Safety glasses are effective equipment, but they are also valuable and, as such, must be maintained carefully. It is important for employees to take good care of safety glasses and other PPE in order to make sure that they remain functional and adequate for providing protection. Follow these tips to keep your safety glasses in good condition:

- Clean your safety glasses daily using water or, preferably, lens cleaner.
- When cleaning or wiping your safety glasses, do not use a rough material that could scratch the glass.
- Avoid using cleaning products that are not specifically intended for lenses, as they could damage the equipment.
- Inspect your safety glasses every day to detect any flaws or damage.
- When not being used, store safety glasses in a safe place where they will not get dirty or damaged

When to Wear Safety Glasses

Compliance with safety standards demands that employees wear eye and face protection if any of the following hazards exist in the work environment:

- Flying objects
- Molten metal
- Liquid chemicals
- Acids or caustic liquids
- Chemical gases or vapors
- Potentially harmful light radiation

There may be other workplace factors that make safety glasses necessary as well.

In addition, some tasks may demand even more PPE in addition to safety glasses. For example, grinding may require a face shield as an added layer of protection.

[C_Officialname] is committed to the safety of our employees and the workplace as a whole. Talk to your supervisor if you have any questions or concerns about safety glasses.

Safety Matters Manufacturing

Provided by: [B_Officialname]

Portable Grinders

Portable grinders (e.g., angle grinders, handheld grinders and portable abrasive wheels) are common tools in manufacturing that allow employees to grind, cut, polish and buff materials.

When working with portable grinders, employees need to consider a number of risks. For instance, portable grinders can cause severe lacerations or amputations should an operator come into contact with exposed abrasive wheels. Furthermore, portable grinders can create potentially dangerous sparks, metal fragments and other projectiles as material is cut or polished.

This Safety Matters provides a number of useful tips employees need to consider in order to remain safe as they use portable grinders.

Safety Precautions

Like all power tools, portable grinders present a number of safety concerns—concerns workers can mitigate through the following practices:

- Wear the proper personal protective equipment. For portable grinders, safety glasses, face shields and heavy leather gloves are recommended. Additionally, depending on the materials you're working on, respiratory and hearing protection may be needed.
- Ensure the abrasive wheel is rated for the speed of the grinder. Failing to do so can cause the wheel to break apart and create dangerous projectiles.
- Inspect the overall condition of the grinder before use. This includes ensuring the electrical cord is in good condition.
- Examine the abrasive wheel for damage before use. In addition, when using a new disc or wheel, let the grinder get up to speed and run for one minute before grinding, looking for abnormal vibrations.
- Use portable grinders per the manufacturer's recommendations. Above all, the portable grinder and wheel you use should be appropriate for the task at hand.
- Ensure guards are in place before using portable grinders. Never make any modifications to the guard.
- Follow existing workplace policies, including hot work procedures. This is particularly important, as sparks immitted from portable grinders can create fire hazards. As such, never use portable grinders near combustible materials.
- Use both hands when using a portable grinder.

- Ensure that the work material being grinded is properly secured.

For any questions or concerns regarding portable grinders, talk to your supervisor.

Provided by: [B_Officialname]

Power Transmission Apparatus Guarding

A power transmission apparatus refers to the mechanical components of a machine that transmit energy to the part of the tool performing the work. These components are vital for the smooth operation of a machine and can include flywheels, couplings, belts, pulleys, spindles, cranks, chains, shafts and gears.

Because these components are designed to drive powerful tools and are constantly in motion, they pose a number of significant risks. In fact, according to the Occupational Safety and Health Administration (OSHA), workers who operate and maintain machinery suffer approximately 18,000 amputations, lacerations, crushing injuries and abrasions each year. Even a slowly rotating component can grasp clothing or hair, and force body parts into dangerous areas of a machine, causing potentially deadly injuries.

To protect yourself on the job, it's important to understand basic safety considerations related to the guarding of power transmission apparatuses.

Guarding Considerations

In general, many of the risks related to power transmission apparatuses can be controlled using the proper guards. Per OSHA, these guards must:

- Prevent machine operators from coming into contact with moving parts.
- Be secured to the machine or equipment. That way, operators are unable to remove or tamper with them.
- Protect components of the machine from falling objects. This ensures items do not interrupt a moving machine, which can damage the tool or create dangerous projectiles.
- Not create any new hazards, such as sharp edges that could cause lacerations.
- Not create the potential for interference. In general, guards that make it difficult for an operator to complete a job effectively or comfortably are more likely to be removed or tampered with.
- Allow for safe lubrication without needing to remove the guard itself.

As an employee, it's important to understand these guarding requirements and report any missing, damaged or noncompliant guards immediately. The proper lockout/tagout procedures must be used if you have to remove or bypass a guard or other safety device.

If you are unsure of safety procedures related to power transmission apparatuses, speak with your supervisor.

Safety Matters Manufacturing

Provided by: [B_Officialname]

Practicing Slip and Fall Prevention

A janitorial employee was scrubbing the steps and floors with water and a cleaning agent. An observant worker realized that soon, dozens of employees would be going down these steps for their lunch break. This person then took the proper action to avert this potentially dangerous situation and set up a wet floor sign.

Do Your Safety Part

An unguarded wet floor is only one of the many causes that account for millions of work-related injuries every year. Which is why it is important to spot unsafe conditions that could lead to slips and falls, and do what you can to prevent them.

There are various ways to suffer slips and falls while working. You can slip and lose your balance, you can trip over objects left improperly in your walkway, or you can simply fall from an elevated position to the ground. To avoid slips and falls, be on the lookout for foreign substances on the floor. Watch for the following:

- Deposits of water
- Food
- Grease or oil
- Sawdust
- Soap
- Other manufacturing debris

Even small quantities are enough to make you fall.

Good Housekeeping Counts

When entering a building from the outdoors or from debris areas, clean your footwear thoroughly. Snowy and rainy weather require a doormat at each entrance to allow for complete wiping of shoes. Avoid running, walk safely and do not change directions too sharply.

Beware of tripping hazards. Trash, unused materials or any object left in aisles designed for pedestrian traffic invites falls. Extension cords, tools, carts and other items should be removed or properly barricaded off. If equipment or supplies are left in walkways, report it. Let the proper personnel remove it. And keep passageways clean of debris by using trash barrels and recycling bins.

Practice Prevention

Walk in designated walking areas. Short cuts through machine or other manufacturing areas can cause accidents. Concentrate on where you are going—horseplay and inattention leaves you vulnerable to unsafe conditions. Hold on to handrails when using stairs or ramps. They are there to protect you should a fall occur. If you're carrying a heavy load that hampers your ability to properly ascend or descend stairs, use the elevator or find help.

The worst falls are from elevated positions such

as ladders, and can result in serious injury or death. Learn and practice ladder safety and the proper use of scaffolding. For example, when climbing, use a ladder of proper length that is in good condition. Keep it placed on a firm surface. Do not climb a ladder placed on machinery, crates, stock or boxes. Keep the ladder's base one foot away from the wall for every four feet of height. Don't over-reach. Always have control of your balance when working from a ladder. Never climb a ladder with your hands full, and always transport tools in their proper carrying devices.

Slips and falls occur every day. The extent of injuries and their recurrence can be minimized through proper safety knowledge, good housekeeping and practicing prevention.

Provided by: [B_Officialname]

Preventing and Dealing with Workplace Violence

News stories about workplace violence are always shocking and tragic. But these unfortunate events serve as a reminder of the possible consequences of unchecked violent behavior in the workplace. Anytime tempers flare or aggressive behavior is not addressed, the risk of violence increases.

It is our top priority to keep the workplace safe. However, violence in the workplace remains a serious safety and health issue. It can occur inside or outside the workplace, and can range from threats and verbal abuse to tragedies and fatalities. The FBI estimates that 1 million people are exposed to workplace violence each year.

Whether they come from a current or former employee, an unknown assailant or as a result of domestic violence or personal problems, many incidents can be foreseen and averted. Through our Workplace Violence Prevention Program, we do not tolerate threats, bullying, harassment or any other form of violence.

Identifying Your Risk

Workplace violence can include actions or words that endanger or harm you, or cause you to believe that you may be in danger, including the following:

- Verbal or physical harassment
- Verbal or physical threats
- Assaults or other violence
- Any other behavior that causes you to feel unsafe (bullying or sexual harassment)

Staying Safe

Reduce your odds of experiencing violence in the workplace with the following safety strategies:

- Become aware of and report violent or threatening behavior by co-workers or other warning signs.
- Take all threats seriously.
- Follow procedures established by our Workplace Violence Prevention Program, including those for reporting incidents.
- Learn how to recognize, avoid or diffuse potentially violent situations by attending personal safety training programs.
- Alert supervisors to any concerns about safety or security, and report all incidents immediately in writing.
- Use the buddy system when traveling to unfamiliar locations or when you find yourself in unusual situations.

Stay Alert

Always stay alert and aware of your surroundings. Make sure that you are effectively trained in conflict resolution and methods of handling potentially dangerous situations. Adhere to all of our policies to reduce your risk of being involved in dangerous situations that could result in physical violence.

Safety Matters Manufacturing

Provided by: [B_Officialname]

Proper Use and Care of Respiratory Protection

Wearing respiratory protection may seem inconvenient, but airborne particles and contaminants—no matter how small—can cause both short-term and long-term health problems if proper use and care of respirators is not exercised.

Respirators protect employees from areas with insufficient oxygen, harmful dusts, fogs, smokes, mists, gases, vapors and sprays. These hazards may cause cancer, lung impairment, other diseases or death. Always wear respiratory protection where required at the workplace.

The Occupational Safety and Health Administration (OSHA) requires [C_Officialname] to have a written respiratory protection plan and training in place, but this requires compliance with the program across all employees, as safety is everyone's concern.

Respirator Use and Safety Tips

Respirators are an important safety and health protection tool, when used properly. If you exercise proper respirator maintenance, it will protect you from harmful airborne contaminants and particles.

- Use respirators certified for use to protect against the contaminant you are working with. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.
    - Examples of different types of respirators include single-use, half-face piece and full-face piece, air-purifying or atmosphere-supplying respirators. A respirator from another area of the workplace may not provide adequate protection for you. For example, a respirator designed to filter dust particles will not protect you against gases, vapors or very small particles of fumes or smoke.
- Always inspect your respirator before use. Alert your supervisor and replace your respirator if you find a crack, puncture, tear, leak or any other unusual condition.
- Check the face piece seal each time you wear your respirator. Proper face piece fit is critical.
- Keep your face shaved. Facial hair, headbands, bandannas or other objects that interfere with the face piece seal must be removed prior to wearing your respirator.

- Read and follow all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding your respirator's limitations.
- Use the correct cartridge for your respirator, if applicable. Examples of the different kinds of cartridges include dust, mist, organic vapor or combination. Make sure cartridges are not expired.
- Keep track of your respirator so you don’t inadvertently use another employee’s respirator.
- Make sure you stay properly trained in the use and maintenance of your respirator. Contact your supervisor or other designated person if you need assistance or have any questions.

Safety Matters Manufacturing

Provided by: [B_Officialname]

Protect Yourself When Working with Chemicals

Through the course of your job duties, you may come into contact with dangerous chemicals. [C_Officialname] is dedicated to ensuring your safety, so we have a Hazard Communication Program in place. The goal of this program is to make you aware of chemicals you may work with or be exposed to on the job and to help you understand the potential hazards of those chemicals. This education, which is required by the Occupational Safety & Health Act (OSHA), is also called Workers' Right To Know.

Safety Data Sheets

The cornerstone of a Hazard Communication Program is the Safety Data Sheet (SDS). This sheet tells you everything you need to know about a specific chemical, including the following:

- The health hazards associated with the chemical
- How flammable the product is, and at what temperature it may ignite
- The reactivity of the chemical with water or other agents and how likely it is to explode
- What personal protective equipment (PPE) is needed to work with the chemical

With information broken down into 16 different categories, the SDS form can be lengthy, which is why we also provide SDS Information Review Forms for the chemicals you may encounter on the manufacturing floor. Though you should also know where the complete SDSs are, and should refer to them when specific details are needed, the Information Review Form is an easy-access, user-friendly version of a chemical's essential information.

Other important aspects of the Hazard Communication Program include the following:

- Accurate labeling of containers that contain chemicals, including warning labels when applicable.
- Ensuring that labels are not removed.
- Employee training in accordance with your job duties relating to chemicals.

Important Questions to Ask

Through our Hazard Communication Program, every employee should learn the following information:

- What chemicals might I handle or be exposed to in the workplace?
- Where are the SDSs kept for the chemicals I am exposed to?
- What kinds of hazards do I face when I use, or misuse, a particular chemical?

- Do I understand the emergency procedures to follow in the event of a spill?

Though it is our goal to teach you the information you need, it is your responsibility to learn it and ask questions if necessary. You should follow all safety procedures when working around chemicals, keep in mind potential hazards and always wear appropriate PPE. You are also entitled to obtain a written copy of our Hazard Communication Program—simply ask your supervisor.

Achieving Safety Together

It may seem overwhelming to learn about all the chemicals you may handle or be exposed to, but it is important knowledge that all workers should have. Always be sure to ask questions or reference the appropriate SDS if you forget or have yet to learn about a certain chemical. Failing to do so could result in an extremely hazardous situation for you, your co-workers and our workplace.

SDS Information Review Form (Convert information from the chemical's SDS)

Chemical common name: _____ Review date: _____

Also known as: _____

Signal Word (SDS section 2)	
Hazard Classification (SDS section 2)	
Hazard Statement(s) (SDS section 2)	
Protective Equipment to be Used (SDS section 8)	
First Aid Measures (SDS section 4)	
Firefighting Measures (SDS section 5)	

Circle Appropriate Hazard Pictograms and Hazard Type (SDS section 2):

 **Health Hazard**	 **Flame**	 **Exclamation Mark**
• Carcinogen • Mutagenicity • Reproductive toxicity • Respiratory sensitizer • Target organ toxicity • Aspiration toxicity	• Flammables • Pyrophorics • Self-heating • Emits flammable gas • Self-reactives • Organic peroxides	• Irritant (skin and eye) • Skin sensitizer • Acute toxicity (harmful) • Narcotic effects • Respiratory tract irritant
 **Gas Cylinder**	 **Corrosion**	 **Exploding Bomb**
• Gases under pressure	• Skin Corrosion/ burns • Eye damage • Corrosive to metals	• Explosives • Self-reactives • Organic peroxides

 **Flame Over Circle**	 **Environment (Non-mandatory)**	 **Skull and Crossbones**
• Oxidizers	• Aquatic toxicity	• Acute toxicity (fatal or toxic)

Safety Matters Manufacturing

Provided by: [B_Officialname]

Put a Stop to Pinch Point Injuries

Pinch point hazards are abundant in a manufacturing environment and can be found on many types of equipment including metal-forming machines, power presses, conveyors, robotic machines, powered rollers, assembling machines, plastic molding equipment, printing presses, powered benders, press brakes, power transmission equipment, powered doors, covers and hatches.

It is a common misconception that pinch injuries cannot be serious. In fact, pinch point injuries can be deadly, and they are one of the most common types of accidents in the manufacturing industry.

To reduce your risk of pinch point injuries at work, consider the following safety recommendations.

- Before beginning your shift or when working with new equipment, identify potential pinch point hazards. Pay special attention to equipment that moves and could come into contact with fixed objects. In this type of work, some of the most common causes of pinch point injuries include the following:
    - Feedrollers and rollers
    - Revolving barrels, containers or drums
    - Belts and pulleys
    - Blades of fans used for cooling
    - Band or circular saws
    - Gears, sprockets, shafting and chain drives
    - Extractors, parts washers and tumblers
- Be extremely cautious when placing your hands, fingers or feet between two objects. If you are within a pinch point, consider alternative ways to get the task done. If there is no other way to complete the task, make sure that all parts are immobilized before continuing.
- Do not operate machinery without the proper guarding equipment in place. If you need to perform repairs or adjustments to the guards themselves, replace them before using the machinery again.
- Never use your feet to brace, force or chock objects.
- Wear appropriate gloves for the task at hand – ill-fitting gloves may be an additional hazard as they can get caught in a machine.
- Follow all lockout/tagout procedures.
- Do not wear jewelry or loose clothing,

and always tie long hair back. These items can get caught in machines.

- Know how to turn off equipment immediately in case of an emergency.
- If you spot an unguarded pinch point, contact a manager immediately.

Provided by: [B_Officialname]

Recognizing Spray Paint Hazards

Spray painting is an efficient and effective way to cover large areas or irregular surfaces with even coats of primer, paint, sealers and other coatings. When you are using spray paint, it is important to recognize and guard against potential hazards.

Why it is Dangerous

Many paints, coatings, catalysts, sealers, hardeners and solvents contain hazardous chemicals to which you could be exposed during mixing, spraying, grinding and sanding tasks. Overexposure can cause nausea, rash, asthma, dermatitis or even lung cancer. In addition, some coatings contain flammable substances, which are released into the air when you use high-pressure equipment. As they build up, these vapors can create an explosion hazard. To protect yourself from these and other health hazards, study the following guidelines to safe spray painting practices.

Ways to Protect Yourself

Before beginning a new task, consult the Safety Data Sheets (SDS) for each product you will use. You will find information specific to that chemical, including its hazards, appropriate personal protective equipment (PPE), proper handling, transport, storage and disposal.

General Recommendations

- Use a spray booth to avoid breathing in spray paint vapors and debris. Regularly maintained and cleaned spray booths also provide maximum protection against explosion hazards.
- Wear hearing protection when working with air-powered tools. Extended exposure to loud noises can result in irreversible damage to your hearing.
- To protect your eyes, wear safety glasses and a dust mask or respirator to protect against dust particles that form when using grinding and sanding equipment.
- Wear a combination type HEPA air filter and organic vapor respirator with breathing air lines to protect yourself from hazardous fumes.
- Wear lightweight, disposable coveralls, or launder reusable coveralls separately from street clothes.
- Never eat, drink, smoke or apply cosmetics while working with spray paint. Store food and other belongings in a separate area.
- Store paints and their solvents carefully in ventilated, nonsmoking areas to prevent the possibility of ignition and explosion.
- Since you may have to hold full paint pots while spraying, you must keep

ergonomics in mind while on the job. Use balanced spray guns that fit in your hand or use a hoist and dolly to move materials instead of holding them. Take frequent, short breaks throughout the workday to stretch to avoid unnecessary strains and sprains.

Keep Safety in Mind

Keeping safety in mind when working in and around spray painting operations will help you avoid dangerous hazards and keep you injury-free on the job. If you have any doubt about your safety, regarding spray painting or any other issue, talk to your supervisor. Your safety is our top priority at [C_Officialname].

Provided by: [B_Officialname]

Reducing Slaughter and Breakdown Task Injuries

According to the Bureau of Labor Statistics (BLS), the prevalence of injuries and illnesses in the meatpacking industry is one of the highest among all industries. To reduce your risk of getting hurt or sick on the job, you must first identify and understand potential hazards, such as the following.

Hazard: Animals

Workers can be injured by animals when they are unloaded and brought into the plant. Incorrect stunning and slaughtering can result in unpredictable and violent reactions. The movement of carcasses, weighing up to half a ton or more also poses a possible danger. Bodily fluids from carcasses (blood, fat, etc.) can make floors wet and slippery.

Hazard: Chemicals and Pathogens

Workers, especially cleanup crews, are exposed to a number of products that have strong chemicals, including disinfectants. Employees may also come into contact with ammonia used for refrigeration, blood, viruses, fecal matter and bacteria.

Hazard: Temperatures

Some workers work with very hot temperatures used for cooking or curing meat, or very cold temperatures used to preserve meat and facilitate processing. Frozen meat and poultry products can require work in even colder temperatures, which can cause problems compounded by wet conditions and high humidity. Cleanup crews spray machinery, floors and equipment with exceptionally hot water that produces steam capable of burning workers and fogging safety goggles.

Hazard: Machines and Tools

Many meat and poultry jobs still require the manual use of knives, particularly in meatpacking plants where animals vary widely in size and shape. Increasing mechanization, while reducing the number of workers exposed to injury on processing lines, can increase the type and severity of injuries by machines that cut, slice, saw and grind. Large objects, such as forklifts, are also a hazard to workers.

Hazard: Work Stressors

Workers on some production lines perform identical motions for long periods of time. Increasing mechanization can increase line speeds, which in turn can further stress workers trying to keep up with mechanical equipment.

Hazard: Noise Pollution

Some workers are exposed to loud machinery for prolonged periods. To reduce your risks of accidents, consider the following:

- Attend training on the proper use of cutting equipment and machine guarding devices. Also abide by all rules concerning the use of personal protective equipment (PPE), including hearing protection.
- Avoid dust- and aerosol-generating tasks, such as the use of compressed air or high pressure washers for cleaning.
- Take precautions when handling and storing detergents and disinfectants. These items should not be stored or transported with food or beverages, and should be stored in a locked area.

Safety Matters Manufacturing

Provided by: [B_Officialname]

Safe Conveyor Belt Use

Unnecessary workplace accidents can occur when employees do not think before they act or avoid taking precautions to prevent accidents. Keeping safety top of mind is especially important when working with potentially dangerous machinery like conveyor belts. In fact, the Occupational Safety and Health Administration (OSHA) frequently cites conveyor belt accidents as one of the top preventable accidents in the workplace.

For example, employees at a paper corporation were removing wood and bark chips from underneath a moving conveyor belt and shoveling them back onto the conveyor. An employee went into a narrow opening to remove bark that had accumulated under the belt. When the worker did so, the shovel caught between a roller and the underside of the moving conveyor, and pulled the worker into the machinery. The worker died as a result of the accident. This is an example of an accident that could have been prevented by exercising conveyor belt safety.

Familiarize yourself with the following conveyor belt safety tips.

Before You Start a Conveyor

- Inspect the area to ensure that no one is performing maintenance, is under the conveyor or within the fall zone.
- Make sure all guards are fitted and that the emergency stop switch is working properly.

When Working at or Near a Conveyor

- Wear a hat and safety shoes. Avoid wearing loose-fitting clothes or jewelry, and make sure that your hair is short or pulled back.
- Do not walk under a moving conveyor.
- Never clean belts, pulleys or drums while the machine is on.
- Do not perform maintenance or repairs while the conveyor is in motion.

When Working at a Powered Conveyor

- Ensure that you can see the system while you are operating the controls.
- Follow all lockout and tagout procedures before performing maintenance.
- Position yourself so that you will not be hit by moving objects.

When Working With an Aerial Conveyor

- Make sure that machine guards are in place to protect against objects falling on workers below.

General Safety Recommendations

- Always know the location of start and stop controls.

- Never step, climb, sit or ride on a conveyor belt.
- Never alter or remove machine guards.
- Never overload a conveyor outside of its design limits.
- Always report unsafe practices to your supervisor.

We're Counting on You

Conveyor belts make our jobs easier, but must be used in a safe manner at [C_Officialname]. If you have any questions or concerns about conveyor belt safety or operation, contact your supervisor.

Provided by: [B_Officialname]

Safety Precautions for Welding and Cutting

When welding and cutting at your workplace, it is essential to both your safety and those around you that you adhere to certain safety recommendations.

Safety Considerations

To avoid injuries on the job, consider these safety recommendations:

- Always check for fire hazards before you start welding. Wood, paper and other flammable materials should be removed from the area. Flammable liquids should be removed as well.
- Clean wood floors before welding over them. Then cover them with metal or some other material that will not burn. It may also be advisable to wet the floor, though this can cause an added shock hazard. Guard against these hazards as necessary.
- Seal cracks so that sparks or slag cannot fall through them, and never allow these hot materials to fall into machine pits.
- Shield open doorways, broken windows and similar openings with an asbestos curtain. Hot slag may roll along a floor, so be sure the curtain is in contact with the floor.
- If you must weld near combustible materials, a fire extinguisher, pail of water, fire hose or a pail of sand should be at hand. It may be necessary to have a worker stand by with a fire extinguisher to put out sparks as well.
- If you are welding or cutting a tank or drum containing flammable liquids or gas, do not start your operation until an approved test shows that there is no dangerous vapor present. Do not rely on another employee's word that the tank or drum was tested previously; insist on a new test before you start your work.
- Make sure your work area is properly ventilated. Many of these operations produce fumes that are harmful in heavy concentrations, and good ventilation is one of the best methods of protecting yourself against this hazard. Utilize special ventilating equipment, if necessary.

The Proper PPE

Wear the proper personal protective equipment (PPE) including goggles and a helmet to protect against hazards. Welders working with metal, chipping and cleaning should always have their helmets lowered to prevent throw particles of metal from coming into the eyes. Eye protection, such as goggles, are worn to protect against sparks, slag and molten metal, and flash burns caused by radiation from the welding

equipment.

Safety Starts with You

Make safety a top priority as you weld and cut. Taking these precautions will lower your risk of occupational injuries, which will make your job a lot more safe and enjoyable.

Provided by: [B_Officialname]

Safety Shoes

Personal protective equipment (PPE) is crucial when it comes to preventing injuries and ensuring your health and safety on the job. One often overlooked and important type of PPE is safety footwear, which is designed to protect your feet from common manufacturing hazards.

Depending on the job activity and equipment you use, the following exposures could lead to serious foot injuries:

- Corrosive materials
- Electrical hazards
- Hot or slippery surfaces
- Static electricity, which could cause an explosion under the right conditions
- Heavy objects, which could fall or roll onto your feet, crushing them
- Sharp objects, which could puncture your feet
- Molten metal, which could splash onto your feet and cause burns and other injuries

When these risks are present in the workplace, employees must wear protective footwear to ensure safety and reduce injury risks. This Safety Matters examines various types of safety shoes common in manufacturing.

Types of Safety Shoes

There are several factors that determine what type of footwear is appropriate for you, including the potential hazards you're exposed to, the machinery you use and the requirements of your position. What's more, there are different types of safety shoes, each designed to mitigate specific workplace hazards. The following are the most common kinds of protective footwear:

- Steel-toe, reinforced safety-toe or reinforced toecap shoes—These types of shoes are designed to protect against crushing injuries caused by falling or dropped objects. For extra protection, metatarsal guards can be used, which help to safeguard the bones between your toes and ankle.
- Puncture-resistant shoes—These shoes are typically reinforced with metal and are designed to prevent injury should you step on a nail, screw or other sharp object.
- Metal-free footwear—These types of shoes are nonconductive and protect against electrocution risks. In general, these types of shoes can provide protection for up to 600 volts of electricity in dry environments. It should be noted that moisture and wear on shoes can impact the effectiveness of these kinds of safety shoes. For added protection around electricity, follow all

applicable safe work procedures and wear metal-free footwear alongside other nonconductive PPE.

- Nonslip soles (rubber or wooden)—Slip-resistant shoes are equipped with a specialized sole that can reduce slip, trip and fall risks. These shoes are especially common in shop environments where cords, materials and other items increase trip hazards.
- Insulated footwear—These shoes are designed to protect feet against extreme temperatures. It should be noted that there are specific shoes for both hot and cold environments. Furthermore, risks related to chemical burns require specially treated shoes.

Regardless of the type of safety shoes you use, it's important to ensure they fit properly and are well maintained. Safety shoes should be inspected before each use for signs of wear. If a shoe is cracked or shows other signs of damage, replace it immediately.

For any questions regarding safety shoes, speak with your supervisor.

Safety Matters Manufacturing

Provided by: [B_Officialname]

Slaughterhouse Hazards: Safety Solutions for Your Job

As a slaughterhouse employee, you face many potentially dangerous circumstances on a daily basis. Our industry has largely become very mechanical, yet you may be still required to perform tasks by hand—many of which are dangerous, require repetitive motions and call for excessive force.

Some of the most common injuries sustained by workers in our industry include the following:

- Eye burns from chemicals and steam used to sanitize the plant
- Repetitive motion injuries to shoulders
- Concussions and cuts caused by being struck by moving equipment
- Hearing injuries caused by exposure to loud machinery
- Respiratory irritation or even asphyxiation from exposure to chemicals, pathogens and gases
- Bruises, cuts and fractures to upper extremities
- Bruises and fractures to trunk region caused by moving heavy containers, falls from multi-level walkways and slipping on wet or greasy floors
- Back sprains and strains from lifting heavy objects or repetitive lifting of lighter objects
- Cuts and lacerations, puncture wounds and vibratory injuries to hands from hand tools and repetitive motion injuries
- Carpal tunnel syndrome from repeating tasks at a rapid pace, usually against resistance
- Cuts, lacerations and amputations of fingers caused by knives and machinery, as well as repetitive motion injuries
- Knee injuries from falls
- Tendonitis and amputations in the feet and toes

To reduce your risk of injury, consider the following personal protective equipment while performing your job duties:

- Bump cap
- Hair net
- Ear plugs
- Safety goggles
- Beard net
- Apron

- Arm guards
- Sleeves
- Latex or mesh gloves
- Boots

Biological Hazards

While performing your job duties, you may also handle infected meat and birds. These animals can be dangerous, as you could be at risk for contracting a disease. The bacteria causing these diseases are found in urine, feces, vaginal discharge and in the milk of infected animals. The viruses can enter your body through broken skin or inhalation and cause fever, headaches, vomiting, diarrhea and/or kidney damage. To reduce illness risks, you should protect any wounds on your body and wear personal protective equipment (PPE). Also cover any parts of your body that would come in direct contact with infected animal parts.

Provided by: [B_Officialname]

Stay Safe in a New Place

A walk through other areas of the workplace is a common occurrence, but it can also be dangerous if you don't stay alert. This is particularly true for employees leaving their old, familiar job titles and moving into new roles in other areas.

New employees receive instructions regarding training and safety precautions. However, when transitioning roles to another area, it can operate very differently; procedures and equipment may be different and safety precautions may vary as well.

Safety in New Surroundings

Before entering another area, familiarize yourself with any special rules or procedures necessary for your safety. This might mean wearing special personal protective equipment or meeting certain regulations concerning employee actions.

During the transition to your new area, be on the guard at corners and close to machinery and appliances, and watch for vehicles on the move. Although equipment operators have their own safety regulations to follow, which include watching for pedestrians, be cautious and ready to move.

Look both ways before stepping out into an aisle or unfamiliar area. In aisles wide enough for truck or other equipment traffic, use extreme caution.

Don't try to beat an oncoming forklift or other machinery; you could easily misjudge its speed and fall in front of it. Don't walk while you're looking in another direction, you could bump into another employee or machine. If you can't watch where you're walking, wait until you can.

Watch out for slip, trip and fall hazards. Misplaced tools, pieces of materials, products or other objects pose hazards. Keep floors and aisles clear of these dangers.

In addition, do not take shortcuts, regardless of how much time they save. Shortcuts are not approved routes and taking them can cause very serious injuries.

At times, it may be necessary to restrict your admittance to certain areas. Whether the restrictions are temporary or permanent, don't enter the area unless authorized to do so.

Safety Precautions

Stay safe when transitioning into a new work environment by remembering these basic safety precautions:

- Watch out for moving equipment.
- Look both ways before stepping into an aisle.
- Use handrails.

- Keep your eyes open for slip, trip and fall hazards.
- Don’t take shortcuts.
- Stay out of restricted areas.
- Ask for direction regarding unfamiliar safety guidelines.

Provided by: [B_Officialname]

Stay Safe When Working With Flavorings

As a manufacturer of food products, you come into contact with many different ingredients. Even though some chemicals you work with are safe to eat, they can cause eye, lung or skin disease if you are not properly protected while you are touching or working around them. It is important to understand your risk and follow certain guidelines to keep yourself healthy.

Hazardous Chemicals

There are certain chemicals found in flavorings—especially dairy, alcohol, fruit, brown and other flavorings—that may be dangerous to your health. These chemicals include:

- Diacetyl
- Acetyl propionyl
- Acetoin
- Acetaldehyde
- Acetic acid
- Chlorine
- Ammonia
- Diacetyl trimer

Whenever you are working around these chemicals, [C_Officialname] has taken special precautions to protect you. However, it is important that you do your part to protect yourself, too.

Safety Data Sheets

If you would like more information about any of these potentially dangerous chemicals, [C_Officialname] keeps Safety Data Sheets (SDS) on file that contain information about the known health hazards associated each chemicals and the specific personal protective equipment (PPE) necessary to protect you from these hazards.

Personal Protective Equipment

To be sure that you are not putting your health at risk, when you're working with certain chemicals, [C_Officialname] requires that you wear your PPE, which may include a respirator, eye protection and gloves. When wearing your PPE, keep the following points in mind:

- The respirator must fit properly to be effective.
- Goggles should be appropriate for the job and should fit properly.
- Gloves should be made of butyl rubber and shouldn't show any signs of wear and tear.

Be Aware

There have been workers in several factories that handle these chemicals that have been diagnosed with a rare and serious lung disease called bronchiolitis obliterans, and others have

contracted other types of lung diseases. Many workers experience irritation of the eyes, nose and throat. If you notice the following symptoms of illness, let your supervisor know immediately:

- Trouble breathing
- Persistent, dry cough
- Wheezing
- Fatigue
- Itchy, irritated eyes
- Skin rash or irritation

To be sure you are safe, your supervisor may ask you to see a doctor, who will help determine whether there are additional steps you can take to stay healthy at work.

Talk to Us

If you have any questions or concerns about the substances you handle or come into contact with on the job, do not hesitate to talk to your supervisor. Your health and safety is our first priority at [C_Officialname].

Safety Matters Manufacturing

Provided by: [B_Officialname]

Stay Safe with Personal Protective Equipment

In the manufacturing industry, engineering controls are the first line of defense against occupational injury and fatalities. However, these methods do not always offer the maximum protection for workers, so personal protective equipment (PPE) is crucial.

While [C_Officialname] follows all government regulations regarding PPE and maintains American National Standards where required, it is also important that employees do their part. Become familiar with the types of PPE you may be required to use and why it is essential to your health and safety.

Often times, workers don't wear their safety equipment because it's a nuisance to put on or because it's bulky and uncomfortable. It can be tempting not to put PPE on at all unless the safety supervisor is looking, but ultimately, it is up to you to be a professional and recognize the life-saving benefits of PPE.

A poorly fitted piece of protective equipment can cause headache or pain, and if it does, see your supervisor immediately to have it adjusted or re-fitted. But most of the time, it's just a matter of getting used to wearing these items. This is a lot easier when you remember that, like a football player, you stand a better chance of continuing successfully with your job and your home life if you are protected from possible serious injury by protective equipment.

Foot protection, also known as steel-toe boots, safety-toe boots, steel-capped boots or safety shoes, is a must for all workers exposed to falling objects and puncture wounds from below. Most shoes will have symbols on the outside to illustrate the type of protection the footwear offers.

Hand and arm protection is one of the most important pieces of PPE in the manufacturing industry because of the presence of amputation hazards and harmful materials. Depending on the work you do, you may need leather, canvas, metal mesh, fabric, coated fabric, chemical-resistant or liquid-resistant gloves.

Head protection is required in areas with the danger of impact, falling or flying objects and electrical shock or burn. Be sure to select the proper size, and take good care of the equipment so it doesn't fail in the event of an accident.

In some cases, full-body protection may be necessary to fully protect against all harmful agents in the workplace. When full-body protection is required, it should not be taken lightly. It must be worn whenever you are in designated areas.

Though it is often overlooked, hearing protection is crucial in a manufacturing environment to prevent permanent damage. Remember that plain cotton is not an acceptable

form of ear protection.

When there is a chance of physical, chemical or radiation damage to the eyes or face, you must wear appropriate PPE. Everyday glasses do not qualify and are no excuse for lack of proper protection—request eye and face PPE that fits over spectacles.

Respiratory protection is one of the most important pieces of PPE in a manufacturing environment because without it, toxins may enter straight into the body. It is important for you to understand how to use this PPE properly and what its limitations are.

Safety Matters Manufacturing

Provided by: [B_Officialname]

Step Up and Support Workplace Safety Initiatives

Workplace safety is something all employees should take seriously – nothing less than the future of your family is at stake. They are counting on you to provide food and shelter, and an on-the-job accident could very easily disable you, leaving security and future plans up in the air.

Together, you and your coworkers can get your own safety program off the ground by giving your supervisors or safety leader(s) ideas on how things can be made safer. Any idea, no matter how small it may seem to you, may prevent a serious accident.

Here are some examples of rules you can follow to set an example for others and help your safety program succeed.

- Do not engage in horseplay at the facility at any time – stay focused on the task at hand.
- Allow your co-workers to stay focused at all times by refraining from distracting actions.
- Always wear the required personal protective equipment (PPE).
- Watch your footing at all times, and never run to get where you are going.
- Remember that sanitation is key: keep yourself and the facility clean and free from clutter to prevent accidents.
- Know your limits – never work at a height that makes you uncomfortable. Stop to re-evaluate your approach if the work you are doing seems hazardous or dangerous in any way.
- Never perform work that you are unauthorized to do.
- Watch out for the safety of non-workers, too. Customers or visitors can be seriously injured or killed if employees do not practice caution.
- Know what to do in case of emergency, whether it's an on-the-job injury or natural disaster.

In short, safety takes teamwork. Whatever your job status is or whatever your duties include, keep your eyes open for hazards and report them. Help keep our safety program on solid ground!

Provided by: [B_Officialname]

Table Saws

Table saws are versatile pieces of equipment used for making straight cuts in wood, either across or with the grain. When operating a table saw, it is important to be as safe as possible, as these pieces of equipment are capable of inflicting serious injuries when not handled properly.

Table Saw Hazards

As one might expect, the most common injuries when using a table saw are serious cuts to the hands and fingers. In severe accidents, an operator can even have a finger or their entire hand amputated by the spinning blade. When using a table saw, be careful to avoid the following hazards:

- Entanglement—Loose clothing or jewelry, and long hair can get caught by the rotating blade.
- Power transmission—Typically, table saws are powered by an electric motor and belt that can cause harm to the operator if they come into contact with the equipment.
- Kickback—Material can get caught in the saw blade and be thrown back into the operator. This is more common when cutting with the grain (ripping).
- Projectiles—Table saws can sometimes spit out flying projectiles such as splinters, chips or even broken teeth from the saw blade.

There are a number of things that you can do to avoid injury and accidents while using a table saw. When using table saws, keep the following safety tips in mind:

- Make sure that the table saw guard is properly adjusted according to the thickness of the material that you are cutting and that it remains in contact with the material.
- Be certain that the table saw blade is set at the correct height.
- Always watch your hand placement when feeding a table saw.
- When cutting smaller pieces or pushing material past the blade, use push sticks in order to keep your arms, hands and fingers as far away from the blade as possible.
- Be sure that the blade you are using is sharp to reduce the chance of material getting caught.
- Always wear appropriate personal protective equipment while operating a table saw.
- Avoid being in the path of kickback by standing to the side of the blade when ripping.
- If you are ripping, use additional safety equipment, such as anti-kickback fingers

Saw Safely

to hold the stock down, and a spreader to keep the material from squeezing the saw and reduce the chance of kickback.

If you have any questions or concerns about the use of table saws in the workplace, please contact your supervisor.

Safety Matters Manufacturing

Provided by: [B_Officialname]

The Importance of Accident Prevention

We all know that safety is important on the manufacturing floor, but do you realize just how costly a workplace injury can be? When all is said and done, injuries can cost business owners hundreds of thousands of dollars. The extra expense to pay for injuries has a powerfully negative effect to a company's bottom line.

Why is profitability also an important issue to you? The only way that [C_Officialname] can stay in business is to operate at a profit, and that ability can be threatened by a serious workplace injury.

The Real Cost of Workplace Injuries

It may be surprising to hear that most companies do not have a high profit margin—3 percent is about average. Expenses take a large chunk of the income, and competition limits how much we can charge for the products we sell.

Each time an accident occurs, the cost of the injury must be subtracted from profits. Consider the following two examples:

- At a 5 percent profit margin, an extra $20,000 in sales is needed to compensate for a $1,000 injury.
- If the profit margin is nearer to 1 percent, an additional $100,000 worth of new income is necessary to maintain that profit level for the same injury.

As you can see, that adds up to a lot of extra sales just to compensate for a single injury. That means that every time a worker gets hurt on the job, other employees are affected too. You may need to work extra hours to achieve necessary production levels to compensate for those losses, or the company may be forced to make tough budget decisions, such as cutting hours or laying off employees.

Also, recovering from an injury can mean time away from work, reduced compensation, painful rehabilitation and frustrating adjustments to daily life.

Practice Prevention

Though operating at a profit is essential to our success, our top priority is to keep our employees safe and healthy. That's why we are counting on you to help practice good safety principles, such as following all safety procedures and wearing appropriate personal protective equipment. Safe work behavior will contribute directly to our bottom line as well as to everyone's job security. By observing safety precautions, we can limit on-the-job accidents.

It is always wiser to spend a bit more time doing the job safely than to risk getting a serious injury. Be sure to always follow our safety guidelines and stay alert for unsafe conditions. Think of practicing good safety as both pain-free and profitable—a win-win situation for everyone!

Safety Matters Manufacturing

Provided by: [B_Officialname]

The Importance of Keeping Clean on the Floor

Often, our workplace is full of action with many workers performing different operations simultaneously. Imagine the chaos that would result if workers did not clean up after themselves. The manufacturing floor would become a hazardous obstacle course as trash and debris piled up, and walking from one point to another would mean navigating through a mess of extension cords, hoses, materials, nails and screws. It would not only be aggravating and counterproductive; it would be very dangerous, considering that slips, trips and falls are a common cause of injury on the job site. And inadequate housekeeping is a major contributing factor in most of these accidents.

What is Housekeeping?

Avoiding dangerous conditions like those described above requires a commitment to housekeeping by every individual on our team. This means making spill cleanup, daily debris/scrap removal, general cleaning and use of trash bins a priority every day, throughout the day.

Good housekeeping also means constant vigilance. Remove any object or material that obstructs a pathway on the floor and take care of any other materials that could pose a possible fire hazard or danger for co-workers. This includes the following:

- Extension cords
- Hand tools
- Hoses
- Cables
- Empty containers
- Debris
- Food
- Water or spills
- Sawdust
- Combustible materials

Do Your Part

Follow these housekeeping tips to keep yourself and your co-workers safe.

- Limit the amount of materials and chemicals on-site to the quantities that you will need.
- Store tools and materials out of the way in storage bins or lockers.
- Keep flammable or hazardous wastes in covered, separate waste containers.
- Place warning signs in wet or muddy areas that could pose a slipping hazard.

- Place protective guards across areas where workers could fall or face an impalement hazard.
- Control muddy areas using gravel, boards or plywood.

Do not Risk

When practicing good housekeeping, there are several things you should never risk doing:

- Do not leave housekeeping responsibilities for the last few minutes of the day.
- Do not clean equipment without first locking out.
- Never pile material around fire extinguishers, sprinklers or emergency exits.
- Never blow off dust with compressed air; use a vacuum or brush.
- Do not collect broken glass or metal scraps in plastic bags.
- Never use bare hands when collecting waste; gloves prevent cuts and splinters.

Our Commitment to You

At [C_Officialname], we put your safety first. If you have any doubts about the security of your worksite—regarding housekeeping or any other issue—do not hesitate to talk to your supervisor.

Safety Matters Manufacturing

Provided by: [B_Officialname]

The New Employee's Top Role Model: You

Have you ever worked with someone who inspired you? A hardworking person can have a powerful influence on his or her team, especially when he or she is working with someone who is new to the job or to the company. As the co-worker of a new employee, consider yourself the most important role model during his or her first few weeks. Your attitude and your respect of policies and safety procedures could save his or her life!

Be a Safety Mentor

You know that the manufacturing floor is full of potential hazards. At [C_Officialname], we have stressed the importance of doing your job the safe way, and we've given you a wealth of knowledge about the risks of the job and ways to stay safe. When you are working around others, especially if they are new to our workplace, it is your turn to share that knowledge to protect them and yourself.

It may take a while for new employees to adjust and feel like they fit in on the job. Those that have never held a job before or were employed by a firm with a weak safety program will need considerable safety instruction and leadership. While managers will attempt to train them in workplace safety as thoroughly as possible, employees will naturally look to you for advice and information. Their early impressions of the way you value safety will set the stage for their future work habits.

Always Demonstrate Safety

In this important transition time, your actions will speak louder than your words, as the saying goes. If you leave your safety glasses resting on your forehead or lay a power cord in an aisle where it is a tripping hazard, for example, you demonstrate to a new employee that safety is not important at [C_Officialname]. If you try to impress others by wearing jewelry or loose clothing that can be hazardous on the job, you are ultimately putting new employees that are learning from and imitating you in danger.

On the other hand, some new employees may come to [C_Officialname] from firms that emphasize safety just as much as we do. In that case, their personal respect for you will grow when they see that you care about workplace safety just as much as they do.

You are aware that accidents are an ugly reality in manufacturing. Take care to be sure that your new co-workers are aware of the danger, too. Doing so will keep everyone at our worksite safe.

Think again of that co-worker that has inspired you, and do your best to keep him or her in mind when you are working with new employees. Everyone will be safer when you make a good impression on a new employee, so do your part. Now is your chance to inspire!

Safety Matters Manufacturing

Provided by: [B_Officialname]

Walking and Working Surfaces - Dockboards

The products that you and your fellow employees help to produce have a final step that we are responsible for: delivery. Getting our products to our customers may seem like a safe and simple step, but accidents can happen in any environment.

When moving cargo, employees often use dockboards. Dockboards come in a number of different varieties and may either be permanent components of a loading dock or be portable and utilized when needed. Regardless, both types require that employees be aware of how they work and how to make sure they are being used safely. Not understanding how to properly use a dockboard can lead to serious accidents and severe injuries.

Dockboard Safety Requirements

There are a number of precautions to take in order to ensure safety when using dockboards:

- Carefully inspect a dockboard for damage or defects prior to using it.
- Position the dockboard so that it is centered on the truck or trailer.
- Verify that a dockboard will be able to bear the weight of cargo, personnel and any equipment being used, such as forklifts.
- Never attempt to use a forklift to load cargo into a truck or trailer without a dockboard in place.
- Ensure that the truck or trailer's wheels are chocked or otherwise secured so that they cannot roll and displace the board.
- When using a portable dockboard, make sure that they are anchored in place and cannot move, or that there is sufficient contact between the board and the surface such that it cannot be displaced from a safe position. To verify this, position the board as follows:
    - When bridging a smaller gap, make sure that the dockboard's locking leg length is longer than the gap itself.
    - When bridging a large gap, the dockboard's locking leg needs to be positioned against the rear of the truck or trailer while the span anchors the board against the edge of the loading dock.
- Use a forklift to set and remove portable dockboards with lifting eyes. If the board does not have lifting eyes, be sure to use the proper lifting technique and request assistance if necessary. Attempting to move a dockboard by

yourself can be dangerous.

If you have any questions or concerns about using dockboards safely, speak with your supervisor.

Provided by: [B_Officialname]

Working with Lead Safely

Lead is a toxic substance that builds up in the body, posing serious health risks to those exposed to it. Health problems may arise after periods of exposure as short as days or as long as several years. When you work with lead, it accumulates on your clothing and skin in the form of dust. It can be inhaled or ingested, and can damage the lungs, kidneys, nervous system, intestines and reproductive system. There is no cure for lead poisoning.

We go to great lengths to ensure your safety but you need to do your part, too. If you are working with lead, it is very important that you rigorously practice basic personal hygiene to minimize your health risks. In addition to minimizing your exposure, good hygiene practices also prevent you from taking lead-contaminated dust out of the worksite and into your home where it can seriously affect your family's health.

Good Hygiene Practices

You should always make cleaning up a priority when working with lead.

- Wear the appropriate personal protective equipment at all times, including coveralls, boots, gloves and respirators.
- Do not smoke, eat, drink or put on cosmetics in contaminated work areas or while wearing contaminated clothing; doing so will increase your risk of ingesting dust when doing these activities.
- Thoroughly wash your hands and face whenever you stop to eat, smoke or use other forms of tobacco.
- Rolling coveralls when removing them reduces your exposure to lead. Roll them to the waist and then down the legs, and remove without shaking them. Place them directly into a covered laundry container. Then, remove shoes and any other contaminated article of clothing and finally remove the respirator.
- Remove contaminated clothing at work, and shower before getting into your car and returning home. You do not want to transport lead from your body or clothing into your home.
- Do not dry sweep spills containing lead because this will create dust. Instead, wet down the area with water and then vacuum the area with a HEPA vacuum.

Stay Alert

When working with lead, keep these guidelines in mind to minimize the risk of explosion or increased exposure.

- Use caution around open flames and lead dust clouds, which can be flammable under certain circumstances.
- Avoid generating dust by using the correct tools to open containers. If you use the wrong tool and cause an uneven tear, spills and dust are likely.
- Keep your workspace clean and clutter-free.

- Do not use materials that are incompatible with lead such as oxidizing agents, strong acids and strong bases.
- Once materials are taken out of their original manufacturer's container, do not attempt to put them back in.
- Open containers only on stable surfaces.
- Follow the handling precautions found on the company's Safety Data Sheets (SDS).
- Have cleanup and fire-fighting equipment ready at a moment's notice in case of emergency.
- Always wear a respirator when you are cleaning up materials.
- If you experience an illness after working with lead, report it immediately to your supervisor.

Safety Matters Manufacturing

Provided by: [B_Officialname]

Your Most Valuable Tools – Your Hands

Of the many tools that we have available, our hands are the most valuable. They provide us with the dexterity necessary to perform precise maneuvers that even the most advanced technology cannot replicate. Even the simplest tasks are difficult for a person that does not have full use of his or her hands.

Hand injuries on the job are quite common, but many are preventable. There are many things you can do to keep your hands safe—here are a few of the most common. Do not be the victim of a preventable hand injury!

Make Use of Machine Guards

Never operate machinery that does not have a working guard to protect your hands. Always use a lockout device on machinery when you have to reach into it for any reason. Immediately replace guards whenever you remove them. When safety guards are absent from machinery or conveyor belts, an employee's hands, fingers and arms can easily be caught, amputated or crushed.

Wear Gloves

Always protect your hands by wearing work gloves when handling rough materials or performing operations where you are using your hands to lift or move objects. An Occupational Safety and Health Administration (OSHA) study revealed that 70 percent of workers experiencing hand injuries were not wearing gloves. The remaining 30 percent were making use of damaged, inadequate or inappropriate types of gloves for the job. Choose the right glove for the task and inspect it thoroughly before use.

Be Cautious of Sharp Objects

Utilize the correct safety procedures when handling knives, box cutters and other sharp objects. Never attempt to pick up broken glass, nails or other sharp objects not meant for handling with bare hands; always use appropriate gloves or a broom.

Remove Rings

No matter how much sentimental value they carry, rings put your hands in grave danger on the job. They can very easily catch on machinery and other objects, resulting in lacerations, amputations or broken bones. Always remove rings before beginning work.

Stay Alert

Whenever you are using your hands to move an object, whether it is on a hand truck or you are carrying it, be sure the doorways and aisles in your path are wide enough for you to move through safely before you start the job. When you set a heavy object down, be aware of the placement of your hands. Always be alert for possible pinch points.

Speak Up

If you are unsure about the type of gloves you

should be wearing to adequately protect yourself, or if you have any other issue regarding the protection of your hands on the job, talk to your supervisor. At [C_Officialname], we make your safety our first priority.

Safety Matters Manufacturing

Provided by: [B_Officialname]

Your Role in Food Safety

The U.S. Centers for Disease Control and Prevention (CDC) estimates that about 48 million Americans, one in six, get sick each year from tainted food, of which 128,000 are hospitalized and 3,000 die. The key to preventing sickness that traces back to our facility is in controlling the way we work.

Because it is so important that the food we produce at [C_Officialname] is safe, we have a system to recognize which hazards might be present at our facility, and we address those hazards to reduce the risk of foodborne illness or other dangerous issues, called the hazard analysis critical control point, or HACCP, system.

What is HACCP?

There are seven basic principles of HACCP that [C_Officialname] uses to promote food safety.

1. Analyze hazards.
2. Identify critical control points.
3. Establish critical limits.
4. Monitor critical control points.
5. Establish corrective actions.
6. Keep records.
7. Verify the HACCP system.

Following these seven principles, [C_Officialname] has done a thorough analysis of our facility and identified the areas that might present a risk.

In each of these areas, we have designed specific controls to take to lower these risks. You have the important role of putting these control measures into action, and your dedication to them could save someone's life.

Examples of Safety Measures

It is important that you follow these control measures, because just one weak link could mean compromising the safety of our product. What are some of the measures we are referring to and why are they important? Following are a few examples.

- *Allergens* are an important element of food safety. Foods like milk, soy or egg are considered chemical hazards because they can be very dangerous to people with allergies.
- *Hygiene* is the foundation to food safety. Sanitary working surfaces and good housekeeping habits are extremely important to preventing food safety failures.
- *Temperature* should always be controlled and recorded.

Follow the Plan

[C_Officialname]'s HACCP plan contains specific actions you must take on the job to reduce the risk of producing unsafe food products. Each

part of this plan is extremely important. If you ignore just one control measure, you could cause someone – or many people – serious illness or even death, so do your part to keep our products safe.