

COMPRESSED AIR MISUSE

Equipment, experiments, and people often get dirty—a lab bench covered with cement dust, a drill press clogged with metal shavings, wet glassware that needs drying, or even a researcher covered with sawdust after cutting a wooden part. Some people look to the compressed air tap or cylinder in the lab as a quick way to clean off.

Did you know this can kill?

Even a relatively low-pressure stream of air can propel chips, dust, and parts through the air at high velocity; the flow from a 20psi air line can be supersonic. If this material strikes someone, it can cause serious injury. If the injury is to the eye, the victim may be permanently blinded.

Even worse, a few tens of psi pressure can easily inject air beneath the skin, inflating body parts like balloons—and causing excruciating pain. If air reaches the bloodstream, it can cause air embolisms—blockages in narrow blood vessels—as well as clots & ruptures in vital areas such as the brain. **Uncontrolled air injection can be deadly.**

TIPS

- To avoid flying pieces, never use compressed air to clean off benches, parts, or equipment, whether you get the air from a bench tap, a compressor, or an air cylinder.
- Don't dry parts (like wet glassware or plasticware) with compressed air—just let them air-dry.
- Never direct a compressed air stream at someone's body—including yours. Clean off with a vacuum cleaner, not an air hose. It is illegal in the US to clean people with compressed air, regardless of the pressure used.
- If you absolutely must clean something with compressed air, use appropriate protective equipment (e.g, safety glasses & face shield), a chip guard, and a “quiet” or “safety” nozzle that is designed and certified not to exceed 30 psi, **even if you put it directly against your skin.**

Not Rocket Science: A JHU Safety Note

DISCUSSION QUESTIONS

1. Have you ever used a compressed air hose to remove debris? How about to clean off? If so, exactly how did you use it?
2. Do we have a low-pressure air gun, a parts dryer, or a suitable vacuum to use as a substitute for cleaning?
3. What other hazards from compressed air are in our lab? (Connections, hoses, regulator.)
4. How high is the air pressure in our lab? (Typical building air is about 80–120psi.)
5. How clean is the air from our lab air line?

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