



American Chemical Society Susquehanna Valley Section

FEBRUARY 2013 NEWSLETTER

The three hundred and seventh meeting of the American Chemical Society Susquehanna Valley Section will be held on Wednesday, February 13, 2013, at the Cherokee Pharmaceuticals, LLC facility of Merck & Co. Inc. located at 100 Avenue C., Riverside, Pennsylvania. The meeting will begin at 7:00 PM and will be preceded by dinner in the site's cafeteria. The meeting will consist of a brief overview of active pharmaceutical ingredient (API) chemical manufacturing and will be followed by a tour of the production facility.

CHEROKEE HISTORY

The current site of Cherokee Pharmaceuticals, LLC was chosen for Heyden Chemical Company's Cherokee Ordnance Works for the production of hexamine, an intermediate in the manufacture of an explosive in World War II. To make hexamine, methanol was first converted to formaldehyde, which was then reacted with liquid ammonia to produce hexamine. Although originally targeted for Tennessee and named after the Cherokee Indians of the Great Smoky Mountain region, at the last minute, the US government chose the current site because of its access to a plentiful fuel supply close to the anthracite coal fields of Pennsylvania, essential for the new operation, and for fear that the supply of methanol might become limited and would have to be manufactured from coal gas.

After World War II, the plant was put on standby and saw little activity for over four years. Negotiations beginning in 1948 resulted in a contract on June 5, 1950, between Merck & Co., Inc., and the U.S. Government for lease of the Cherokee Ordnance Works for a fifteen-year period. Merck & Co., Inc. took possession of the Cherokee Plant on August 1, 1950, retaining the Cherokee name. Written communication in 1965 completed Merck & Co., Inc.'s purchase of the Cherokee Plant.

In the years since Merck & Co., Inc. took ownership, the site has manufactured numerous synthetic and fermentation based active ingredients for Merck including the first commercial synthesis of cortisone, and the active ingredients in the first commercially available carbapenem – PRIMAXIN which Walter Cabri and Romano Di Fabio described in their book "From Bench to Market: The Evolution of Chemical Synthesis, as "the synthetic development of the drug represented one of the most difficult chemical programs ever faced by a pharmaceutical company." At the time of development, the drug was a true feat in chemistry and chemical engineering.

DINNER:

A dinner will be held at on-site beginning at 6:00 PM. The dinner will be served buffet style and will include chicken, lasagna as well as a vegetarian option, salad, beverage and dessert. The cost of the dinner is \$20.00. If you are interested in attending the dinner please RSVP to Bob Ritter by phone ((570) 271-2054) or e mail (robert.ritter@merck.com) by 8:00 AM on February 11, 2013.

Notes: Please plan to arrive on-site by 5:30 to allow time to pass through security. All visitors need to be prescreened so RSVP is required by 8:00 AM, February 11, 2013 even if you do not plan on attending dinner. The tour is not appropriate for antibiotic sensitive individuals; attire appropriate for a chemical production facility and a photo ID are required.

DIRECTIONS:

Take Interstate 80 to Exit 224 (formerly Exit 33, Danville). Turn right at the bottom of the ramp onto Route 54 East. Continue on Route 54 for approximately two miles to the intersection of Route 54 (Continental Boulevard) and Route 11 - there will be a Wendy's restaurant on your left. Continue on Route 54 and cross over the bridge. Take the first right after the bridge onto D&H Avenue, and continue straight to the Cherokee Plant. Turn right into the Plant entrance and follow the signs to Visitor Parking.

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