1. Record Nr. UNINA9911020056603321 Autore Mahadevan Erode G Titolo Ammonium nitrate explosives for civil applications : slurries, emulsions and ammonium nitrate fuel oils / / Erode G. Mahadevan Weinheim,: Wiley-VCH, 2013 Pubbl/distr/stampa **ISBN** 3-527-64568-3 1-283-91539-1 3-527-64570-5 Edizione [1st ed.] Descrizione fisica 1 online resource (232 p.) Disciplina 662.2 Soggetti Ammonium nitrate fuel oil Lingua di pubblicazione Tedesco **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Description based upon print version of record. Includes bibliographical references and index. Nota di bibliografia Nota di contenuto Ammonium Nitrate Explosives for Civil Applications; Copyright Page; Contents: Acknowledgment: Preface: 1 Classification of Explosives: 1.1 Initiation Sensitivity; 1.2 Size; 1.3 Usage; 1.4 Physical Form; 2 Explosive Science; 2.1 Introduction; 2.1.1 Low Explosives; 2.1.2 High Explosives; 2.2 Initiation and Detonation; 2.2.1 Mechanism; 2.3 Propagation and Detonation; 2.3.1 Propagation; 2.3.2 Detonation; 2.3.2.1 Ideal/Nonideal Detonation/Critical Diameter/Ideal Diameter; 2.3.2.2 Detonation Pressure and Velocity; 2.4 Reaction Chemistry in Explosives; 2.4.1 Heat of Reaction 2.4.2 Rules of Hierarchy2.4.3 Calculation of Oxygen Balance and Fuel Values; References; 3 Ammonium Nitrate Explosives; 3.1 Introduction; 3.1.1 Chronology; 3.2 Design of Commercial Explosives; 3.2.1 Importance of Oxygen Balance; 3.2.2 Physical, Performance, and Safety Requirements; 3.3 Tests; 3.3.1 Ballistic Mortar Test; 3.3.2 Trauzl Lead Block Test; 3.3.3 Velocity of Detonation (VOD); 3.3.4 Gap Test and Continuity of Detonation Test; 3.3.5 Aquarium Test; 3.3.6 Double Pipe Test; 3.3.7 Cylinder Test (Crushing Strength); 3.3.8 Plate Dent Test; 3.3.9 Underwater Test (UWT); 3.3.10 Crater Test 3.4 Assessment of Safety and Stability Characteristics 3.4.1 Impact Test; 3.4.2 Torpedo Friction Test; 3.4.3 Accelerated Hot Storage (ageing Test); 3.4.4 Cold Temperature Storage Test; 3.4.5 Thermal Stability

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## Sommario/riassunto

The book describes the science and technology of formulation and manufacturing of non-nitroglycerine explosives with ammonium nitrate as the main ingredient. Based on the author's industry experience of more than thirty years, it provides an unparalleled treatment of one of the commercially most important classes of explosives and therefore stimulates further research and development efforts in the field of explosives for civil applications.