

Title (en)

LUBRICANT FOR VAPOR COMPRESSION REFRIGERATOR USING HYDROCARBON COOLANT

Title (de)

SCHMIERMITTEL FÜR DAMPFKOMPRESSIÖNSKÜHLSCHRANK MIT KOHLENWASSERSTOFFKÜHLMITTEL

Title (fr)

REFRIGERATEUR A COMPRESSION DE VAPEUR DANS LEQUEL UNE SUBSTANCE DE REFROIDISSEMENT HYDROCARBONEE EST UTILISEE

Publication

EP 1092760 B1 20050209 (EN)

Application

EP 00909736 A 20000317

Priority

- JP 0001675 W 20000317
- JP 9667599 A 19990402

Abstract (en)

[origin: EP1092760A1] The present invention provides a lubricant for a compression type refrigeration system using a lower hydrocarbon refrigerant, comprising as a main component a mineral oil having a kinematic viscosity at 40 DEG C of 3-150 mm²/s, a pour point of -25 DEG C or lower, a viscosity index of 50 or higher, %CP and %CA by n-d-M ring analysis of 50 or more and 12 or less, respectively, a nitrogen content of 20 ppm or lower, a sulfur content of 0.02-0.3% and an iodine value of 10 gI₂/100g or lower, a working fluid composition for the refrigeration system comprising the lubricant and the lower hydrocarbon refrigerant comprising hydrocarbon compounds having 1-5 carbon atoms, and a refrigeration system is filled with the working fluid composition. Because of excellent compatibility with a hydrocarbon refrigerant and also excellent stability and lubricating properties, the lubricant of the present invention is very useful for the refrigeration system using the hydrocarbon refrigerant, which does not have the fear of ozone layer depletion and global warming.

IPC 1-7

C10M 101/02; C10M 169/04; C10M 171/02; C10M 171/00

IPC 8 full level

C10M 101/02 (2006.01); **C10M 169/04** (2006.01); **C10M 171/00** (2006.01)

CPC (source: EP KR)

C10M 101/02 (2013.01 - EP KR); **C10M 129/10** (2013.01 - EP); **C10M 129/14** (2013.01 - EP); **C10M 133/12** (2013.01 - EP);
C10M 169/04 (2013.01 - EP); **C10M 171/008** (2013.01 - EP); **C10M 2203/10** (2013.01 - EP); **C10M 2203/1006** (2013.01 - EP);
C10M 2203/102 (2013.01 - EP); **C10M 2203/1025** (2013.01 - EP); **C10M 2203/1045** (2013.01 - EP); **C10M 2203/1065** (2013.01 - EP);
C10M 2203/1085 (2013.01 - EP); **C10M 2207/023** (2013.01 - EP); **C10M 2207/024** (2013.01 - EP); **C10M 2207/026** (2013.01 - EP);
C10M 2207/027 (2013.01 - EP); **C10M 2207/042** (2013.01 - EP); **C10M 2207/046** (2013.01 - EP); **C10M 2209/084** (2013.01 - EP);
C10M 2215/06 (2013.01 - EP); **C10M 2215/064** (2013.01 - EP); **C10M 2215/065** (2013.01 - EP); **C10M 2215/066** (2013.01 - EP);
C10M 2215/067 (2013.01 - EP); **C10M 2215/068** (2013.01 - EP); **C10M 2215/22** (2013.01 - EP); **C10M 2215/221** (2013.01 - EP);
C10M 2215/225 (2013.01 - EP); **C10M 2215/226** (2013.01 - EP); **C10M 2215/30** (2013.01 - EP); **C10M 2223/041** (2013.01 - EP);
C10M 2229/041 (2013.01 - EP); **C10N 2040/00** (2013.01 - EP); **C10N 2040/30** (2013.01 - EP); **C10N 2040/32** (2013.01 - EP);
C10N 2040/34 (2013.01 - EP); **C10N 2040/36** (2013.01 - EP); **C10N 2040/38** (2020.05 - EP); **C10N 2040/40** (2020.05 - EP);
C10N 2040/42 (2020.05 - EP); **C10N 2040/44** (2020.05 - EP); **C10N 2040/50** (2020.05 - EP)

Cited by

EP2423298A1; EP2039746A4; US11365368B2; US8193129B2; US8227387B2; US8227388B2; US8232233B2; US8236740B2; US8247360B2;
US8299006B2

Designated contracting state (EPC)

DE ES FR GB IT

DOCDB simple family (publication)

EP 1092760 A1 20010418; EP 1092760 A4 20020731; EP 1092760 B1 20050209; CN 1183236 C 20050105; CN 1297472 A 20010530;
DE 60018005 D1 20050317; DE 60018005 T2 20051229; ES 2233339 T3 20050616; JP 3933872 B2 20070620; KR 100648186 B1 20061123;
KR 20010052428 A 20010625; WO 0060031 A1 20001012

DOCDB simple family (application)

EP 00909736 A 20000317; CN 00800452 A 20000317; DE 60018005 T 20000317; ES 00909736 T 20000317; JP 0001675 W 20000317;
JP 2000609524 A 20000317; KR 20007013422 A 20001128