CLAIMS

1. A nitrogen gas generator comprising
a housing having two ends, ignition means at one end of the housing and a gas outflow opening at the other end of the housing,
a volume of a filter at the outflow opening, wherein the volume ratio of the volume of a filter and the volume of solid propellant is between 20 : 70 and 60 : 40 (vol/vol),
a volume of solid propellant comprising of between 70 and 90 wt% of sodium azide, between 1 and 15 wt% of a binder, between 0.1 and 20 wt% of a coolant and between 1 and 10 wt% of iron (III) oxide as present between the ignition means and the volume of filter, wherein the solid propellant is present as tablets having a volume of between 50 and 500 mm^3 and wherein the void space between the tablets in the volume of solid propellant is between 40 and 60% (vol/vol) of the total volume taken in by the solid propellant within the housing, and
wherein between the ignition means and the volume of solid propellant an active layer is present and wherein the active layer comprises between 60 and 90 wt% of sodium azide, between 1 and 15 wt% of a binder, between 0.1 and 10 wt% of a coolant and between 5 and 30 wt% of iron (III) oxide, wherein the content of iron (III) oxide in the active layer is at least two times the content of iron(III)oxide in the solid propellant.

2. A gas generator according to claim 1, wherein the solid propellant comprises between 1 and 4 wt% of iron (III) oxide.

3. A gas generator according to any one of claims 1-2, wherein the content of iron (III) oxide in the active layer is at least three times the content of iron (III) oxide in the solid propellant.

4. A gas generator according to any one of claims 1-3, wherein the igniter means comprises a squib and enhancer packet.

5. A gas generator according to claim 4, wherein the enhancer packet comprises $KBNO_3$.

6. A gas generator according to any one of claims 1-3, wherein the igniter means comprises a glow plug.

7. A gas generator according to claim 6, wherein the glow plug has a heating element which is encapsulated by the active layer.

8. A gas generator according to any one of claims 1-7, wherein the binder in the solid propellant and/or the active layer is comprised of a non-organic binder material

9. A gas generator according to claim 8, wherein the binder in the solid propellant and/or the active layer is comprised of a alkaline non-organic binder material.

10. A gas generator according to claim 9, wherein the binder is potassium silicate (K_2SiO_3).

11. A gas generator according to any one of claims 1-10, wherein the coolant is LiF.

12. A gas generator according to any one of claims 1-11, wherein the tablets are bound together.

13. A gas generator according to any one of claims 1-12, wherein the active layer is a layer of a homogeneous powder and the ignition means comprises a glow plug.

14. A gas generator according to any one of claims 1-13, wherein the volume ratio of the volume of the active layer and the volume of solid propellant is between 5: 95 and 30:70(vol/vol).

15. A gas generator according to any one of claims 1-14, wherein the volume ratio of the volume of a filter and the volume of solid propellant is between 30 : 70 and 60: 40 (vol/vol).

16. A gas generator according to any one of claims 1-15, wherein the housing is a tubular housing.

17. A gas generator according to any one of claims 1-16, a channel is present through the active layer fluidly connecting the volume of solid propellant with the side of the active layer at which the ignition means are present.

18. A gas generator according to claim 17, wherein the channel has a largest cross-sectional dimension of between 5 and 20 mm.

19. A gas generator according to any one of claims 1-18, wherein the filter is a sand filter.