Patent claims

1. A projectile (1, 8, 9) having at least one projectile body (7, 10) comprising a projectile tip (3) and a projectile tail (4), a core (6, 14) and a payload (5), wherein the payload (5) is at least a non-detonatable pyrotechnic composition, and the projectile (8, 9) is explosive-free and without a detonator, wherein the core (6, 14) encloses and seals the non-detonatable pyrotechnic payload (5)in the projectile body, and wherein the pyrotechnic payload is configured to initiate in response to a shockwave formed upon impact of the projectile at a target, independent of a separate pyrotechnic composition.

2. The projectile (8, 9) as claimed in claim 1, **characterized in that** the core (6, 14) is made of a material which has a lower density than the projectile body (7, 10).

3. The projectile (8, 9) as claimed in claim 1 or 2, **characterized in that** the material of the core (6, 14) is a metal or a plastic.

4. The projectile (9) as claimed in one of claims 1 to 3, characterized in that the core (14) sits on a penetrator (11) at least partially.

5. The projectile (9) as claimed in claim 4, characterized in that the core (14) has a bore (15) into which the penetrator (11) projects.

6. The projectile (9) as claimed in claim 5, characterized in that the bore (15) is adapted to an outer geometry of the penetrator (11).

7. The projectile (9) as claimed in one of claims 4 to 6, **characterized in that** the non-detonatable pyrotechnic

payload (5) is introduced between the projectile body (10) and the penetrator (11).

8. The projectile (9) as claimed in one of claims 4 to 7, **characterized in that** the non-detonatable pyrotechnic payload (5) is disposed partially or completely about the penetrator (11).

9. The projectile (9) as claimed in one of claims 4 to 8, **characterized in that** the non-detonatable pyrotechnic payload (5) is disposed in a ring-shaped manner about the penetrator (11).

10. The projectile (8, 9) as claimed in one of claims 1 to 9, **characterized in that** the non-detonatable pyrotechnic payload (5) is a material for producing a fire, fog, flash and/or bang effect.

11. The projectile (8, 9) as claimed in one of claims 1 to 10, **characterized in that** the projectile body (7, 10) has predetermined breaking points on a circumference.

12. A method of target engagement using a projectile (8, 9) according to one of claims 1 to 11, **characterized by** the following steps:
    - production of a shockwave upon impact of the projectile (8, 9) at the target, wherein
    - the shockwave acts, on the one hand, on a casing of the projectile body (7, 10) with a formation of splinters or fragments,
    - simultaneous initiation of the non-detonatable pyrotechnic payload (5), independent of a separate pyrotechnic composition, by the shockwave by adiabatic compression, and
    - expanding gases of the non-detonatable pyrotechnic payload (5) further accelerate casing fragments of the projectile body (7, 10) surrounding the payload and produced by the shockwave upon impact.