CLAIMS

1. A refrigerant blend consisting of:
about 50% by weight difluoromethane (HFC-32),
about 11.5% by weight pentafluoroethane (HFC-125), and
about 38.5% by weight trifluoroiodomethane (CF_3I),
wherein the percentages are based on the total weight of the three compounds in the blend.

2. A heat transfer composition comprising a refrigerant according to claim 1.

3. The heat transfer composition as claimed in claim 2, wherein the refrigerant comprises greater than 70% by weight of the heat transfer composition.

4. The heat transfer composition of claim 3 further comprising a phenol stabilizer.

5. The heat transfer composition of claim 4 wherein the phenol stabilizer comprises BHT present in the heat transfer composition in an amount of from about 0.001% by weight to about 5 % by weight of the heat transfer composition.

6. The heat transfer composition of claim 5 further comprising a polyol ester (POE) lubricant.

7. The heat transfer composition of claim 6 wherein said refrigerant has a Global Warming Potential (GWP) of not greater than 750.

8. A method of cooling in a heat transfer system comprising an evaporator, a condenser and a compressor, the method comprising i) condensing a refrigerant blend according to claim 1 and ii) evaporating the blend in the vicinity of a body or article to be

cooled; wherein the evaporator temperature of the heat transfer system is in the range of from about – 40^{o}C to about – 10^{o}C.

9. The method of claim 8 wherein the heat transfer system is an air conditioning system.

10. A method of replacing an existing refrigerant contained in a heat transfer system comprising removing at least a portion of said existing refrigerant from said system, said existing refrigerant being R-410A and replacing at least a portion of said existing refrigerant by introducing into said system a refrigerant according to claim 1.

11. The method of claim 10 wherein the heat transfer system is an air conditioning system.

12. A heat transfer composition comprising a refrigerant consisting of:

from 48% by weight to 51% by weight difluoromethane (HFC-32),

11.5% +/- 1% by weight pentafluoroethane (HFC-125), and

from 36.5% by weight to 40.5% by weight trifluoroiodomethane (CF3I), wherein said refrigerant is non-flammable when tested in accordance with ASTM E681-2009 as required in ASHRAE Standard 34-2013 and described in Appendix B1 to ASHRAE Standard 34-2013.

13. The heat transfer composition of claim 12 wherein said CF3I is present in said refrigerant in an amount of about 38.5% by weight.

14. The heat transfer composition of claim 12 wherein said HFC-125 is present in said refrigerant in an amount of 11.5% +/- 0.5% by weight.

15. The heat transfer composition of claim 12 wherein said HFC-32 is present in said refrigerant in an amount of about 50% by weight.

16. The heat transfer composition of claim 14 wherein said HFC-32 is present in said refrigerant in an amount of about 50% by weight.

17. The heat transfer composition of claim 12 further comprising a polyol ester (POE) lubricant.

18. A method of cooling air in a heat transfer system having an evaporator, a condenser, a compressor and refrigerant in the system, the method comprising:

(i) condensing the refrigerant, wherein said refrigerant consists of:

from 48% by weight to 51% by weight difluoromethane (HFC-32),

11.5% +/- 0.5% by weight pentafluoroethane (HFC-125), and

from about 36.5% by weight to about 40.5% by weight trifluoroiodomethane (CF3I), and wherein said refrigerant is non-flammable when tested in accordance with ASTM E681-2009 as required in ASHRAE Standard 34-2013 and described in Appendix B1 to ASHRAE Standard 34-2013; and

ii) evaporating the refrigerant, wherein the evaporating comprises evaporating the refrigerant at a temperature of from about -40°C to about -10°C.

19. The method of claim 18 wherein said CF3I is present in said refrigerant in an amount of about 38.5% by weight.

20. The method of claim 18 wherein said system further contains therein a polyol ester (POE) lubricant for said compressor.

21. The method of claim 18 wherein said system is a stationary air conditioning system or a chiller system.

22. A method of heating air in a heat transfer system having an evaporator, a condenser, a compressor and refrigerant in the system, the method comprising:

(i) condensing the refrigerant, wherein said refrigerant consists of:

from 48% by weight to 51% by weight difluoromethane (HFC-32),

about 11.5% +/- 0.5% by weight pentafluoroethane (HFC-125), and

from about 36.5% by weight to about 40.5% by weight trifluoroiodomethane (CF3I), and wherein said refrigerant is non-flammable when tested in accordance with ASTM E681-2009 as required in ASHRAE Standard 34-2013 and described in Appendix B1 to ASHRAE Standard 34-2013; and

ii) evaporating the refrigerant, wherein the evaporating comprises evaporating the refrigerant at a temperature of from about - 20°C to about 3°C.

23. The method of claim 16 wherein said system further contains polyol ester (POE) lubricant for said compressor.