CLAIMS OF THE INVENTION

What is claimed is:

1. A process of thermal fluid reclamation comprising:

   recovering a thermal fluid comprising at least a first refrigerant compound, a second refrigerant compound and a third refrigerant compound;

   testing the recovered thermal fluid and validating that the recovered thermal fluid has greater than about 95 wt% organic purity; and

   distilling the recovered thermal fluid to form at least one distillate comprising the first refrigerant compound and the second refrigerant compound as a reclaimed thermal fluid, wherein the reclaimed thermal fluid is azeotropic, near-azeotrope, or close-boiling.

2. The process of claim 1, wherein the reclaimed thermal fluid is a thermal fluid product, the process further comprising supplying the reclaimed thermal fluid to a heat transfer system for use therein.

3. The process of claim 1, further comprising packaging the reclaimed thermal fluid for commercial sale as a thermal fluid product for use in a heat transfer system.

4. The process of claim 1, further comprising supplying the reclaimed thermal fluid for formation of a thermal fluid product.

5. The process of claim 1, the process further comprising adjusting a ratio of the first refrigerant compound to the second refrigerant compound of the reclaimed thermal fluid by adding an additional amount of at least one of the first refrigerant compound and the second refrigerant compound to the reclaimed thermal fluid.

6. The process of claim 1, wherein the validating comprises removing one or more impurities from the recovered thermal fluid before distilling such that the recovered thermal fluid has greater than about 95 wt% organic purity.

7. The process of claim 6, wherein the one or more impurities comprises an oil.

8. The process of claim 1, further comprising adding a stabilizer package to the reclaimed thermal fluid.

9. The process of claim 1, wherein the reclaimed thermal fluid is azeotropic.

10. The process of claim 1, further comprising testing the reclaimed thermal fluid and validating that the reclaimed thermal fluid has greater than about 95 wt% organic purity

11. The process of claim 10, wherein validating of the reclaimed thermal fluid comprises removing one or more impurities from the reclaimed thermal fluid such that the reclaimed thermal fluid has greater than about 95 wt% organic purity.

12. The process of claim 1, further comprising purifying the reclaimed thermal fluid to a state that meets AHRI Standard 700 purity specifications.

13. The process of claim 1, wherein the distilling of the recovered thermal fluid forms a further distillate comprising the third refrigerant compound as a second reclaimed thermal fluid, wherein the second reclaimed thermal fluid is a neat reclaimed thermal fluid.

14. The process of claim 1, wherein the recovered thermal fluid further comprises a fourth refrigerant compound, and wherein the distilling of the recovered thermal fluid forms a further distillate comprising the third refrigerant compound and the fourth refrigerant compound as a second reclaimed thermal fluid, wherein the first reclaimed thermal fluid and the second reclaimed thermal fluid are azeotropic, near-azeotrope, or close-boiling.

15. The process of claim 1, wherein the recovered thermal fluid further comprises a fourth refrigerant compound and a fifth refrigerant compound, and wherein the distilling of the recovered thermal fluid forms a second distillate comprising the third refrigerant compound and the fourth refrigerant compound as a second reclaimed thermal fluid and a third distillate comprising the fifth refrigerant compound as a third reclaimed thermal fluid, wherein the first reclaimed thermal fluid and the second reclaimed thermal fluid are azeotropic, near-azeotrope, or close-boiling and wherein the third reclaimed thermal fluid is a neat reclaimed thermal fluid.

16. The process of claim 1, wherein the testing and validating of the recovered thermal fluid comprises testing and validating that the recovered thermal fluid has greater than about 99 wt% or about 99.5 wt% organic purity.

17. The process of claim 16, wherein the validating comprises removing one or more impurities from the recovered thermal fluid before distilling such that the recovered thermal fluid has greater than about 99 wt% or greater than about 99.5 wt% organic purity.

18. The process of claim 10, wherein the testing and validating of the reclaimed thermal fluid comprises testing and validating that the reclaimed thermal fluid has greater than about 99 wt% or about 99.5 wt% organic purity.

19. The process of claim 18, wherein the validating of the reclaimed thermal fluid comprises removing one or more impurities from the reclaimed thermal fluid such that the reclaimed thermal fluid has greater than about 99 wt% or about 99.5 wt% organic purity.