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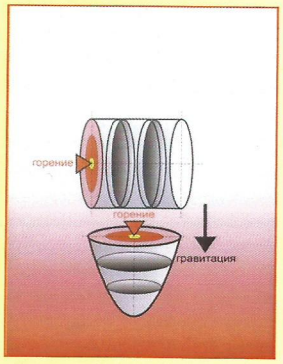

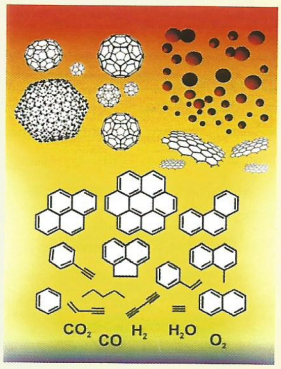

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ПОСТЕРНЫЕ ДОКЛАДЫ

GAS GENERATORS ARE BASED ON CARBONACEOUS MATERIALS

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Abstract
In this paper the results concerning development of energy-intensive materials on the base of KNO_3 and carbonaceous materials in gas-generating chemical cartridges were applied. Shows the results of investigation non-explosive destroying mixture based on local materials promoting expansion force in the closed volume 30 MPa was developed. Described carbonaceous materials which are used in gas-generating chemical cartridges, proposed the investigations about sensitivity to mechanical influences and degree of emission of gaseous and condensed products.

Keywords: gas generator chemical cartridge (GCC), gas generator composition, non-explosive destroying mixture.

Introduction

Gas generating compositions are the compositions which during burning produces a relatively minimal amount of solid particles and relatively liberal amount of gas. For investigation of gas generator systems the law of "gasification" is applied. This characteristic relation, making relation between pressure, temperature and specific volume of gas, allows in future to apply the obtained dependences for definition of necessary parameters under working conditions of gas generator [1].

Recently, gas generating compositions have been widely applied both in military and in civilian sphere. Also, when laying different communications, during destruction of concrete brick-built structures in circumstances where compact planning, the efficiency and security considerations are very relevant, is necessary to use the substances which creating the pressure in the hole due to reaction of deflagration combustion instead explosion. Generally, their use is always accompanied by great risks [2]. Largely, the gas generating mixture consists of: a) the fuel is easily generating in gas; b) an oxidizer; c) binders [3].

Researchers pay great attention for the development of energy fuel, it is one of the main objects for research of gas generating compositions [4]. Useful combustibles must have a maximum degree of transition to the gaseous phase at thermal decomposition. We should not forget about the environmental side and the impact of gas generators combustion products to the human body. The authors of this research were worked out with carbonaceous materials on the basis of mineral and vegetable raw materials [5].

Carbonaceous materials have been developed for the use in gas-generating chemical cartridges (GCC). As the result of undertaken studies, it has been found that the range of fragments distribution of concrete is depending on quantity of gas-generating composition as well as chemical composition. If the breakable block is covered with armor the fragment distribution is absent. The use of this type of device for installation of various communications, the destruction of concrete bricks which are densely built-up to each other in residential areas that provides the security guarantees. This article presents the introduction to the study of gas generating compositions of