



## Expulsion of Irritating Aerosols by Pyrotechnic Gas Generators

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### 1 Abstract:

Pyrotechnic gas generator compositions for non lethal weapon application were calculated and processed. The compositions are based on two fuels and one oxidizer with 4 equivalence ratios each. Calculations with the ICT thermodynamic code gave good properties for gas output (34,4 mole/kg and 362 mole/kg), maximum pressure with loading density 0,1 ( $\approx 7,6$  MPa and  $\approx 8,1$  MPa) and gas composition. The processed compositions were characterised with thermal analysis (TGA/DSC) and security parameters of the powder were determined.

### 2 Introduction:

Non lethal weapon systems have gained high interest for application in non linear conflicts like civil war areas and peace keeping operations, where the standard equipment of today is not applicable in most cases. A non lethal weapon system should provide the ability of scattering crowds or to block crowds at distance. Another application of non lethal weapons is the security of facilities used by peace keeping forces.