5055 TO THE POINT ABOUT COMPRESSED AIR SAFETY
FACT SHEET

LENGTH: 12 MINUTES

PROGRAM SYNOPSIS:
Our workplace is full of hazards, hazards that can hurt us or kill us. Controlling these hazards and preventing injuries is the point of our safety and health program. One such hazard is the one presented by the use of compressed air to power our tools and equipment. Ensuring that we use compressed air safely can prevent injuries and save lives. That is the point of our facility's policies regarding the use of compressed air and that is the point of this program. So, pay close attention as we get to the point about compressed air safety.

Topics include pre-use inspection, personal protective equipment, safe work practices, hazards of cleaning with compressed air, pressure-reducing nozzles and dead man's switches and why cleaning the body with compressed air is so dangerous.

PROGRAM OBJECTIVES:
After watching the program, the participant will be able to explain the following:
- What to look for when conducting a pre-use inspection of compressed air equipment;
- What PPE should be donned when using compressed air;
- Which safe work practices should be followed during compressed air use;
- What the hazards of cleaning with compressed air are;
- Why cleaning the body with compressed air is so dangerous.

INSTRUCTIONAL CONTENT:

BACKGROUND
- When used properly, compressed air is a vital energy source used to power tools and equipment, but when used in an unsafe manner, compressed air is very dangerous and can cause a variety of serious injuries.
- Our organization is committed to preventing injuries related to the use of compressed air. As part of this commitment, we provide you with training regarding how to safely use compressed air and the equipment it powers. It is your responsibility to use this training and follow safe work practices at all times when working with compressed air.

PRE-USE INSPECTION
- Compressed air safety starts with a pre-use inspection. Before using any compressed air hose, fitting, tool or equipment it must be inspected it to make sure everything is in good working condition.
- Check hoses carefully for indications of cuts, cracks or other damage.
- Also, check the air fittings and couplings. They should fit snugly in the hose and be clamped securely with an approved clamp.
- If your couplings require locking pins, make sure they are in place before use.
- Be aware that if your equipment has loose, damaged or improper fittings, the air hose can begin whipping suddenly and violently if an air leak or blow-out were to occur. A whipping hose can cause a serious injury.
- After inspecting the air hose, also make it a point to inspect the tool or equipment you plan to use. Check it for damage, burrs or cracks. Make sure there aren't any sharp points or edges that could damage the air hose.
- If you discover any damage or defect and feel that the hose or tool may be unsafe to use, don't use them. Mark it out of service and follow our organization's policy for having them replaced or repaired.

PERSONAL PROTECTIVE EQUIPMENT
- Another critical safety practice while using compressed air is the use of personal protective equipment. Before getting started with your work don any personal protective equipment required for the job you intend to perform.
- At a bare minimum, safety glasses with side shields should be worn while using any compressed air powered tools and equipment.

- Hearing protection such as ear plugs or ear muffs are also a good idea. Pneumatic tools powered by compressed air are often loud enough to cause hearing loss after prolonged exposure.
- If the compressed air will be used for cleaning, then safety goggles and a face shield will best protect your eyes and face from flying particles.
- Depending on the job task you are performing, other PPE may also be required. Always check with your supervisor if you are unsure what protective equipment may be required.

CONNECTING THE TOOL TO THE AIR HOSE

- First, make sure the tool is in the "off" position before connecting it to the air hose.
- An air hose coupler is made up of a male and female fitting. The female fitting of the coupler has a retractable sleeve that, when retracted, allows the male fitting to be placed inside. When the sleeve returns to its normal position, the couple is connected.
- Always test the connection by giving it a slight pull to make sure it is fully seated and secure.

SAFE WORK PRACTICES

- While using compressed air tools and equipment, keep in mind that the air hoses can be tripping hazards. Plan your work so that the air hose can be kept out of high traffic areas; otherwise, secure it to the floor and mark its presence to minimize the hazard.
- Make sure you know the manufacturer's recommended air pressure for any tool you intend to use and do not exceed it.
- Also, many tools have guards and other safety devices designed to protect you from injury. Never remove or disable a safety device on any tool.
- When moving about with an air tool, do not carry it by the hose. This bad habit leads to damaged or bad fittings, loose connections and damaged hoses.
- Also, never intentionally drop a tool as this can result in bent and damaged hose nipples.
- Make it a point to handle, transport and store the tool in a careful manner to avoid damaging the tool or its air fittings.
- Never carry a tool with your finger on the trigger. There's too big of a risk of it being activated and injuring you or a co-worker.
- When you have completed your task, make sure the tool has come to a complete stop before disconnecting the air hose.

DISCONNECTING & STORING THE EQUIPMENT

- Remember that the air hose is the power supply to the tool and it must be disconnected in order to place the tool in a safe condition.
- The air hose should be disconnected before you leave the work area, clear a jam or make adjustments to or when servicing a tool.
- If you don't plan on using the tool again during your shift, return it to its proper storage location and coil the hose and hang it neatly on a hook or use a hose reel for storage.

OTHER SAFETY BASICS

- Maintaining good housekeeping in areas where compressed air tools are used is critical to preventing injuries.
- Understand that when pneumatic equipment is powered by compressed air, the pressure must be released and the air supply locked out in accordance with our lockout/tagout policies before any work or service can be done on the equipment.

HAZARDS OF CLEANING WITH COMPRESSED AIR

- Another common source of compressed air related injury occurs when workers use compressed air to clean work stations and work areas.
- Some statistics show that three-fourths of all compressed air injuries occur when flying particles or debris are blown into the eyes, ears or face. Because of this risk, it is generally not recommended to use compressed air for cleaning purposes.

- In addition to creating hazards, using an air gun to blow debris from a workstation is typically not the most efficient way to clean because it simply moves debris to another area that must also be cleaned.
- A more safe and effective method for cleaning your work area is to use a vacuum cleaner or a broom and a dustpan.
- In addition, some operations such as grain elevators, cotton mills and other processes generate combustible dust.
- If compressed air is used to clean areas containing combustible dust, it causes the combustible dust to become airborne, creating an explosive atmosphere that can easily lead to a disastrous explosion.
- Never use compressed air for cleaning in these types of areas. Use an approved vacuum cleaner or wet sweep the area instead.
- In some instances, in order to clean grooves, nooks, corners and other hard-to-reach areas, compressed air may be the only choice to remove caked on dirt and debris.
- Of course, this debris will still need to be collected with a vacuum cleaner or broom and dustpan afterward.

PRESSURE-REDUCING NOZZLES & DEAD MAN'S SWITCHES

- If using compressed air is your only option for cleaning, keep this important point in mind. Various governmental agencies require that the air nozzle allow no more than 30 pounds per square inch of air pressure to be exerted.
- Because most compressed air systems provide pressure ranging from 90 to 120 PSI, a pressure-reducing trigger must be used to achieve the 30 PSI limit.
- In addition, a constant pressure trigger, also known as a dead man's switch, must be used in conjunction with the air nozzle, in order to immediately stop the flow of air anytime the nozzle is released.
- Using an air hose for cleaning, at full pressure or without a dead man's switch, is extremely dangerous and should never be done.
- Remember, a whipping air hose can cause severe injuries. A pressure-reducing nozzle and dead man's switch are designed to prevent this dangerous situation.

WHY CLEANING THE BODY WITH COMPRESSED AIR IS SO DANGEROUS

- Never use compressed air to clean your body or use it on a coworker in any way. Even with a pressure reducing nozzle, this practice is dangerous and strictly prohibited.
- High-pressure compressed air can easily penetrate human skin, not only causing a serious wound, but may also cause an air embolism.
- An air embolism can travel to the heart or brain and cause symptoms similar to a heart attack and can also lead to a stroke.
- Be aware that various body parts are very sensitive and can easily be damaged by compressed air, even when reduced to 30 PSI.
- In addition, compressed air often contains particles of oil and other contaminants which can cause serious and hard-to-treat infections when injected into our tissues.

USING COMPRESSED AIR ONLY FOR ITS INTENDED PURPOSE

- Horseplay is also a cause of compressed air related injuries. Never point a tool or air hose toward yourself or a co-worker.
- Never use an air hose or air tool for anything other than its intended purpose.
- To avoid injury, compressed air must be used responsibly and only for the purposes for which it is intended.
- The various uses of compressed air can be hazardous. Following our facility's procedures regarding compressed air safety can control these hazards and allow employees to use compressed air in a safe manner.