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4.5 - Autoignition Temperature; 4.6 - Vapor Density Ratio; 4.7 - Vapor Pressure; 4.8 - Specific Gravity; 4.9 - Flammable; 4.10 - Combustible; 4.11 - Heat of Combustion; 4.12 - Some Common Hydrocarbons; Bibliography; Chapter 5 - Characteristics of Hydrocarbon Releases, Fires, and Explosions; 5.1 - Introduction; 5.2 - Hydrocarbon Releases; 5.3 - Gaseous Releases; 5.4 - Mists or Spray Releases; 5.5 - Liquid Releases; 5.6 - Nature and Chemistry of Hydrocarbon Combustion; 5.7 - Hydrocarbon Fires; 5.8 - Deliberate Terrorist Explosions; 5.9 - Semi-Confined Explosion Overpressures; 5.10 - Vapor Cloud Overpressures; 5.11 - Boiling Liquid Expanding Vapor Explosions; 5.12 - Smoke and Combustion Gases; 5.13 - Mathematical Consequence Modeling; 5.14 - Methods of Extinguishing Flames; 5.15 - Incident Scenario Development; 5.16 - Terminology of Hydrocarbon Explosions and Fires; Bibliography; Chapter 6 - Historical Survey of Fire and Explosions in the Hydrocarbon Industries; 6.1 - Introduction; 6.2 - Lack of Industry Incident Database and Analysis; 6.3 - Insurance Industry Perspective; 6.4 - Process Industry Perspective; 6.5 - Major Incidents Affect Process Industry Safety Management; 6.6 - Incident Data; 6.7 - Summary; Bibliography; Chapter 7 - Risk Analysis; 7.1 - Introduction; 7.2 - Risk Identification and Evaluation; 7.3 - Specialized Supplemental Studies; 7.4 - Risk Acceptance Criteria; 7.5 - Relevant and Accurate Data Resources; 7.6 - Insurance Risk Evaluations; Bibliography; Chapter 8 - Segregation, Separation, and Arrangement; 8.1 - Introduction; 8.2 - Segregation; 8.3 - Separation; 8.4 - Manned Facilities and Locations; 8.5 - Process Units; 8.6 - Storage Facilities - Tanks; 8.7 - Flares and Burn Pits; 8.8 - Critical Utilities and Support Systems

Sommario/riassunto

The security and economic stability of many nations and multinational oil and chemical companies is highly dependent on the safe and uninterrupted operation of their oil, gas and chemical facilities. Fire and explosion incidents are among the most critical impacts that can occur to these operations. This book provides a reference guide for professionals involved with fire and explosion prevention and protection aspects of these critical facilities. The main objectives of this handbook are to provide a practical understanding of fire and explosion problems at oil, gas and chemical facilities.
