MODIFICATION OF THE APPROACH TO HAZARD ASSESSMENT FOR ENERGETIC MATERIALS AFTER 5 YEARS OF PRACTICE OF THE EU DIRECTIVE 96/82/CE “SEVESO II”

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ABSTRACT
The European Directive 96/82/EC, “Seveso II”, required companies to quantify the impact caused by a major accident. However, due to new knowledge about dangerous substances and because of severe accidents involving dangerous products (Baia Mare, Romania and Donana, Estonia), it was felt necessary to improve the Seveso II legislation.

Through the Directive, 2003/105/EC, more detailed plans were introduced as well as information needed to assess the potential damage caused by major accidents involving explosives. In fact, the new directive proposes a drastic reduction of the quantities of dangerous substances allowed, new and more detailed information both on the structure and on the surrounding areas and more specific and focused controls by competent authorities.

In this article, algorithms and procedures are given to assess danger, risk and total impact after 5 years of practice and confrontation with fire departments and local environmental authorities. The procedure is presented through the following categories:

1. Environmental analysis
2. Human resources
3. Dangerous products (both present in the structure or originated by the transformation/modification of the dangerous substances)
4. Activities, infrastructures, plants and instruments
5. Safety and security
6. Consequences of the accident (overpressure waves, primary fragmentation, seismic waves, dangerous gasses, thermal radiations, iso-damage areas)
7. Environmental damage (combustion, explosion, dispersion)
8. Analysis of the surrounding environment
9. Territorial compatibility of the deposit
10. Precaution to prevent accidents (both on a project and organisation level)
11. Critical situations, emergencies
12. Containment systems
13. Insurance

Furthermore, practical cases are discussed.