



JOAN M. SCHORK, Ph.D., P.E.
Principal Consultant
BAKER ENGINEERING AND RISK CONSULTANTS, INC.

Ph.D. in ChE, The University of Texas

M.S. in ChE, The University of Texas

B.S. in ChE, Georgia Institute of Technology

Education:

Areas of Practice:

Joan Schork has over 30 years of experience in the Industrial Gases and Chemicals industries. She has held technical and management positions in Process Safety, Design Engineering, R&D, Gas Plant Operations, and Chemical Manufacturing. This broad experience base provides valuable perspective in the identification of process hazards, the investigation of safety incidents, and the development of practical solutions to complex problems. Areas of expertise include cryogenic and adsorbent-based air separation processes, the hydrogen/carbon monoxide (HyCO) process and safety related to: O₂ and other strong oxidizers, fluorine-containing compounds, toxic, flammable and asphyxiant gases, transport and storage of liquefied gases, venting of dense gases, and gas pipelines.

Experience:

- As a BakerRisk Consultant since 2014, Dr. Schork has:
 - Led HAZOP, What-if, LOPA and Inherently Safer Design teams for chemical, refining and industrial gases customers.
 - Participated in Risk Based Process Safety Audits of customer manufacturing facilities
 - Provided consultation on safe transport of hazardous goods and pyrophoric iron sulfide risk mitigation.
- Immediately prior to joining BakerRisk, Dr. Schork was employed by Air Products and Chemicals as the Chief Engineer - Process Safety (PS). As the corporation's most senior process safety engineer, she was the technical lead of the global PS community, served as a technical advisor to functional and business executives, and had global responsibility for the quality of the Process Safety Analysis Methods (PSAM) and Tools. For example, she:
 - Led the revision of a number of PSAMs, employing engineering fundamentals to improve accuracy in consequence and frequency predictions. The increased accuracy usually allowed for less conservative and thus less costly risk mitigation measures. Major revisions to the gas pipeline analysis method led to new corporate pipeline design guidelines that provided lower risk, lower cost and higher pipeline reliability.
 - Led major Incident Investigations. Provided technical assistance and review of others.
 - Led Process Hazard Analyses (PHA) using HAZOP and Check-list methodologies. Employed LOPA as required to assess compliance with the corporate Risk Matrix. Conducted senior review of PHA and LOPA reports.
 - Reviewed the safety of all new technology prior to field installation.
 - Worked with the executive Risk Review Board to establish and maintain Risk Ranking methods.
 - Made frequent plant visits to conduct informal audits during which safety issues and areas for improvement were identified.
- During Dr. Schork's many years in the Industrial Gases Industry she has dealt with safety issues related to the manufacture, purification, storage, venting and transport of flammable, toxic and oxidizing gases.
- During her five years as the pilot plant manager and Director of the Fluorine Technology Center at Air Products, Dr. Schork was responsible for the safe handling of a variety of fluorine-based compounds including F₂ and HF.
- Having spent many years working in and managing research labs and pilot plants, Dr. Schork is experienced in general laboratory safety.

Professional Chronology:

E. I. Dupont de Nemours & Co., 1980-1982, The University of Texas, 1982 – 1986, ALCOA, 1986-1988, Air Products and Chemicals, 1988 - 2014, Baker Engineering and Risk Consultants, Inc., 2014-Present.

Professional Registrations:

Registered Professional Engineer (Georgia and Texas)

Professional Memberships:

American Institute of Chemical Engineers, Women in Manufacturing

Committee Memberships:

Center for Chemical Process Safety Normalization of Deviation Subcommittee (2017-2018), IChemE International Process Safety Group (2010 – 2014), AIChE Loss Prevention Committee (2011-2014), The University of Texas Department of Chemical Engineering External Advisory Board (2008-2014)

