

Hazmat Team #7 responds to chemical plant explosion

Firefighters at Station 17 on Hayden Island were awakened at 0415 to the sound of a huge explosion. Their worst fears were confirmed; a chemical plant had exploded and was on fire, spreading a plume of hazardous chemicals into the early morning sky.

The main building



The hazards in this structure



The source of the explosion was Lacamas Laboratories on North Suttle Road. The plant near the Columbia River, manufactures highly purified chemicals for the pharmaceuticals industry. The company can store over 10,000 pounds of various flammable, reactive and toxic chemicals on site. This is a partial list of chemicals used or stored at the plant site:

Phosgene	(poison)	Phosphoric Acid	(corrosive, toxic)
Acetone	(flammable)	Sodium Hydroxide	(corrosive)
Methyl Ethyl Ketone	(flammable, toxic)	Sulfuric Acid	(corrosive)
Sodium Nitrite	(oxidizer, toxic)	Toluene	(flammable, toxic)
Aniline	(poison)	Acetonitrile	(flammable, toxic)

A plant official said the explosion originated in a mixture of chemicals in a 500 gal pressure vessel. One building was extensively damaged and another had severe roof damage as a result debris raining down from the explosion. Upon arrival at the scene, fire officers described seeing debris, some the size a kitchen table, nearly ½ mile away. This call became a Hazmat Level II incident that involved over 60 personnel including 8 engines, 4 trucks, hazmat, air unit, several BC's, investigators, and the PIO.

Storage of hazardous chemicals

Damage to an adjacent building



Moderate fire was showing upon arrival and there was concern by the first arriving officer, of the potential for secondary explosions and toxic plume travel to the Northeast. In addition, there was initial concern about possible radiation and secondary devices.

An immediate greater alarm was called for and a notification was made to OERS (Oregon Emergency Response System), bringing over a dozen agencies to the scene to assess for safety and environmental issues. Early in the incident the IC made a decision to protect exposures and let the main body of fire burn itself out. This minimized the spread of toxic runoff products, which was extremely important due to the proximity to a large water body. Environmental services assisted by identifying the drain system pathways and DEQ monitored for contamination.

Police assisted with enforcement of perimeter security so that employees of neighboring businesses either avoided the area or sheltered in place. The blast injured several of the 4 on scene employees and a decon group was initiated to handle their decontamination and treatment. An MPS (multiple patient scene) was declared and a medical branch set up to handle patient treatment. There was initial consideration for special decon techniques, because of the presence of water reactive chemicals on scene.

Many lessons were learned at the event, including the potential for illegal or terrorist acts on all calls involving explosions. Because of this, command must exercise extreme caution until these possibilities are ruled out. Since 9-11-2001, all Portland Firefighters have special monitors, equipment and training with this possibility in mind. Cooperation with diverse response agencies is vital in mitigation of exposure to the public and environmental concerns.