TITLE

PRODUCING HEATING USING WORKING FLUIDS COMPRISING Z-1,1,1,4,4,4-HEXAFLUORO-2-BUTENE

ABSTRACT OF THE INVENTION

Disclosed herein is a method for producing heating in a high temperature heat pump comprising condensing a vapor working fluid comprising Z-1,1,1,4,4,4-hexafluoro-2-butene, in a condenser, thereby producing a liquid working fluid. Also disclosed herein is a method of raising the maximum feasible condenser operating temperature in a high temperature heat pump apparatus comprising charging the high temperature heat pump with a working fluid comprising Z-1,1,1,4,4,4-hexafluoro-2-butene. Also disclosed herein is a composition comprising: (a) Z-1,1,1,4,4,4-hexafluoro-2-butene; (b) 2-chloropropane; and (c) at least one lubricant suitable for use at a temperature of at least about 150°C; wherein the 2-chloropropane is present in an amount effective to form an azeotrope or azeotrope-like combination with the Z-1,1,1,4,4,4-hexafluoro-2-butene. Also disclosed herein is a high temperature heat pump apparatus containing a working fluid comprising Z-1,1,1,4,4,4-hexafluoro-2-butene.

[Figure 1]

TITLE

PRODUCING HEATING USING WORKING FLUIDS COMPRISING Z-1,1,1,4,4,4-HEXAFLUORO-2-BUTENE

ABSTRACT OF THE INVENTION

Disclosed herein is a method for producing heating in a high temperature heat pump comprising condensing a vapor working fluid comprising Z-1,1,1,4,4,4-hexafluoro-2-butene, in a condenser, thereby producing a liquid working fluid. Also disclosed herein is a method of raising the maximum feasible condenser operating temperature in a high temperature heat pump apparatus comprising charging the high temperature heat pump with a working fluid comprising Z-1,1,1,4,4,4-hexafluoro-2-butene. Also disclosed herein is a composition comprising: (a) Z-1,1,1,4,4,4-hexafluoro-2-butene; (b) 2-chloropropane; and (c) at least one lubricant suitable for use at a temperature of at least about 150°C; wherein the 2-chloropropane is present in an amount effective to form an azeotrope or azeotrope-like combination with the Z-1,1,1,4,4,4-hexafluoro-2-butene. Also disclosed herein is a high temperature heat pump apparatus containing a working fluid comprising Z-1,1,1,4,4,4-hexafluoro-2-butene.

[Figure 1]