SIGNATURE SYSTEMS

WEEKLY SAFETY MEETING
COMPRESSED GAS CYLINDERS
Safety Meeting Overview

The weekly safety meeting is intended to be conducted by the supervisor or lead in their small group(s). This guide contains everything that is needed to conduct a meaningful small group safety meeting. This contains the following:

- Meeting Notice
- Leaders Guide, Quiz and Puzzle
- Employee Handout
- Meeting Sign-In Sheet

Weekly safety meetings are not optional and must be conducted each week. If an employee is absent from the training – it is the responsibility of the supervisor or lead to conduct a make-up session to ensure that all employees have been trained. Training records (meeting sign-in sheets) must be turned in to the Plant Manager each week.

PRIOR TO THE WEEKLY MEETING:

- Post the meeting notice in your area where your employees will see it.
- Read through the Leaders Guide and Employee Handout to familiarize yourself with the topic for the week
- Make copies of the employee handout (one for each employee)

AT THE SAFETY MEETING:

- Pass around the meeting sign-in sheet – ensure all employees present at the meeting print and sign their names
- Pass out the employee hand-out, quiz and puzzle
- Conduct the meeting - keep the meeting simple
- Encourage discussion and questions

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WEEKLY SAFETY MEETING NOTICE

THIS WEEK, OUR SAFETY MEETING WILL COVER

COMPRESSED GAS CYLINDERS

SHIFT: _____

TIME: _____

DATE: _____

PLACE: _____

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WEEKLY SAFETY MEETING

COMPRESSED GAS CYLINDERS

Leaders Guide

PROCEDURE REFERENCE:
NONE

MEETING OBJECTIVE:
The purpose of this meeting is to describe guidelines, rules, and regulations set forth by OSHA that pertains to the inspection, handling, and storage of compressed gas cylinders. Many workplaces, ranging from manufacturing plants to hospitals and even restaurants, have cylinders of compressed gases. If you work around compressed gas cylinders, even occasionally, you need to have an understanding of the hazards.

MEETING PREPARATION:
Review the employee handout to see if there are any other materials you wish to bring to the meeting.

Use a flip chart during the discussion to write key points and employee responses. This technique visually reinforces your instruction.

MATERIALS CHECKLIST:
Flip chart and marking pens

MEETING
INTRODUCTION

Today we are going to talk about compressed gas cylinders. Compressed gas cylinders contain a great deal of energy. If the cylinders are mishandled or treated roughly, that energy can burst into an explosion – especially if the shut-off valve isn't covered. Some cylinders commonly found in the workplace are restraining up to two tons of pressure. If the cylinder ruptures or if the valve breaks off, that pressure is released suddenly and destructively. Pieces of the broken cylinder can shoot through the air like bullets.

The cylinder itself can turn into an unguided missile as the gas quickly escapes. We've all seen a balloon fly around the room when the air is suddenly released – imagine this same thing happening with a heavy metal cylinder!

One more hazard of a compressed gas cylinder is that it may contain a highly flammable substance such as acetylene, or it may contain oxygen which can cause a fire to accelerate out of control.

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COMPRESSED GAS CYLINDERS

Leaders Guide

Question: How should we store compressed gas cylinders

Answer: Store cylinders upright in a well-ventilated area. Gas escaping through the pressure relief valve can create a hazardous atmosphere. Some escaping gases could cause suffocation, while others could explode.

Besides having good ventilation, make sure the storage area is away from direct sunlight and out of the weather. The cylinders and the area should be marked with appropriate signs. It is very important to store oxygen and flammable gases away from each other because oxygen can cause a fire to accelerate rapidly.

Question: How should we move compressed gas cylinders?

Answer: Use extreme care and caution when handling cylinders. Do not drop them, and do not allow them to strike one another. The cylinders are often very heavy, and it will usually take two people and proper techniques to move them safely. Make it a practice to treat any cylinder as if it were full.

Do not lift a cylinder by the cap which protects the valve – it is not strong or secure enough for this kind of handling. Never move a cylinder without its protective cap on. Use approved equipment only for moving cylinders. Use a cylinder truck and keep the cylinders secured. Don't roll or drag them.

Question: Why should we keep grease or oil away from compressed gas cylinders?

Answer: Do not allow grease or oil to come into contact with the valves on the cylinders. This means keeping greasy gloves and rags away from the cylinders. Not only is it difficult to handle a cylinder which is greasy, but the combination of an oil and pressurized oxygen can result in an explosion.

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COMPRESSED GAS CYLINDERS

Leaders Guide

Question: **What other precautions should we take around compressed gas cylinders?**

Answer: Do not weld or cut metal in a position in which the sparks could fall on the cylinder. Never position a cylinder where it could become part of an electrical circuit.

Keep compressed gas cylinders away from flames because heat can damage it and cause it to rupture.

Do not transfer gas from one cylinder to another, even if it is the same gas. Never mix gases because of the risk of fire and explosion.

Read the label on a cylinder to make sure you know its contents before using it.

When opening a cylinder valve, proceed slowly. Stand to one side of the valve, not directly in front of it. When not in use, valves must be kept closed.

You must never use compressed gases or compressed air to clean off clothing. The hazards include fire, suffocation by gas, injuries to the eyes and the possibility of compressed gas entering the body tissues.

SUMMARY:

The lethal potential of compressed gas cylinders should never be underestimated. Their high-pressure contents can turn them into bombs, projectiles and sources of toxic fumes. Even when gas cylinders are empty, they pose possible danger if improperly handled or stored.

These cylinders have numerous applications, from breathing and welding to sample testing. The gases commonly found in them include oxygen, nitrogen, acetylene, chlorine and liquid propane (LPG).

Many cylinders contain high pressure and will hurtle through the air at deadly speed if the valve is broken off. Some contain material that might be incompatible with certain metals or hydrocarbons (oxygen, for example, will ignite spontaneously when reacting with hydrocarbons). Other cylinders contain substances which are flammable or

COMPRESSED GAS CYLINDERS

Leaders Guide

poisonous. Hazards also are created when equipment and fittings are over-pressurized.

When working around gas cylinders, remember what you learned today. It will keep you and your co-workers safe.

EMPLOYEE HANDOUT

A. Employee Handout
B. Employee Quiz
C. Employee Puzzle

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WEEKLY SAFETY MEETING
COMPRESSED GAS CYLINDERS
Employee Handout

The lethal potential of compressed gas cylinders should never be underestimated. Their contents can turn them into bombs, projectiles and sources of toxic gases. Even when gas cylinders are empty, they pose possible danger if improperly handled or stored.

Many cylinders contain high pressure and may hurtle through the air at deadly speed if the valve is broken off. Some contain material that might be incompatible with certain metals or hydrocarbons (oxygen, for example, will ignite spontaneously when reacting with hydrocarbons). Other cylinders contain substances which are flammable or poisonous. Hazards also are created when equipment and fittings are over-pressured.

Here are some guidelines for compressed gas cylinder safety:

Handling

- Do not move cylinders without properly installing the protective cap over the valve, except for breathing-air cylinders. Do not use the cap for lifting the cylinder.
- Use a basket or similar device when moving a cylinder by crane or derrick (slings, ropes or electromagnets must not be used to lift cylinders).
- Do not allow cylinders to strike each other.
- Do not use cylinders for rollers, supports or any purpose other than to contain gas.
- Do not drag, slide or drop cylinders. They can be rolled on their base for short distances.
- Call the supplier to remove leaky cylinders immediately.

Using

- Never use a cylinder of compressed gas without a pressure-reducing regulator attached to the cylinder valve, except where the total system is specifically designed to handle maximum cylinder pressure.
- Never use oil or grease as a lubricant on valves or attachments to oxygen cylinders because they might catch fire or explode.
- Do not try to thaw a frozen valve with a flame or boiling water.
- Do not fasten cylinders onto a worktable or structure where they could become part of an electrical circuit.
- Do not strike an arc on a cylinder.

Storing

- Secure cylinders firmly in an upright position.
- Store oxygen cylinders away from fuel gases.
- Ensure that the storage area is ventilated and dry to limit corrosion damage and deterioration.
- Store empty cylinders separately and identify them clearly as being empty.

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WEEKLY SAFETY MEETING
COMPRESSED GAS CYLINDERS
Meeting Sign-In Sheet

MEETING DATE: _____ **LOCATION:** _____

SHIFT: _____ **CONTENTS OF MEETING:** ☐ Handout ☐ Video ☐ Other ☐ Guest Speaker

MEETING CONDUCTED BY: _____

GUEST SPEAKER (if applicable): _____

ATTENDEES:

	NAME (Print)	SIGNATURE		NAME (Print)	SIGNATURE
1			16		
2			17		
3			18		
4			19		
5			20		
6			21		
7			22		
8			23		
9			24		
10			25		
11			26		
12			27		
13			28		
14			29		
15			30		

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COMPRESSED GAS CYLINDERS

Employee Quiz

Answer the following questions to see what you know about compressed gas cylinders.

1. Compressed gas cylinders can explode.
   True or False

2. Compressed gas cylinders can contain toxic gases.
   True or False

3. If mishandled they can turn into:
   A. projectiles
   B. bombs
   C. toxic fume sources
   D. all of the above

4. The contents of compressed gas cylinders may be under high pressure.
   True or False

5. Gases commonly found in such cylinders include oxygen, nitrogen, and acetylene.
   True or False

6. You should not lift a cylinder by its protective cap.
   True or False

7. Problems often develop if loose cylinders bang into each other.
   True or False

8. It's safe to use compressed gas cylinders as rollers or supports.
   True or False

9. Using oil or grease as lubricant on valves or attachments to oxygen cylinders has caused numerous fires and explosions.
   True or False

10. Moisture can cause cylinders to corrode and deteriorate.
    True or False

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COMPRESSED GAS CYLINDERS

Employee Puzzle

J G O I Q V H N E G Y X O K K
B Z H H L E N I R O L H C G I
V D E T A L I T N E V T N Q E
R G S I F H L I O Z V Z I B W
X A M E L B A M M A L F T E E
G E V L A V I P J D H D R G S
J G N G B D L L Q O E E O A A
A C E T Y L E N E G L S G R E
I K E X P L O S I O N S E O R
B P R O P A N E J G S E N T G
U S F V T W D Z R K L R F S Z
A Z R S I N Y J N O V P E T I
S R E D N I L Y C D F M Y W E
W U O H V J S B D H O O O A W
S N O I T U A C E R P C H Y R

ACETYLENE
CHLORINE
COMPRESSED
CYLINDERS
EXPLOSION
FLAMMABLE
GAS
GREASE
NITROGEN
OIL
OXYGEN
PRECAUTIONS
PROPANE
STORAGE
VALVE
VENTILATED

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WEEKLY SAFETY MEETING

COMPRESSED GAS CYLINDERS
Employee Quiz Answers

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   True or False

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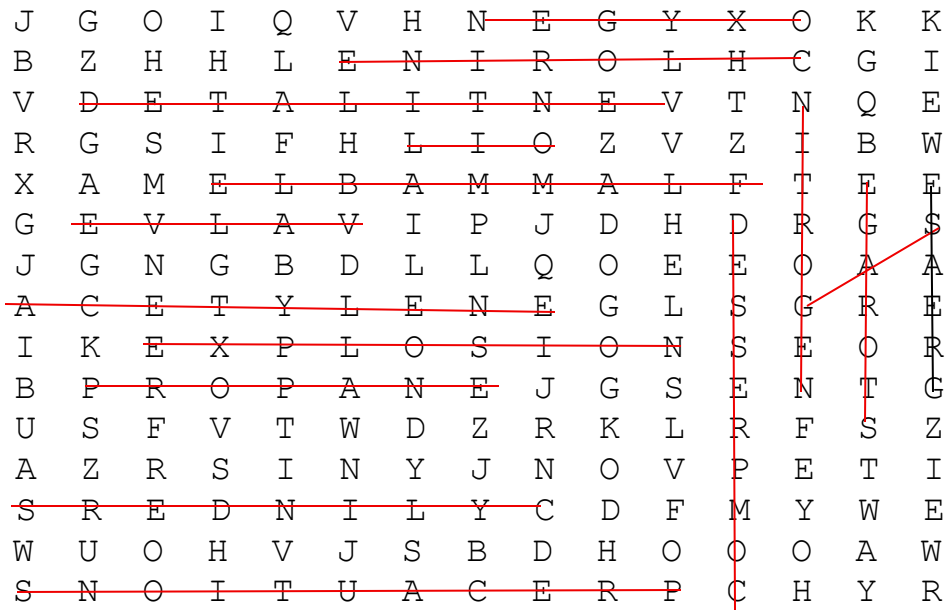
COMPRESSED GAS CYLINDERS

Employee Puzzle Answers



ACETYLENE
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