

DAVID A. BREITIGAM, MS, CSP, CIH
Industrial Hygienist and Certified Safety Professional Expert

Certified Industrial Hygienist and Safety Professional with nearly 30 years of experience in the recognition, evaluation and control occupational health and safety hazards involving chemicals, metals, and physical agents, as well as machinery, equipment, products and manufacturing processes and change management. With extensive experience in the chemical, petroleum refining, manufacturing, and construction industries and has developed a deep understanding of Occupational Safety and Health (OSHA), Environmental Protection Agency (EPA), and Department of Transportation (DOT) regulations and requirements for the protection of human health and the environment.

Areas of Industrial Hygiene expertise include:

- identification and control of physical, chemical, and biological hazards
- beryllium and beryllium compounds
- lead
- asbestos program
- ergonomics
- sampling techniques
- laboratory quality assurance and data validation
- statistical analysis of data
- employee and contractor training

Areas of Safety and Security expertise include:

- strategic planning and implementation of various safety programs including but not limited to work permits, hazard communication, confined space, lockout/tagout and fall prevention
- construction safety
- behavior-based safety
- industrial fire brigade
- injury reduction techniques
- emergency planning and response
- management of change
- incident investigations
- process safety management
- risk management identifying, evaluating, and the prioritization the mitigation of risks
- radiation safety
- OSHA Voluntary Protection Program (VPP)
- team organization and development
- employee and contractor training
- refinery security and active shooter response

THE EXPERTS Robson Forensic

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Areas of Environmental expertise include:

- Clean Air Act (CAA) regulating air emissions from stationary and mobile sources
- The Clean Water Act (CWA) – National Pollutant Discharge Elimination System (NPDES) Requirements
- Resource Conservation and Recovery Act (RCRA) regulations
- high level EPA negotiations
- developing and tracking company key performance indicators (KPIs)

Industries: Refining and chemical manufacturing, transloading facilities, municipal landfills, ferrous and non-ferrous (i.e. beryllium) foundries and mills, construction and demolition, food processing plants, electroplating shops, metal working plants, plastic injection molding, and printing plants.

Manufacturing Processes: General machining, metal forming, foundry operations, welding, tungsten inert gas (TIG) welding, metal inert gas (MIG) welding, brazing, grinding, soldering, oxyacetylene cutting, hot isostatic pressing, aligning, shrink fitting, blending, drying, dry solids handling, slurry handling, and liquid handling.

Refining and Chemical Manufacturing: Process safety regulation and requirements, oversight of large construction projects, steam, condensate, feed water, liquid fuel systems, natural gas, chemical feed systems, process water, waste water treatment, fire protection systems, gas detection and monitoring, distillation, reforming, heat exchangers, chillers, compressors, cooling towers, air handlers, boilers, underground storage tanks (USTs), above ground storage tanks (ASTs), automatic tank gauge (ATG) systems, Leak Detection and Repair (LDAR), radiation safety, and security.

Construction: General construction, framing, drywalling, electrical, plumbing, painting, flooring, roofing, pneumatic tools and fall restraint systems, asbestos, radon systems, and lead.

Material Handling Processes: Forklift trucks, forklift handlers including pallet, container and drum handlers, pallet jacks, hand trucks, carts and lifting devices.

Manufacturing Procedures, Standards and Specifications: Pressure vessels, power piping, pipe welding, structural welding, and hazardous area requirements.

Testing Methods, Data Evaluation, and Specifications: Hydrostatic testing, static, acceptance sampling, data quality assessment, and analytical laboratory quality assurance/control.

Engineered Systems: Automated liquids bottling, hydraulic power, pneumatic power, pneumatic control, heating, ventilation and air conditioning, clean room design, inert gas systems, liquid fuel systems, fuel delivery systems, vapor recovery, Heating, Ventilation and Air Conditioning (HVAC) and High Efficiency Particulate Air (HEPA) filtration systems.

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Machinery: Diesel engines, high-speed centrifuges, cable winches, pumps, drive gears, clutches, turbines, jib cranes, monorail cranes and hoists, overhead bridge cranes, milling machines, lathes, presses, screw conveyors, belt conveyors, roller conveyors, chain conveyors, spreader beams, lifting and rigging gear, and material shredders.

PROFESSIONAL EXPERIENCE

2021 to present **Robson Forensic, Inc.**
Associate
Provide technical investigations, analysis, reports, and testimony toward the resolution of commercial and personal injury litigation involving manufacturing and industrial safety practices and processes; occupational health exposures from chemical, biological, and physical agents; human factors and warnings; personal protective equipment; and ergonomics.

2014 to present **HSE Strategic Advisors, LLC**
Owner

- Expert witness testimony for plaintiff which experienced chronic exposure to hexavalent chromium.
- Identified equipment and developed monitoring and mitigation strategies for employees exposed to hydrogen sulfide (H₂S) at a transloading facility.
- Investigated employee complaints to inhalation of chlorine (Cl) gas and mist in a food services company. Found ventilation design to be inadequate.

2017 to 2020 **American Refining Group, Inc.**
Vice President Health, Environmental, Safety, Security and Process Safety

- Developed an industrial hygiene exposure monitoring strategy for benzene, hydrogen sulfide, carbon monoxide and noise.
- Implemented 4-gas monitors to mitigate worker exposure (i.e. Oxygen, LEL, Hydrogen Sulfide, Carbon Monoxide) for all employees and contractors.
- Developed the risk management standard and risk matrix to mitigate worker exposures to dangerous conditions (example of simplified risk matrix).
- Represented ARG as their corporate representative in an electrical arc flash incident.
- Developed an incident investigation standard operating procedure.
- Reformatted safety, health, and process safety standards to assist in employee understanding of the standards and their usability.
- Focused organization on life critical safety standards (i.e. work permit, lockout/tagout, working at heights, confined space, hot work).
- Implemented monthly Health, Environmental, Safety and Security (HES&S) communication packet for all departments and employees.
- Developed an internal safety, environmental and process safety audit program.

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- Revamped safety orientation and training including the transition to computer-based training.
- Developed near miss program.
- Developed a behavior-based safety program.
- Developed a process safety standard and program.
- Oversight of the emergency response team, provided training to incident command and served as incident command safety officer to help mitigate hazardous spills, fires and other refinery emergencies.
- Oversight of \$20 MM Tank regulatory Consent Order and Agreement Project, \$10 MM Flare Project, and \$7 MM Fire Water Project.

2005 to
2017

Marathon Petroleum Corporation

Advanced Sr. HES Professional

Various technical and leadership positions over 12 years in Refining, Pipeline, Terminals, Transport and Marine (TT&M) and Corporate.

- Developed an industrial hygiene exposure monitoring strategy for benzene, hydrogen sulfide, carbon monoxide and noise.
- Implemented 4-gas monitors (i.e. Oxygen, LEL, Hydrogen Sulfide, Carbon Monoxide) for all employees and contractors.
- Developed personal protective equipment program.
- Developed structured safety system to improve safety communications and accountability.
- Revamped safety and health training for employees and contractors.
- Developed safety and health standards with focus on life critical procedures (i.e. work permit, lockout/tagout, working at heights, confined space, hot work).
- Developed and field safety audit program.
- Developed near miss program.
- Developed behavior-based safety program.
- Developed agenda and facilitated safety committee meetings.
- Oversight of fire water improvement program.
- Developed process safety program and designated lead for PSM National Emphasis Program Audit.
- Led 2 locations to prepare and eventually become OSHA Voluntary Protection Program locations.
- Led efforts to improve machine guarding at two refineries.
- Led efforts to implement elements of American Chemistry Council Responsible Care certifications.
- Served as Incident Command Safety Officer.
- Led efforts to implement the Pipeline Safety Management System.
- Developed safety organization for a \$3 billion Coker Expansion Project.
- Implemented serious injury and fatality process to focus organization on investigating the critical incidents.

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2001 to
2005

Innovene, Inc. (formerly BP Chemicals)

Senior Industrial Hygienist Specialist

- Developed and conducted industrial hygiene monitoring strategies inhalation, dermal exposure, and noise levels. Physical and chemical hazards monitored included acrylonitrile, acetonitrile, ammonia, amines, 1,4-butanediol, carbon monoxide, hydrogen sulfide, radiation, and noise.
- Safe work permit design and implementation for hot work, coldwork, confined space, electrical, and trenching.
- Conducted safety training for employees and contractors on a variety of subject matter including hazard communication, lockout/tagout, personal protective equipment, confined space, work permit, hot work, working at heights and ergonomics).
- Oversight of asbestos contractor and program management.
- Developed and implemented an ergonomics program.
- Participated in local emergency response team and BP America Response Team to mitigate the release of hazardous materials, fires, and other emergencies.

1995 to
2001

Materion, Inc. (formerly Brush Wellman, Inc.)

Managing Industrial Hygienist

- Employee inhalation exposure monitoring of beryllium particulates.
- Design of ventilation to capture and control of beryllium dust and fumes created by manufacturing operations.
- Implemented clean room designs including air showers and tacky mats.
- Personal protective equipment survey to evaluate the availability, use, acceptance, and deficiencies of personal protective equipment and its implementation.
- Statistical analysis and interpretation of large set of employees' workplace exposure data.
- Safety and industrial hygiene training for employees on topics including hazard communication, Control of Hazardous Energy (Lockout/Tagout), personal protective equipment, hot work, working at heights and beryllium.

1993 to
1995

Centrex Corporation

Corporate EHS Manager

- Implemented glove program to reduce cuts from knives and plastic flashing.
- Oversight of Workman's Compensation Program.
- Injury investigation and root cause analysis.
- Developed initial safety programs for Control of Hazardous Energy (Lockout/Tagout, personal protective equipment and hazard communication.
- Developed a drum labeling program.
- Conducted routine sample for National Pollutant Discharge Elimination System (NPDES) permit.
- Conducted environmental cleanup of buildings containing discarded products and drums to prepare for demolition.

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PROFESSIONAL CREDENTIALS

American Board of Industrial Hygiene, Certified Industrial Hygienist
Board of Certified Safety Professionals, Certified Safety Professional
Prosci® Change Management Certification

EDUCATION

M.S., Occupational Health, Medical College of Ohio at University of
Toledo, 1997
B.S., Environmental Health, Bowling Green State University, 1993

CONTINUING EDUCATION

Mold Investigation and Report Interpretation, 2022
Basics of Mold Sampling for IAQ Investigations, 2022
17th Global Congress on Process Safety Conference, 2021
Behavior Based Safety, 2020
Occupational Noise Exposure, 2020
Office Ergonomics, 2020
Machine Guarding, 2020
Material Handling Safety, 2020
Dropped Object Prevention, 2020
Spill Prevention, 2020
Active Shooter, 2020
Radiation Safety, 2020
Metal Shop Safety, 2019
Waste Management & Asbestos, 2019
Alarm Management, 2019
Respiratory Protection, 2019
Hazard Communication & Global Harmonized System, 2019
Electrical Basics, 2019
Walking Safely in Icy Conditions, 2019
Office Safety & Waste, 2019
Security, 2019
Cardiopulmonary Resuscitation – Automated Electronic Defibrillation, 2019
Scaffold User & Inspection, 2019
Stop Work Authority, 2019
Suspended Loads, 2019
Stop & Think, 2019
Risk Management, 2019
15th Global Congress on Process Safety Conference, 2019
HM 126F DOT Rail Car/Tank Truck Hazardous Materials Training, 2019
Hazardous Materials Non-Bulk Training, 2019

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Human Factor in Process Safety, 2019
American Industrial Hygiene Conference and Exposition (AIHCE), 2018
Introduction to Alarm Management Practices and Principles, 2018
Preventing Harassment, Discrimination, Violence in the Workplace and Bullying,
2018
Essentials for Chemical Engineering for Non-Chemical Engineers, 2018
PDC 414: Electrical Safety II Energized Work Practices/ARC Flash/NFPA 70E, 2018
PDC 102: Strengthening EHS Leadership and Teamwork, 2018
Communication and Training International: Usability Mapping-
Engineering Documents for Users, 2018
Operational Excellence: Creating A High-Performance Organization, 2018
Wheeled and Portable Fire Extinguishers, 2018
HAZWOPER Awareness, 2018
Fire Safety, 2018
Lead Awareness, 2018
Spill Prevention, Control and Countermeasures, 2018
Access to Exposure and Medical Records, 2018.
Waste Management and Asbestos Awareness, 2018
Incident Investigation, 2018
American Society of Safety Engineers (ASSE) Conference, 2017
PDC: Cognitive Bias in Safety: Controlling the Consequences, 2017
PDC: Establishing Your Place in the C-Suite, 2017
CCPS: Process Safety Bootcamp, 2017
Cooling Towers, 2017
National Incident Management System (IS-00700.a), 2017
Introduction to Incident Command System ISC-100 (IS-00100.b), 2017
Ethics for the OH&S Professional, 2017
American Society of Safety Engineers (ASSE) Conference, 2016
Clean Air Act and New Source Performance Standards/National Emission Standards
for Hazardous Air Pollutants, 2016
PDC: Strategic Thinking for Excellence in Safety, 2016
American Industrial Hygiene Conference and Exposition, 2015
Recognition, Evaluation and Control of Legionella in Building Water Systems, 2015
PDC 425: Managing Indoor Mold, 2015
PDC 301: Designing Effective EHS Organizations Using Management Systems, 2015
American Industrial Hygiene Conference and Exposition, 2014
Layer of Protection Analysis, 2014
PDC 425: Bayesian Statistics: Applications in IH Data Interpretation, 2014
PDC 102: Health, 2014
PDC 410: Lean Safety Health and Sustainability, 2012
PDC 406: Beryllium Work Protection: A Model for Success, 2011
PDC 103: EH&S Management Systems, 2011
Industrial Hygiene Ethics: Know Where Your Liabilities Are Lurking, 2010
OSHA Hazardous Waste Site Worker Refresher, 2005

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PROFESSIONAL MEMBERSHIPS

American Board of Industrial Hygiene (ABIH)
American Industrial Hygiene Association (AIHA)
Board of Certified Safety Professionals (BCSP)
American Society of Safety Professionals (ASSP)

SPEAKING ENGAGEMENTS

American Fuel and Petrochemical Manufactures: Hydrogen Sulfide Sampling and Mitigation, 2010
American Industrial Hygiene Conference and Exposition: Beryllium Sampling Strategies, 2000

EXPERT NOT RETAINED