

October 19, 2003

Carl D. Keith



Education: Pennsboro High School, Pennsboro, West Virginia, 1939
Salem College, Salem, West Virginia 1939-1943
Indiana University, Bloomington (East Chicago), Indiana 1943-1945
DePaul University, Chicago, Illinois 1944-1947

Summary of Career: Carl Keith chose catalysis as the field for his career in 1943 while employed as a chemist by Sinclair, now a part of BP. At Sinclair, he worked on a full range of catalytic processes including catalytic cracking, hydro treating, hydro cracking, isomerization and platinum metal containing catalysts for upgrading low octane naphtha to high Octane gasoline.

In 1957, he joined Engelhard Industries and continued his work on catalysts for the petroleum industry as well as for the chemical and pharmaceutical industries. He and his associates developed catalysts for processes such as isomerization of xylenes to produce paraxylenes used in the manufacture of terephthalic acid. Catalysts were developed and commercialized for purification of terephthalic acid, hydrogen peroxide production, nylon intermediate production, vinyl acetate synthesis, and so forth. All of these developments resulted in large-scale commercial use of platinum group metals.

A major accomplishment of his work with John Mooney and others was the pioneering use of monolithic substrates as supports for platinum metals containing catalysts useful for purifying the exhausts of automobiles and off-the-road internal combustion engines. It was primarily due to the work of the Engelhard group that the automobile industry accepted the catalytic route to meet the U. S. Clean Air Act Amendments of 1970. In addition to the extensive work in catalysis, Carl Keith and groups under his supervision were involved in many of the other technologies using platinum group metals. They developed the catalyst used for fuel cells in the aerospace program and precious metal supported catalysts for fuel cells. These groups, also, developed electroplating processes and compositions to meet the requirements of the electronics industry.

Carl Keith kept a close association with the research department as he moved into general management and subsequently President and Chairman of Engelhard Industries Division. He retired as Executive Vice President of Engelhard Corporation.

Patents: 99 United States patents and 300 foreign patents primarily in the fields of catalyst compositions and catalytic processing.

Awards: Distinguished Achievement Award, International Precious Metals Institute, 1983
Midgley Award, American Chemical Society, 1985
Clean Air Award, Manufacturers of Emissions Controls Association, 1995.
Arthur Dehon Little Innovation Award, American Institute of Chemical Engineers, 1999.
Walter Ahistrom Prize, Finnish Academy of Science, 2001
Laureate. National Medal of Technology 2002, presented by President George W. Bush and Secretary of Commerce Donald L. Evans.
Engelhard Corporation received the following awards recognizing among others the contribution of Carl D. Keith:
Industrial Award of the Decade, awarded by United Nations and US Office of the President, Council on Environmental Quality, 1982.
American Metals Society, 1979

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