

# 1 Directory

Soils contaminated with explosives cause a mayor threat to the environment. This thesis is a contribution to the environmental risk assessment of explosives for the soil fauna. As representatives the collembola *Folsomia candida* and the enchytraeid *Enchytraeus crypticus* were chosen, since for these two invertebrates standardised biotests have been or are in the process of being established.

At the beginning of this thesis the threat to the environment is further outlined in the chapter "Introduction". In the following chapter "Materials and methods" the biotests and other methods are described. Each of the following chapters four to eight is structured as an individual report with an abstract, a theoretical background, a section about materials and methods specific for that chapter, the results and a discussion. In the forth chapter "Pure substances" the toxicity of the explosives 2,4,6-trinitrotoluene (TNT), Hexyl, Hexogen (RDX) and Octogen (HMX) is examined as well as of triaminotoluene (TAT), the end-product of the most common microbial degradation pathway of TNT. In order to evaluate the toxicity of already contaminated sites the toxicity for the major contaminant TNT in different soil types is determined in the chapter "Toxicity of TNT in different reference soil materials" and the ageing effect of this toxicant in the chapter "Ageing of TNT-contaminated soil materials". The habitat function of soil materials from different contaminated sites for the two invertebrates is tested in the chapter "Contaminated soil materials". Four different remediation processes are evaluated for their success or failure in improving the habitat function for the two test organisms in the seventh chapter "Remediation". The report ends with a summary and recommendations for further work.