CLAIMS

1. A refrigerating machine oil comprising an ester of a polyhydric alcohol and a fatty acid, wherein the molar ratio of C_4-C_6 fatty acid and C_7-C_9 branched fatty acid in the fatty acid is between 15:85 and 90:10,

the C_4-C_6 fatty acid includes 2-methylpropanoic acid, and

the ratio of the total C_4-C_6 fatty acid and C_7-C_9 branched fatty acid in the total fatty acids composing the ester is at least 20 mol%.

2. The refrigerating machine oil according to claim 1, wherein the ratio of 2-methylpropanoic acid in the C_4-C_6 fatty acid is at least 20 mol%.

3. The refrigerating machine oil according to claim 1 or 2, wherein the C_4-C_6 fatty acid is 2-methylpropanoic acid.

4. The refrigerating machine oil according to any one of claims 1 to 3, wherein the polyhydric alcohol is pentaerythritol and the 40°C kinematic viscosity of the refrigerating machine oil is 20 to 80 mm^2/s.

5. The refrigerating machine oil according to any one of claims 1 to 4, wherein the C_7-C_9 branched fatty acid is 3,5,5-trimethylhexanoic acid.

6. A working fluid composition for a refrigerating machine, comprising the refrigerating machine oil according to any one of claims 1 to 5 and a difluoromethane refrigerant.

7. A working fluid composition for a refrigerating machine comprising the refrigerating machine oil according to any one of claims 1 to 5 and an unsaturated fluorinated hydrocarbon refrigerant.

8. A working fluid composition for a refrigerating machine comprising the refrigerating machine oil according to any one of claims 1 to 5, a difluoromethane refrigerant and an unsaturated fluorinated hydrocarbon refrigerant.

9. A working fluid composition for a refrigerating machine comprising the refrigerating machine oil according to any one of claims 1 to 5, a difluoromethane refrigerant and an unsaturated fluorinated hydrocarbon refrigerant, wherein the mass ratio of the difluoromethane refrigerant and the unsaturated fluorinated hydrocarbon refrigerant is between 95:5 and 50:50.

CLAIMS

1. A refrigerating machine oil comprising an ester obtained by esterification of only a polyhydric alcohol and a fatty acid mixture comprising at least one C_4-C_6 fatty acid and at least one C_7-C_9 branched fatty acid,

wherein the molar ratio of the at least one C_4-C_6 fatty acid and the at least one C_7-C_9 branched fatty acid in the fatty acid mixture is between 15:85 and 90:10,

the at least one C4-C6 fatty acid comprises 2-methylpropanoic acid, and

the total amount of the at least one C_4-C_6 fatty acid and the at least one C_7-C_9 branched fatty acid in the fatty acid mixture is at least 20mol%.

2. The refrigerating machine oil according to claim 1, wherein the ratio of 2-methylpropanoic acid in the at least one C_4-C_6 fatty acid is at least 20 mol%.

3. The refrigerating machine oil according to claim 1, wherein the at least one C_4-C_6 fatty acid is 2-methylpropanoic acid.

4. The refrigerating machine oil according to claim 1, wherein the polyhydric alcohol is pentaerythritol and the 40°C kinematic viscosity of the refrigerating machine oil is 20 to 80 mm^2/s.

5. The refrigerating machine oil according to claim 1, wherein the at least one C_7-C_9 branched fatty acid is 3,5,5-trimethylhexanoic acid.

6. A working fluid composition for a refrigerating machine, comprising the refrigerating machine oil according to claim 1 and a difluoromethane refrigerant.

7. A working fluid composition for a refrigerating machine comprising the refrigerating machine oil according to claim 1 and an unsaturated fluorinated hydrocarbon refrigerant.

8. A working fluid composition for a refrigerating machine comprising the refrigerating machine oil according to claim 1, a difluoromethane refrigerant and an unsaturated fluorinated hydrocarbon refrigerant.

9. A working fluid composition for a refrigerating machine comprising the refrigerating machine oil according to claim 1, a difluoromethane refrigerant and an unsaturated fluorinated hydrocarbon refrigerant, wherein the mass ratio of the difluoromethane refrigerant and the unsaturated fluorinated hydrocarbon refrigerant is between 95:5 and 50:50.