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Assessment of hazard of chemical accidental releases triggered by floods

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Recently, the number of accidents happened, when floods trigger the releases of hazardous materials and following environment contamination. Baia Mare (Romania), Spolana Neratovice (Czech Republic) and hurricane Katrina (USA) are well known examples. The importance of this kind of phenomenon as a type of so called NATECH events is expressed among others in the Water Framework Directive 2000/60/EC, which reorganises water conservation in Europe. It requires programmes of protection measures to be drawn up not later than 2009, and in sub-article 11 (3) l b) to prevent and/or reduce the impact of accidental pollution incidents, for example as a result of floods. Effective measures demand the assessment of hazard and risk of accidental release triggered by floods and there is a need for the method which can be used for these purposes. Such a method is still missing and this is why the basic method for hazard assessment has been developed.
Simple indexes-based method is composed of three segments (natural risks, technological risks and combined risk) and it has flexible, modular structure. First segment estimates the probability of flooding of installation, the second, based on the reference scenarios estimates the possibility of release of chemicals and the third classify consequences. The work on refining of parameters and method continues.
Method can be used in prevention of major accidents in the framework of the Council Directive 96/82/EC on the control of major-accident hazards involving dangerous substances (Seveso II directive) and can help to complete the safety studies in classified establishments.