



SAFETY TRAINING LEAFLET 20 PORTABLE PNEUMATIC TOOLS

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EUROPEAN INDUSTRIAL GASES ASSOCIATION AISBL



AVENUE DES ARTS 3-5 • B-1210 BRUSSELS
Tel: +32 2 217 70 98 • Fax: +32 2 219 85 14
E-mail: info@eiga.eu • Internet: www.eiga.eu



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Prepared by Safety Advisory Council

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Note: this Safety Training Leaflet is taken from Leaflet 19: PORTABLE PNEUMATIC TOOLS in Doc 23/08 Safety Training of Employees. The leaflet has been put into a new format and revised.

1 Introduction

1.1 Safety leaflets

Safety training leaflets summarise the basic operational safety knowledge which needs to be known by employees working in the gas industry.

Refer to EIGA Doc 23 *Safety Training of Employees* for the various combinations of leaflets which define the scope of safety training for a variety of specific jobs.

Each leaflet addresses a specific topic as identified in the title.

1.2 Comprehension tests

There is a comprehension test for each leaflet, included in **Appendix 1**.

Each test comprises several questions. To pass the test it is suggested that the employee should score 75% at the first attempt. Incorrect answers should be discussed to confirm understanding.

Appendix 2 includes the list of correct answers.

2 Portable pneumatic tools

Misuse of a portable pneumatic tool can result in hazardous conditions, causing severe and often disabling injuries. Only trained personnel may use portable pneumatic tools.

2.1 Pre-use checks for portable pneumatic tools

- Use the right tool and inspect it thoroughly before use.
- Check that the pressure of the compressed air supply is adequate for the tool by referring to the manufacturer nameplate and the pressure gauge on the supply line. Make sure that risk of overpressure is properly addressed. Ensure air compressor is operated and maintained in accordance with the manufacturer's instructions
- If air is supplied from a cylinder or a bundle, make sure that there is a regulator fitted with a pressure relief device to control the line pressure. Never take air direct from a cylinder or rely on the cylinder valve to control the line pressure.
- Check that all parts of the tool and the supply hoses are in good condition. Supply hoses must be long enough and if couplings are required they must be properly selected and used. Report any defect to your supervisor.
- Check that the control switches operate correctly, and the air supply can be isolated in case of emergency.
- Check that you have all the necessary accessories and small tools such as chuck operating key before starting.
- Supply hoses should be as short as possible. When possible, hoses should be suspended 2 metres above ground. If hoses have to lie on the floor, make sure they are protected from vehicles such as barrows and forklift trucks and that people cannot trip over them.

2.2 Use of compressed air

- Only use compressed air for driving a pneumatic tool.
- Nitrogen can only be used occasionally under Work Permit restrictive conditions and where ventilation of the area is possible and has been assessed.
- Never use oxygen or other gases.

2.3 Exercise proper care in use:

- Do not stretch supply hoses; if you have to move from your original position and the hose is not long enough, stop work. Either move the job within range of the hose or extend the hose with an authorised coupling and re-test it before use.
- Shut off, release pressure and disconnect air supply before changing accessories.
- Make sure the work piece is properly secured before starting work, if necessary in a vice or clamp.
- Make sure that you are properly positioned and balanced before operating the tool. Remember that the action of the tool produces high torque which might cause the tool to twist or “kick”.
- Ensure that the supply hose is kept away from the rotating parts (tool, chuck, etc.).
- Abrasive wheels must be kept away from water and oil.
- Select power tools with lowest vibration level. Restrict use of vibration inducing tools to recommended times.

2.4 Completion of work

When work is complete,

- Shut off air supply, release pressure and disconnect air supply before disconnecting tool.
- Store tool and accessories in a safe dedicated place.

2.5 Use personal protective equipment

- Use protective eyewear or face shield.
- Wear suitable protective clothing (especially gloves).
- Wear hearing protection if noise is above 80dB(A) or if uncomfortably loud.
- Wear safety footwear unless feet protected by other means (e.g. sitting at a bench).
- Keep loose clothing, jewellery and long hair clear of moving parts.
- Use a dust mask if work environment is dusty, to protect against dust being blown by pneumatic tool vent.

Appendix 1 – Portable pneumatic tools – Test Questions

Tick the correct answer (s) or write in the blank spaces as requested.

1. Risk of overpressure could occur if pressure of the compressed air supply is not adequate for the tool characteristics as defined in the manufacturer nameplate:
A. True **B. False.**
2. Which are correct ways to control the pressure of a supply line?
A. With a regulator. **C. Opening cylinder valve partially.**
B. With a regulator fitted with a pressure relief device
3. Only use compressed air for driving a pneumatic tool. Nitrogen can only be used under a Hazardous Work Permit or by particular procedures. Never use oxygen or other gases
A. True **B. False.**
4. For each task specific Personal Protective Equipment must be worn. Identify the ONE item below that always must be worn when using portable pneumatic tools.
A. Hearing protection. **C. Eye protection.**
B. Safety gloves. **D. Hard hat.**
5. What actions must be checked before starting to using a pneumatic tool?.
A. Work-piece is properly secured. **C. Supply hose is kept away from rotating parts.**
B. Air supply can be isolated in case of emergency **D. Supply pressure is adequate.**
6. Tick the three necessary actions before changing a grinding wheel.
A. Shut off. **C. Close the supply valve.**
B. Release pressure. **D. Disconnect air supply.**
7. If supply hoses have to lie on the floor, make sure they are protected from vehicles such as barrows and forklift trucks and that people cannot trip over them
A. True **B. False.**
8. Pneumatic tool for opening and closing cylinder valves must have a very high torque to ensure there are no leaks:
A. True **B. False.**

Appendix 2 – Portable pneumatic tools – Test Answers

1. A
2. B
3. A
4. C
5. A, B; C and D
6. A, B and D
7. A
8. B