

WHAT IS CLAIMED IS:

1. A system of a refrigerating apparatus, said system comprising a compressor sealedly containing an HFC type refrigerant and refrigerator oil compatible with the HFC type refrigerant, a condenser, a pressure reducer and an evaporator sequentially connected by refrigerant feed pipes to establish a refrigerating circuit, said compressor being contained within a hermetically sealed container, wherein said system is characterized in that said refrigerator oil contains as base oil components a polyol-ester type oil formed by reacting a polyhydric alcohol selected from the group consisting of pentaerythritol (PET), trimethylolpropane (TMP) and neopentylglycol (NGL) with a fatty acid, to which a 0.1 to 2.0% by weight of tricresylphosphate (TCP) and a 0.01 to 10% by weight of epoxy compound comprising glycidyl ether or a 0.01 to 10% by weight of carbodiimide are added, and that sliding members of the compressor are made of a material selected from the group consisting of iron type materials, composite materials of aluminum and carbon, iron type materials surface-treated with chromium nitride and ceramic materials.

2. A system of a refrigerating apparatus according to claim 1, wherein said refrigerator oil contains as base oil components a polyol-ester type oil formed by reacting pentaerythritol (PET) with a fatty acid.

3. A system of a refrigerating apparatus according to claim 1, wherein said refrigerator contains as base oil components a polyol-ester type oil formed by reacting trimethylolpropane (TMP) with a fatty acid.

4. A system of a refrigerating apparatus according to claim 1, wherein said refrigerator oil contains as base oil components a polyol-ester type oil formed by reacting neopentylglycol (NPG) with a fatty acid.

5. A system of a refrigerating apparatus according to any of claims 1 through 4, wherein said compressor is a rotary type compressor comprising a roller made of an iron type material and a vane made of a material selected from the group consisting of iron type materials, composite materials of aluminum and carbon and iron type materials surface-treated with chromium nitride.

6. A system of a refrigerating apparatus according to any of claims 1 through 4, wherein said compressor is a reciprocating type compressor comprising piston/cylinder and rotary shaft/bearing combinations made of a material selected from the group consisting of iron type materials, composite materials of aluminum and carbon and iron type materials surface-treated with chromium nitride.

7. A system of a refrigerating apparatus, said system comprising a compressor sealedly containing an HFC type refrigerant and refrigerator oil compatible with the HFC type refrigerant, a condenser, a pressure reducer and an evaporator sequentially connected by refrigerant feed pipes to establish a refrigerating circuit, said compressor being contained within a hermetically sealed container, wherein said system is characterized in that said refrigerator oil contains as base oil components a polyol-ester type oil formed by reacting trimethylolpropane (TMP) or pentaerythritol (PET) with a fatty acid, to which a 0.1 to

2.0% by weight of tricresylphosphate (TCP), epoxy compound comprising glycidyl ether or carbodiimide are added, and that sliding members of the compressor are made of a material selected from the group consisting of iron type materials, composite materials of aluminum and carbon and iron type materials surface-treated with chromium nitride.

8. A system of a refrigerating apparatus according to claim 7, wherein said compressor is a rotary type compressor comprising a roller made of an iron type material and a vane made of a material selected from the group consisting of composite materials of aluminum and carbon and iron type materials surface-treated with chromium nitride.

9. A system of a refrigerating apparatus according to claim 7, wherein said compressor is a reciprocating type compressor comprising piston/cylinder and rotary shaft/bearing combinations made of a material selected from the group consisting of iron type materials, composite materials of aluminum and carbon and iron type materials surface-treated with chromium nitride.

10. A system of a refrigerating apparatus according to any of claims 1 to 9, wherein said polyol-ester type oil further comprises a 0.01 to 1.0% by weight of phenol type oxidation preventive agent.

11. A system of a refrigerating apparatus according to claim 10, wherein said phenol type oxidation preventive agent is selected from the group consisting of 2,6-di-t-butyl-paracresol, 2,6-di-t-butyl-phenol and 2,4,6-tri-t-butyl-

phenol.

12. A system of a refrigerating apparatus according to any of claims 1 to 11, wherein said polyol-ester type oil further comprises a 1 to 100 ppm of copper inactivation agent.

13. A system of a refrigerating apparatus according to claim 12, wherein said copper inactivation agent is selected from benzotriazole type compounds.

14. A lubricating oil composition comprising as base oil components a polyol-ester type oil formed by reacting a polyhydric alcohol selected from the group consisting of pentaerythritol (PET), trimethylolpropane (TMP) and neopentylglycol (NPG) with a fatty acid having 6 to 10 carbon atoms, to which a 0.1 to 2.0 % by weight of tricresylphosphate (TCP) and a 0.01 to 10% by weight of epoxy compound comprising glycidyl ether or a 0.01 to 10% by weight of carbodiimide are added to enhance the stability and lubricity of the composition.

15. A lubricating oil composition comprising as base oil components a polyol-ester type oil formed by reacting trimethylolpropane (TMP), or pentaerythritol (PET) with a fatty acid having to 6 to 10 carbon atoms, to which a 0.1 to 2.0% by weight of tricresylphosphate (TCP), epoxy compound comprising glycidyl ether or carboiimide are added to enhance the stability and lubricity of the composition.

16. A lubricating oil composition according to any of claim 14 or 15, wherein said polyol-ester type oil further comprises a 0.01 to 1.0% by weight of phenol type oxidation preventive agent.

17. A lubricating oil composition according to claim 16, wherein said phenol type oxidation preventive agent is selected from the group consisting of 2,6-di-t-butyl-paracresol, 2,6-di-t-butyl-phenol and 2,4,6-tri-t-butyl-phenol.

18. A lubricating oil composition according to any of claims 14 to 17, wherein said polyol-ester type oil further comprises a 1 to 100 ppm of copper inactivation agent.

19. A lubricating oil composition according to claim 18, wherein said copper inactivation agent is selected from benzotriazole type compounds.

20. A lubricating oil composition to be applied to sliding members of a compressor that are made of a material selected from the group consisting of iron type materials, composite materials of aluminum and carbon and iron type materials surface-treated with chromium nitride, said composition comprising as base oil components a polyol-ester type oil formed by reacting a polyhydric alcohol selected from the group consisting of pentaerythritol (PET), trimethylolpropane (TMP) and neopentylglycol (NPG) with a fatty acid having 6 to 10 carbon atoms, to which a 0.1 to 2.0% by weight of tricresylphosphate (TCP) and a 0.01 to 10% by weight of epoxy compound comprising glycidyl ether or a 0.01 to 10% by weight

of carbodiimide are added to enhance the stability and lubricity of the composition.

21. A lubricating oil composition to be applied to sliding members of a compressor that are made of a material selected from the group consisting of iron type materials, composite materials of aluminum and carbon and iron type materials surface-treated with chromium nitride, said composition comprising as base oil components a polyol-ester type oil formed by reacting trimethylolpropane (TMP), or pentaerythritol (PET) with a fatty acid having 6 to 10 carbon atoms, to which a 0.1 to 2.0% by weight of tricresylphosphate (TCP), epoxy compound comprising glycidyl ether or carbodiimide are added to enhance the stability and lubricity of the composition.

22. A refrigerator oil to be sealed contained in a compressor of a refrigerating apparatus, said refrigerator oil comprising the lubricating oil composition according of any of claims 14 through 21.