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Nanotechnology, Counterproliferation and Proliferation

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Abstract

The interference of nanotechnology with chemical, biological, information and material sciences opens new horizons not only for peaceful but also offensive and defensive military uses. Nanotechnologies are revolutionizing weapons of mass destruction, offering prospects for new methods of manufacturing, delivery and miniaturization at the same destruction capacity. Nanotechnologies can also generate new weapons of mass destruction based on new principles. On the other hand, nanosensors could detect tiny quantities of chemical, biological, radioactive, or other agents in the environment, creating an effective early warning system. Some of these materials could even simultaneously destroy or annihilate harmful substances. For these reasons, countries with advanced results in nanotechnologies allocate impressive budgets for microelectronics and nanomaterials intended for detection and protection against biological, chemical and radiological threats as well as other types of new convention weapons.

This paper presents a brief review of the use of nanotechnologies for the proliferation and counterproliferation of weapons of mass destruction. The purpose of the article is to raise awareness among researchers regarding the responsibility of the possible use of research data in the development of weapons of mass destruction. As possible preventive measures, it is recommended to assess the risk at the initiation of the research, but also periodically during the subsequent phases of the research.

Keywords: nanoweapons, civil security, military security, weapons of mass destruction

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