



SAFETY/ENVIRONMENTAL TOOLBOX TRAINING – COMPRESSED AIR SAFETY

SUPERVISOR INSTRUCTIONS:

- Use toolbox trainings to encourage safety / environmental discussions during monthly meetings with employees
- Maintain a copy of the employee sign-in sheet in your safety / environmental compliance binder as a record of training

Compressed air is so widely used in industry that it is sometimes characterized as the fourth utility, after electricity, natural gas, and water. The compressed air system distributes energy in the form of air and provides numerous end user applications, such as powering pneumatic hand tools, lifting equipment, and automatic valves. It has a high output to weight ratio and can be easily stored for immediate use during brief peak demand periods. Unfortunately, compressed air is not often recognized as a hazard by its users, which can lead to widespread misuse, serious injury or death.

Hazards of compressed air and compressed air equipment

- Flying particles and debris – can result in eye injuries, cuts/scrapes or other significant injuries to almost any body part;
- High pressure air – can result in air injection into the body leading to potential injuries such as air embolism, ruptured ear drums or organs, and dislodged eye balls;
- High noise – can result in temporary or permanent hearing loss.

Safe Work Practices

1. Wear appropriate personal protective equipment (PPE) when using pneumatic tools and equipment, such as hearing protection and safety glasses with side shields or goggles. Additional PPE such as a face shield, gloves or steel-toed shoes, may also be required, depending on the hazards encountered.
2. Ensure all connections and couplings are secure, and hold the open end of the hose firmly to avoid uncontrolled “whipping” of the hose.
3. Coil the hose (without kinks) and hang it over a broad support when not in use. Do not leave the hose lying on the ground where it can become damaged or cause a trip hazard.
4. When using an air nozzle for cleaning equipment, removing dust from hard to reach areas on equipment, clearing lines, etc., ensure that the air pressure exiting the nozzle is 30 psi or less and use effective chip guarding, such as barriers, baffles or screens.
 - Use the lowest pressure necessary to perform a job task;
 - Adjust the air regulator to reduce the air pressure; or
 - Use a safety tip on the air nozzle to maintain air pressure below 30 psi should the tip of the air nozzle become blocked or dead-headed.



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5. Never point the nozzle of an air hose at anyone and never use compressed air to clean debris from a person's skin or clothing.
6. Ensure all air receivers are equipped with a pressure gauge, safety release valve and a drain valve located at the bottom of the receiver.
7. Never use compressed air to transfer flammable liquids.
8. Only use tanks and valves that have been constructed and installed in accordance with the A.S.M.E. Boiler and Pressure Vessel Code, Section VIII Edition 1968.
9. Follow the manufacturer's recommendations for care and maintenance of compressed air equipment, including portable units. Items that require inspection or servicing include: drain lines, air-line particulate filters, safety devices, air filters, condenser coils, etc.
10. Before conducting any repairs to the pressure system of air compressors, receivers or compressed air equipment, ensure all hazardous energy sources are locked and tagged out, and all pressure has been released.



Questions for Discussion

1. True or False
Barriers and PPE are not necessary when using compressed air to clean equipment or when clearing lines.
2. True or False
Compressed air should never be used to clean a person's skin or clothing.
3. Users of compressed air should be aware of the hazards, such as:
 - a. High noise
 - b. High pressures
 - c. Flying debris
 - d. All of the above

Answers: 1. F, 2. T, 3. D.

Credits

Content source: "Compressed Air and Compressed Air Equipment Guidelines". <http://www.ehso.emory.edu/content-guidelines/Compressed-Air-and-Compressed-Air-Equipment-Guidelines.pdf>

Content source: "Compressed Air: Versatile, Reliable and Safe Energy". http://www.cagi.org/pdfs/Article_101_compressed_air.pdf.

Content source: "Compressed Air Safety". <https://www.bwc.ohio.gov/downloads/blankpdf/SafetyTalk-Compressedair.pdf>.

Image source 1: Emory University.

Image source 2: Grainger Industrial Supply. [http://static.grainger.com/rp/s/is/image/Grainger/35UZ85_AS01?\\$zmmain\\$](http://static.grainger.com/rp/s/is/image/Grainger/35UZ85_AS01?$zmmain$)