Introduction
Risk Concepts p. 1
Hazardous Event p. 1
What is Risk? p. 1
Typical Incidents that Concern Us p. 2
Industrial Incidents of Major Significance p. 2
Regulatory Developments p. 1
North America p. 1
Bodies and Regulatory Developments in North America p. 1
Individual States Legislation in the USA p. 2
Occupational Safety and Health Administration (OSHA), Process Management of Highly Hazardous Regulations--29 CFR 1910.119 p. 3
Environmental Protection Agency (EPA), Risk Management Plan (RMP) Rule--40 CFR Part 68 p. 9
United Kingdom p. 12
European Commission (EC) p. 13
Risk Terminology p. 1
Process Hazards & Risk Management Alternatives p. 1
Hazards that Concern us p. 1
What Increases the Potential for Industrial Facilities to Become More Hazardous? p. 2
How are Process Risks Analyzed? p. 3
Principle and Practice of Risk Analysis via Quantitative Risk Assessment p. 7
Risk versus Safety: a Comparative View p. 9
Risk Management Alternatives for New (Proposed) & Existing Hazardous Facilities p. 11
Identification of Hazards and Structured Hazards Analysis Tools p. 1
How do we identify Hazards? p. 1
Widely Used Methodologies to Identify Hazards p. 1
Preliminary Hazards Analysis (PrHA) p. 2
Hazards And Operability Analysis (HAZOP) p. 2
Failure Mode and Effects Analysis (FMEA) p. 7
What If Analysis p. 8
Checklist Analysis p. 9
Use of Risk Matrix With Hazards Identification p. 10
Example: Liquefied Petroleum Gas (LPG) Rail Car Loading Terminal p. 11
Basics of HAZOP p. 1
What Did we Do Before HAZOP Came Along? p. 1
How Do We Know If a Plant Is Safe? p. 1
HAZOP Methodology p. 2
Methodology for Generating Deviations p. 3
What Type of HAZOP Should You Use? p. 4
Steps in the HAZOP Process p. 5