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		10. Runaway Reaction Emergency Relief System Design Computer Program11. References; Appendix A. DIERS Committees; Appendix B. DIERS Sponsors; Appendix C. DIERS Contractors; Chapter I. Vapor Disengagement Dynamics; 1. Overview; 1-1. Vapor Disengagement Dynamics; 1-2. Design Considerations; 2. Detailed Discussion; 2-1. Open Literature References; 2-2. Project Manual; 3. References; Appendix I-A. The Coupling Equation and Flow Models; Appendix I-B.

Best Estimate Procedure to Calculate Two-Phase Vapor-Liquid Flow Onset/Disengagement; Appendix I-C. Fluid Behavior in Venting Vessels Appendix I-D. Energy and Material Balance Derivations for Emergency Pressure Relief of VesselsAnnex I-D1. Internal Energy and Venting Calculations; Chapter II. Pressure Relief System Flow; 1. Introduction; 1-1. Scope; 1-2. Organization; 1-3. Special Terminology; 2. Recommended Design Methods; 2-1. Newtonian Flow; 2-2. Complex Fluids; 2-3. Useful Approximations; 3. Technology Base; 3-1. General Flow Equations; 3-2. Nozzle Flow Models; 3-3. Sharp Reductions; 3-4. Pressure Recovery/Expansions/Equilibrations; 3-5. Pipe Flow; 3.6. Application to Pressure Relief System Elements; 3-7. Networks 3-8. Complex Fluids4. Nomenclature; 5. Acknowledgments; 6. References; Appendix II-A. Thermophysical Property Requirements; Appendix II-B. Equilibrium Flash Calculations; Appendix II-C. Model Parameters for Pipe Entrance Sections; Appendix II-D. Computer Routines in SAFIRE Program; Appendix II-E. Example Problems; Appendix II-F. Generalized Correlations and Design Charts; Chapter III. DIERS Phase III Large-Scale Integral Tests; 1. Summary; 2. Introduction; 2-1. Program Objectivcs; 2-2. Program Description; 3. Test Configurations; 4. Test Results; 4-1. Tests T1 to T8 4-2. Tests V32-W1 to V32-W84-3. Tests T9, T10, T11, T14, and T25; 4-4. Tests T12 and T13; 4-5. Test T20; 4-6. Tests T17 and T18; 4-7. Tests T21, T22, T23, and T24; 4-8. ICRE Tats 32-6 to 32-11; 4-9. ICRE Tests 2000-1 to 2000-5; 4-10. ICRE Tests 32-14, 32-15, and 32-18; 5. Acknowledgments; 6. References; Appendix III-A. Test Configurations; Appendix III-B. Experimental Results and Model Comparisons; Appendix III-C. Kinetics Model for Styrene Polymerizations; Chapter IV. High Viscosity Flashing Two-Phase Flow; 1. Introduction; 1-1. General Discussion of High Viscosity Flow in Relief Systems 1-2. Why High Viscosity Systems Require Special Consideration

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| Sommario/riassunto | OSHA (29 CFR 1910.119) has recognized AIChE/DIERS two-phase flow publications as examples of ""good engineering practice"" for process safety management of highly hazardous materials. The prediction of when two-phase flow venting will occur, and the applicability of various sizing methods for two-phase vapor-liquid flashing flow, is of particular interest when designing emergency relief systems to handle runaway reactions. This comprehensive sourcebook brings together a wealth of information on methods that can be used to safely size emergency relief systems for two-phase vapor-liquid flow for |