CLAIMS

1. A refrigerant composition consisting essentially of a combination of a hydroflurocarbon component consisting of a combination selected from the following mixtures:

    (1) R134a and R125;

    (2) R134a, R125 and R143a

    (3) R125 and R143a

    (4) R134a, R227ea and R125

and a hydrocarbon component consisting essentially of a combination selected from the following mixtures:

    (5) isopentane and butane

    (6) isopentane, butane and ispoentane

    (7) butane and isobutane.

2. A composition as claimed in claim 1 consisting of a mixture of one of hydroflurocarbon components (1) to (4) and one of hydrocarbon components (5) to (7).

3. A composition as claimed in claim 1 or 2 wherein the hydrocarbon is present in an amount of 0.6 to 4% and wherein the composition is non-flammable when completely in the vapour phase.

4. A composition as claimed in any preceding claim wherein the hydrocarbon is present in an amount of 0.6 to 4% and wherein when the composition is in a

container with both vapour and liquid present, neither vapour nor liquid phase is flammable.

5. A composition as claimed in any preceding claim wherein the hydrocarbon is present in an amount of 0.6 to 4% and wherein at any time during a leak from a vapour space in a container neither the liquid phase nor the vapour phase is flammable.

6. A composition as claimed in any preceding claim wherein the hydrocarbon is present in amount of 0.6 to 4% and wherein at any time during a leak from a liquid space in a container neither the liquid phase nor vapour phase is flammable.

7. A composition as claimed in any preceding claim wherein the hydrocarbon is present in an amount of 0.6 to 4% and wherein the proportion of hydrocarbon to hydrofluorocarbon in the vapour phase does not differ from the equivalent proportion in the liquid phase by more than 40% at equilibrium at 25°C.

8. A composition as claimed in claim 7 wherein the proportion does not differ by more than 30%.

9. A composition was claimed in claim 8 wherein the composition does not differ by more than 20%.

10. A composition as claimed in any preceding claim wherein the hydrocarbon is present in an amount of 0.6 to 4% and wherein the proportion of hydrocarbon to hydrofluorocarbon in the vapour phase does not differ from the formulated composition by more than 40% at equilibrium at 25°C.

11. A composition as claimed in claim 10 wherein the proportion does not differ by more than 30%.

12. A composition as claimed in claim 11 wherein the proportion does not differ by more than 20%.

13. A composition as claimed in any preceding claim wherein during a leak from the vapour space or liquid space a container, the proportion of hydrocarbon to hydrofluorocarbon in either of the varpour phase or liquid phase does not differ from the formulated composition by more than 40% at equilibrium at 25°C.

14. A composition as claimed in claim 13 wherein the proportion does not differ by more than 40%.

15. A composition as claimed in claim 14 wherein the proportion does not differ by more than 20%.

16. A composition as claimed in any preceding claim wherein the hydrocarbon component consists of a mixture of isopentane, butane and isobutane.

17. A composition was claimed in claim 16 wherein the amount of isopentane is 0.6 to 2%.

18. A composition as claimed in claim 17 wherein the amount of isopentane is 0.6 to 1%.

19. A composition as claimed in any of claims 16 to 18 wherein the amount of butane is 0.6 to 5%.

20. A composition as claimed in claim 19 wherein the amount of butane is 0.6 to 3%.

21. A composition as claimed in claim 20 wherein the amount of butane is 0.6 to 2%.

22. A composition was claimed in any of claims 16 to 21 wherein the amount of butane is 0.6 to 5%.

23. A composition as claimed in claim 22 wherein the amount of butane is 0.6 to 2%.

24. A composition as claimed in claim 23 wherein the amount of butane is 0.6 to 1%.

25. A composition was claimed in any of claims 1 to 15 wherein the hydrocarbon component consists of a mixture if isopentane and butane.

26. A composition as claimed in claim 25 wherein the amount of isopentane is 0.6 to 1%.

27. A composition as claimed in claims 25 or 26 wherein the amount of butane is 1.3 to 2.5%.

28. A composition as claimed in claim 27 wherein the amount of butane is about 1.4%.

29. A composition as claimed in any of claims 1 to 15 wherein the hydrocarbon component consists of butane and isobutane.

30. A composition as claimed in claim 29 wherein the amount of butane is 0.6 to 5%.

31. A composition as claimed in claim 29 or 30 wherein the amount of isobutane is 0.6 to 5%.

32. A refrigerant composition as claimed in any of claims 1-13 consisting essentially of:

R134a	93.1 to 81.5%
R125	5 – 15%
isopentane	0.6 to 1%
butane	1.3 to 2.5%

33. A refrigerant composition as claimed in any of claims 1-13 consisting essentially of:

R134a	83%
R125	5%
isopentane	0.6%
butane	1.4%

34. A refrigerant composition as claimed in any of claims 1-13 consisting essentially of:

R134a	93.2 to 80%
R125	5 to 15%
isopentane	0.6 to 1%
butane	0.6 to 3%
isobutane	0.6 to 1%

35. A refrigerant composition as claimed in any of claims 1-13 consisting essentially of:

R134a	93%
R125	5%
isopentane	0.6%
butane	0.8%
isobutane	0.6%

36. A refrigerant composition as claimed in any of claims 1-13 consisting essentially of:

R134a	53.2 to 39%
R125	45 to 55%
isopentane	0.6 to 1%
butane	0.6 to 3%
isobutane	0.6 to 2%

37. A refrigerant composition as claimed in any of claims 1-13 consisting essentially of:

R134a	47.5%
R125	50%
isopentane	0.6%
butane	1%

isobutane	0.9%

38. A refrigerant composition as claimed in any of claims 1-13 consisting essentially of:

R134a	10 to 30%
R125	80 to 40%
R143a	10 to 30%
isopentane	0.6 to 2%
butane	0.6 to 5%
isobutane	0.6 to 5%

39. A refrigerant composition as claimed in any of claims 1-13 consisting essentially of:

R134a	16.5%
R125	60%
R143a	21%
isopentane	0.6%
butane	0.9%
isobutane	1%

40. A refrigerant composition as claimed in any of claims 1-13 consisting essentially of:

R125	75 to 55%
R143a	25 to 45%
butane	0.6 to 5%

41. A refrigerant composition as claimed in any of claims 1-13 consisting essentially of:

R125	60.5%

R143a	37%
butane	1%
isobutane	1.5%

42. A refrigerant composition as claimed in any of claims 1-13 consisting essentially of:

R125	60.5%
R143a	37%
butane	0.9%
isobutane	1%
isopentane	0.6%

43. A refrigerant composition as claimed in any of claims 1-13 consisting essentially of:

R134a	58.2 to 36%
R227ea	35 to 50%
R125	5 to 8%
isopentane	0.6 to 2%
butane	0.6 to 2%
isobutane	0.6 to 2%

44. A refrigerant composition as claimed in any of claims 1-13 consisting essentially of:

R134a	51%
R227ea	41%
R125	6%
isopentane	0.6%
butane	0.8%
isobutane	0.6%

CLAIMS

1. A refrigerant composition consisting by weight essentially of:

R134a	53.2 to 39%
R125	45 to 55%
isopentane	0.6 to 1%
butane	0.6 to 3%
isobutane	0.6 to 2%.

2. A refrigerant composition as claimed in claim 1 consisting essentially of:

R134a	47.5%
R125	50%
isopentane	0.6%
butane	1%
isobutane	0.9%.

3. A composition as claimed in any preceding claim wherein the composition is non-flammable when completely in the vapour phase; and

wherein when the composition is in a container with both vapour and liquid present, neither vapour nor liquid phase is flammable; and

wherein at any time during a leak from a vapour space in a container neither the liquid phase nor the vapour phase is flammable.

4. A composition as claimed in any preceding claim wherein the proportion of hydrocarbon to hydrofluorocarbon in the vapour phase does not differ from the equivalent proportion in the liquid phase by more than 40% at equilibrium at 25°C.

5. A composition as claimed in claim 4 wherein the proportion does not differ by more than 30%.

6. A composition as claimed in claim 4 wherein the proportion does not differ by more than 20%.

7. A composition as claimed in any preceding claim wherein the proportion of hydrocarbon to hydrofluorocarbon in the vapour phase does not differ from the formulated composition by more than 40% at equilibrium at 25°C.

8. A composition as claimed in claim 7 wherein the proportion does not differ by more than 30%.

9. A composition as claimed in claim 8 wherein the proportion does not differ by more than 20%.

10. A composition as claimed in any preceding claim wherein during a leak from the vapour space or liquid space of a container, the proportion of hydrocarbon to hydrofluorocarbon in either of the vapour phase or the liquid phase does not differ from the formulated composition by more than 40% at equilibrium at 25°C.

11. A composition as claimed in claim 10 wherein the proportion does not differ by more than 40%.

12. A composition as claimed in claim 11 wherein the proportion does not differ by more than 20%.