We have authored many articles over the past twenty years concerning product safety, workplace safety, and engineering. Many of these address specific safety or engineering concerns, or have presented philosophical aspects of safety. Examples of these include articles on "Confined Space Entry" and the philosophical aspects - "Retro-Active Safety Standards." Some of these articles are Abstracted below.

"Hazardous Exposures In Machine Tooling"
By Gary M. Hutter, Ph.D., P.E.
Journal: Occupational Health & Safety
July/ August 1994

The Machine tool industry has traditionally focused on injuries caused by metalworking processes, but occupational exposures also present serious hazards.

ABSTRACT
(Keywords: metalworking, machine tools, hazards)

The machine tool industry consists of a broad spectrum of industrial operations which cut, shape, form, join, and finish both metal and non-metallic materials. Many of these processes and the machines performing these processes use and release various chemicals into the air and workplace environment. These materials may be in the form of gases, fibers, particles, chemically active compounds, and biological components.

This article describes some of the sources of occupational exposures, associations between work tasks and diseases, and potential control methods. A copy of the paper is available upon request.

"Identifying the Occupational Hazards of Machine Tooling"
By Gary M. Hutter, Ph.D., P.E.
Journal: Safety Compliance Letter
Number 2260
July 10, 1996

ABSTRACT
(Keywords: air contaminants, metalworking, machine tools)

The results of a 10-year study funded by the United Automotive Workers union and major automotive companies show a strong correlation between certain machine tool operations and health effects, ranging from dermatitis to cancer. In response, OSHA has targeted metalworking and machining fluids for rule making under its priority planning process.

The above referenced paper addresses some of the basis for these concerns, briefly lists some contaminants of concern, and discusses some proactive approaches to the problems. A copy of the paper is available upon request.

"Role of Epidemiological Studies in Evaluating Health Risks from Hazardous Materials"
By Gary M. Hutter Ph.D., P.E.
American Institute of Chemical Engineers
Conference Proceedings: 1988 Spring Annual meeting
New Orleans, LA

ABSTRACT
(Keywords: epidemiology, hazardous materials, risk assessment)

The methods used in handling, processing, and storing hazardous materials are often based on Permissible Exposure Limits (PELs). Ventilation, personal protective equipment, and control methods are also selected to avoid exposure above known Threshold limit Values (TLVs). The basis for these PELs, TLVs and other recommended exposure limits to hazardous materials are often rooted in human epidemiological studies. These studies may examine high risk populations resulting from catastrophic events, accidental exposures, or from past occupational exposures.

This paper explores the function, language, risk assessment, and problems associated with various epidemiological studies. Exemplar epidemiological studies used in regulatory processes are used. A copy of the paper is available upon request.

"Antitrust, Unfair Trade Practices, and Safety"
By Gary M. Hutter, Ph.D., P.E.
Journal: Professional Safety,
May 1986

ABSTRACT
(Keywords: safety philosophy, recalls, warnings)

This professional paper addresses some of the corporate practices, and government regulations

beyond the obvious safety regulations, which have influences on our safety. Products, designs, and many written documents which affect safety can be and are influenced by trade practices and voluntary codes. What a manufacturer may claim about the performance of a product, the criteria in a voluntary safety standard, and even accident statistics are produced with an eye to their influence on safety. Proclaiming a product's performance as "safe at elevated speeds," or that it "complies with certain safety standards" may be regulated by various trade practices. These practices may even establish the custom and practice, and recall practices for certain safety considerations.

This paper attempts to discuss the problems of safety in the context of other product criteria, and has implications for product recalls, labeling, and monitoring safety. A copy of the paper is available upon request.

"Active Versus Retroactive Regulations; Criteria For Implementing A Safety Regulation"
By Gary M. Hutter, Ph.D., P.E.
Journal: Standards Engineering
November/ December 1985

ABSTRACT
(Keywords: Safety philosophy, safety, standards, OSHA)

Both government and voluntary safety standards are written with an intended implementation date. That is the date after which these standards are intended to become effective. Often this implementation date will be months or years after the date a standard was released. This seems reasonable, as it must take a certain amount of time for compliance But, there are questions about if a manufacturer has any responsibility to comply before a deadline date. Do manufacturers have to comply with these standards on or before the implementation date? Do they have to make previously distributed products comply with these new standards?

This paper addresses some of these issues, and proposes a ten point criteria for implementing safety codes and standards. Examples of the criteria include: the seriousness of the potential injuries from non-compliance; the availability of special technology; and the number of units effected. A copy of the paper is available upon request.

"Confined Space Entry and the New Proposed OSHA Regulation"
By: Gary M. Hutter Ph.D., P.E.
Water Environment Federation
Conference: 65th Annual Conference September 1992

ABSTRACT
(Keywords: confined space, air contaminants, OSHA, safety regulations)

In the early 1990s, the Occupational Safety and Health Administration (OSHA) proposed and ultimately approved a new standard to reduce injuries and deaths associated with permit required confined space entry. Previously, confined space entry was covered under multiple regulations, voluntary standards, custom and practice, and the General Duty Clause of OSHA. The new regulations depended to a significant degree on procedures and record keeping. There were and are certain judgement-dependant criteria, and reliance on training and assigning responsibility on "designated" individuals. The waste water treatment industry has many confined spaces that regularly need access. These include lift stations, underground piping systems, and sewage process equipment. This industry also has additional concerns for confined space entry because of the presence of sewer gases and biological contaminants.

This paper addresses many of these issues and concerns. A copy of the paper is available upon request.

"Measurement of the Apparent Diffusion Coefficient of n-Butane in Soil"
By: Gary M. Hutter, Ph. D., P.E.
Journal: Journal of Soil Contamination
V2/N2 1993

ABSTRACT
(Keywords: Soil contamination, butane, modeling, TCE)

Contamination from leaking underground storage tanks, pipes, and reservoirs can cause a variety of problems. These include contamination of ground water, wasted resources, and the potential for fires and explosions. Typically these leaks start out small, but because they often occur over long periods of time, they can be substantial. There always has been a difficulty in detecting these leaks and in determining when they occurred. One means of investigating a site for a leak, is to monitor the soil for certain markers of soil gas. Soil gas is that gas phase material that occupied the voids within the soil matrix. By knowing the rate of movement of soil gases, one can better use soil gas monitoring as a means to detect leaks, and determine when they started..

This research and paper describes a model for measuring and using a diffusion coefficient for these purposes. It was funded by the USEPA. A copy of the paper is available upon request.

"Comparison Among Lead Paint Field Screening Methods"
By: Gary M. Hutter Ph.D., P.E.& Diane Moshman P.E.
Journal: Journal of Hazardous Materials
June 1994

ABSTRACT
(Keywords: lead, hazardous materials, test methods)

Lead in the environment can be a significant health hazard. This is especially true for young children who might consume paint chips that result from the past use of leaded paints. There are several field methods available to determine if a painted surface contains lead. Each of these methods have certain advantages and disadvantages often associated with cost, ease of use, training, and performance. Painted surfaces may have underlying coatings of leaded paint, with upper layers of non-leaded paint, and the percentage of lead in paint may vary significantly.

This paper examines findings concerning three different field measuring techniques. A copy of the paper is available upon request.