SAFETY MEMO

October 3rd, 2022– Chemicals Fire and Emergency Response

Incident

Description

Fires at facilities that contains hazardous chemicals can present a risk of smoke and chemicals inhalation. Those evacuating a facility during an emergency are at risk but so are those persons in the general vicinity of the facility including first responders at the scene.

Hazards associated with chemical fires include but are not limited to:

- A toxic atmosphere due to smoke and possibly airborne chemicals from the hazardous substances
- Oxygen deficiency from the displacement of air by another gas

Incident

A chemicals fire started at a facility that stores and sells hazardous chemicals. First responders began to arrive at the scene and were standing in a downwind location of the facility where the fire was in progress. One first responder recognized the location was not safe and directed the group to move upwind of the facility in order to safely stage resources and avoid any potential airborne substances coming from the blaze.

Ten first responders were hospitalized due to possible smoke inhalation and chemicals inhalation while responding to the indicent. It's unclear whether the first responders had entered the facility or whether proper PPE was being used at the time.

Human Factor Issues

- Plans were not made ahead of arrival at the facility to meet at a safe location
- The weather conditions were not considered prior to arrival at the facility
- It's possible the windsock at the facility was not visible from the location where the first responders were meeting

Prevention

In a moment where a quick response is needed, such as an evacuation of a facility, it's important to keep a clear mind and think about the most immediate dangers. Even the most trained professionals can make mistakes when they lose sight of a risk, especially one not visible. In this case, knowing ahead of time that the fire could create an unsafe atmosphere to breathe and keeping that fact in mind would have allowed the team to stage in the safest area of the facility by looking for the facility windsock and assessing the weather conditions at play.

For those visiting production facilities, whether it be a person's first visit or tenth to that specific site, knowing where to look for the facility windsock can assist in preventing inhalation of harmful vapors from a chemical leak or chemical fire.

In the case of the windsock in the image below, downwind is to the left (smaller end of the sock) and upwind is towards the right (direction of the larger opening).

Lessons Learned

Understand the hazardous chemicals risks at facilities that you visit.

Identify muster points in facility evacuation plans and identify the locations of windsocks.

Be able to identify downwind vs upwind position based on the windsock position.

These lessons apply to those visiting production facilities, whether it be a person's first visit or tenth.

Picture 1: Courtesy of iStock