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**Principles and Methods for Regulation of Dispersed
Structure of SHS Powders: from Monocrystallites to Nanoparticles**

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ABSTRACT

This work reviews methods that make possible:

- A regulation of dispersed structure of SHS powders: particle size, shape and structure, and size distribution;
- The production of ultrafine and nonosized monocrystalline powders.

Nucleation and growth of product crystals in the combustion wave are briefly outlined. General principles of reduction in size of product crystalline grains of SHS have been formulated. These principles are applied to explain and classify methods for producing SHS nanopowders.

Keywords: *SHS product, particle size, reduction in size, nanopowder, producing methods, principles.*