

Trainers' Notes

Module 2, Task 1

Participant Instructions

There are 4 goals for this exercise

1. Provide background about the occurrence of accidents, incidents, and releases related to ammonia refrigeration systems.
2. Engage participants in the difficult question of how to safeguard a widely-used but highly hazardous chemical.
3. Illustrate the challenge of anticipating what can go wrong, and the high stakes involved if we don't meet that challenge.
4. Set the stage for exploring the existing regulation of ammonia refrigeration systems

The point of this exercise is NOT to arrive at the "right" answers. The exercise is successful if you can get people engaged in discussion, debate, and the exchange of ideas.

- Introduce the exercise by going over the 11 steps in the instructions.
- Make sure each group has a set of 15 scenarios.
- Give the groups up to 30 minutes to discuss the scenarios and come up with suggestions.
- Bring the groups back together. Before you start recording the suggestions from each group, ask:
 - ❖ "Did you find this process to be challenging or difficult?"
 - ❖ "What was difficult about it?"
- Some of the issues that participants might bring up are:
 - It's hard to predict what can go wrong.
 - Human error plays a part in many of these accidents, but it's not possible to make laws against human error.
 - Many of the accidents are due to very small specific details. It would be difficult to regulate every detail in every system.
- Go around the room, asking each group for ONE suggestion or idea from their answer to Question 3.
- Make a note of the suggestions on the flip chart.

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- Continue going around until time, ideas, or interest have run out.
 - Ask for comments.
 - Give people a short break and announce that you'll be going over OSHA's answer to the question of regulation after the break.
1. Distribute the accident descriptions equally among the members of your group.
 2. Have each member of the group read one description out loud.
 3. Continue around the group until all the descriptions have been read.
 4. Take some time after each accident to discuss possible causes.
 5. Make a note of those causes. Since the accident descriptions are very brief and lack detail, you will have to guess about some of the missing information.
 6. After reviewing the accidents and making notes about the possible causes, discuss any patterns you have seen.
 7. Act as if you are the Safety Regulators in a country that has no safety laws at all.
 8. What regulations could you put into effect to protect workers and the public from ammonia refrigeration accidents?
 9. You might want to consider some of the following issues:
 - Training
 - Labeling
 - Protective equipment
 - Written procedures
 - The use of contractors
 - Preventive maintenance
 - Equipment location
 11. As a group fill out the answers to the question sheet.

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Discussion Questions:

1. What factors might have contributed to these accidents?
2. Could any of these accidents have been prevented?
3. What regulations or requirements could have helped to prevent these accidents?