

## BIOGRAPHICAL DATA

NAME: William H. McNeely, Ph.D.

BORN: 1915, Hillsboro, Missouri, U.S.A.

TITLE: Vice President, Research and Development Kelco Division, Merck and Company  
Consultant, Ara Chem, Inc.

### EDUCATION:

University of California, Berkeley  
B. S. in Chemistry, 1940 (graduated with Highest Honors in Chemistry)  
California Institute of Technology  
Ph.D. in Chemistry, 1943. Minor in Chemical Engineering  
The Ohio State University, 1944  
Hoffman-LaRoche Postdoctoral Fellowship

### HONORS:

Election to Phi Beta Kappa from the University of California, Berkeley. (Nation's highest academic achievement honor as an undergraduate.)

Election to Sigma XI from California Institute of Technology (Highest technical honors in a graduate school.)

Elected to New York Academy of Sciences

1974 National Industrial Achievement Award for most important new development in the food field in the United States (commercialization of xanthan gum, the first polysaccharide produced by fermentation for food and industrial use).

### EXPERIENCE:

In graduate schools worked on: (a) isolation of natural products; (b) synthesis of antimalarials; (c) structure of heparin, the natural blood anticoagulant; and (d) synthesis of sulfated polysaccharides as blood anticoagulants. At The Ohio State University developed first practical chromatographic method for separation and analysis of trace amounts of colorless sugars, f Education work was reported in nine professional publications. At Research Department of Standard Oil Company of California worked on development of useful products from the nitrogen base fraction of crude petroleum.

Joined Kelco Company in 1944 (to present). Assisted in process development for improving production of algin from Brown seaweed (harvested off California and Mexican coastlines). Developed patented series of propylene glycol alginate products used commercially in food industry as stabilizers for such products as ice cream, salad dressings, beer foam, etc.

### INDUSTRIAL APPLICATION:

In 1950s researched and developed production of biogums by fermentation. Culminated in commercialization of xanthan gum as first polysaccharide and water-soluble gum produced on a commercial scale by fermentation. Directed application studies which led to use of large quantities of xanthan gum worldwide for control of rheology of oil well drilling fluids, particularly in offshore wells. Substantial usage also developed for xanthan gum in restoring productivity of older well through fracturing. Xanthan gum is most promising thickener for tertiary recovery of oil from exhausted fields.

#### FOOD APPLICATION:

Directed extended research in toxicological studies in xanthan gum which resulted in the first biogum being approved as a food additive in the United States in 1969. (Led to 1974 National Industrial Achievement Award.)

Elected in 1975 as Vice President, Research and Development, for Kelco Division, Merck and Company, a multibillion dollar, multinational company.

In 1960 became a Consultant for Ara Chem, Inc. Collaborated with personnel at U.S. Naval Base in San Diego to develop a water-based oil spill dispersant and a method of application which would result in no possible toxicity to marine life in confined bay areas. Culminated in development and improvement of Gold Crew Dispersant and the Ara Chem System for dispersal of oil spills at sea. Two United States patents for this unique system were assigned to Ara Chem, Inc. This dispersant and system became the method of choice at the 1969 Santa Barbara Oil Spill and other international oil spills. Further developed the Gold Crew formulation into a line of environmentally sound products to address hydrocarbon stabilization and remediation.

Dr. McNeely has 50 patents and publications covering his research and development work in a broad range of industrial markets, in the petroleum industry and in the food field.

#### MEMBERSHIPS:

American Chemical Society  
New York Academy of Science  
American Institute of Food Technologists  
American Society for Microbiology  
American Institute of Biological Sciences  
Society of the Sigma XI  
Alpha Chapter of Phi Beta Kappa  
Who's Who (West)  
American Men of Science  
Registered Chemical Engineer with State of California