

Friday 20 Nov 2009

MILITARY EXPLOSIVES

J. Keith Butler

American Ordnance LLC

Many different explosive compounds exist but not all have practical applications. To be suitable for military use the explosive material must meet certain characteristics. These characteristics and the historical development from primitive weapons to modern non-nuclear military explosive weapons will be discussed. The study of military explosives is very broad; over 110 explosives are available to the ordnance engineer and the list is growing. Information will be presented about the chemistry and physics of the detonation process and the characteristics that make an explosive suitable for military use. Examples of explosive compounds from a variety of chemical classes will be given. The military classifies explosives based on their power and sensitivity. Functional ordnance utilizes this variation in properties to form an "explosive train". This process uses multiple explosive charges of differing sensitivities and powers to meet the needs of specific applications. This and the shaped charge effect will be explained and examples of their implementation in modern ordnance will be given. The presentation is a general survey and is suitable for a non-technical audience.

6:00-7:00 pm Reception, Howell Hall Atrium

7:00-8:00 pm Dinner, Nigh University Center, Room 301

8:00-9:00 pm Presentation

University of Central Oklahoma, Edmond, OK (<http://www.uco.edu/>)

Menu, Rancher's BBQ Buffet

Grilled hickory chicken,
sliced BBQ brisket,
pulled pork
ranch style beans, mini corn cob
cornbread with butter
potato salad, green salad
apple pie or peach cobbler
coffee and tea

Cost

\$18 members

\$5 students

RSVP Deadline

Monday, Nov 16th, 5 pm

Contact Carla Supon

405-974-5732, csupon@uco.edu

J. Keith Butler Biographical Sketch

Mr. Butler received his B.S. in Chemistry from Union University in 1983 and his M.S. in Inorganic Chemistry from the University of Memphis in 1987. He is the Chief Chemist for the Milan Army Ammunition Plant in Milan, Tennessee. He has over 20 years experience performing acceptance testing on components used to load, assemble, and pack ammunition items for the US Army. In addition to his laboratory duties, he is a spill response team member, hazardous waste operator and has served as the plant Chemical Hygiene Officer. Mr. Butler has published notes in the Journal of Chemical Education. He is an adjunct professor of chemistry at Jackson State Community College teaching introductory and freshman chemistry. Mr. Butler sits on the Army's Environmental Restoration Advisory Board for the Milan Army Ammunition Plant, twice serving as the community co-chair. He is also an active judge for the West Tennessee Regional Science Fair, an affiliate of the Intel International Science and Engineering Fair. He is active in the American Chemical Society and was the 2007 Chair for the Kentucky Lake section. He was recently appointed to serve on the ACS Joint Board Council Committee on Public Relations and Communications. He is the Industrial Advisor to the Union University SAACS.

Travel Directions on other side ->

Directions to UCO:

- UCO is north of 2nd Street in Edmond, west of I-35 and east of the Broadway Extension (I-235).
- From 2nd Street
 - proceed north on University Drive
 - turn right on Main into Faculty Staff Parking Lot 17.
- The Howell Hall Atrium is on the first floor on the Howell Hall Annex.
 - Go down the west stairs to enter the Atrium.
- The Nigh University Center is east of Howell Hall.

Campus Map: http://administration.uco.edu/documents/tps_parkingmap200809.pdf