

Connecticut Fire Academy

Course Number **09226**

HAZMAT Seminar Series

**Haz-Mat Week
Is Back!**

**October
19th - 24th
2009**



Holy Smoke - It's A Gas



June 17, 2009



Holy Smoke - It's A Gas defines and illustrates the common properties of all gasses through animated slides, videos and classroom table top demonstrations. In addition, the special properties of selected gasses, such as carbon dioxide which sublimates (changes directly from a solid to a gas without going through a liquid phase) are addressed. This course presents very clearly detailed and easily retained explanations of the differences between liquids and gasses and why a simple definition change could make ethyl ether a gas or butane a liquid. Further, the conversion of typical gasses such as propane, chlorine, ammonia and nitrogen to a liquid and back to a gas is demonstrated with a system virtually every firefighter uses each year - the automobile air conditioning system!

In the presentation, *Holy Smoke - It's A Gas* explains what part critical temperature plays in liquifying a gas, how the release of a liquified gas cools the remaining liquid, why compressing a gas releases heat, how to explain upper and lower flammable limits to other firefighters and non-responders and why changing the measurement of concentration from percentage to part per million really helps the understanding of toxic hazards. Special questions, such as, does spraying with cooling water actually work and when not to try cooling a gas container with water are answered.

In addition, *Holy Smoke - It's A Gas* relates why molecules of a gas are called a gas while molecules of a liquid are called a vapor - and how really similar they are - to the degree that on certain days the vapor is actually acting exactly like a gas. This course also provides definitions and explanations of other materials that have properties similar to gasses such as the fumes from the corrosives oleum (fuming sulfuric acid) and nitric acid and how condensing vapors of liquids become visible but may not be detectable with common flammable gas detectors.

Visuals include boiling of liquified gasses during release of pressure from a container, vapor/air ignitions in beakers and ignition of vapor clouds in open air. Selected MSDS documents are reviewed and compared to provide a basis for field interpretation of resource data.

Presented by: John Sachen - Senior Fire Instructor, University of Missouri Fire Rescue Training - John is an Industrial Training Coordinator for the University of Missouri Fire Rescue Training Institute and a HazMat Officer and Fire Instructor for the Delta, Missouri Fire Protection District. John has developed courses and procedures for the University of Missouri including the "Ignitable Liquids and Class B Foam", "Methamphetamine Awareness and Operations", "Rapid Intervention Teams", and the video training program "Firefighting it's a Risky Business" for Fire Technology Limited.



**Course # 09226, Course Fee \$40,
All classes held at the Connecticut Fire Academy**

All Seminar Series presentations are scheduled from 8:30 am until 4:30 pm. Lunch is included. Acceptance confirmation notices with directions will be mailed approximately two weeks prior to the start of the program. Students canceling seven days in advance will receive a full refund. Application forms can be duplicated or downloaded at www.ct.gov/cfpc and returned via fax or mail with payment. Additional questions can be directed to Program Manager Eric Munsell, phone 877-528-3473 ext 260 or email eric.munsell@po.state.ct.us

**STATE OF CONNECTICUT
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