

Title (en)

Mannich bases useful in middle distillate fuel having improved storage stability.

Title (de)

Mannich-Basen, verwendbar in Mitteldestillatkraftstoff mit verbesserter Lagerungsbeständigkeit.

Title (fr)

Bases de mannich utiles dans un combustible de distillat moyen ayant une stabilité au stockage améliorée.

Publication

EP 0408087 A1 19910116 (EN)

Application

EP 90116830 A 19900220

Priority

US 31874889 A 19890302

Abstract (en)

Mannich Bases derived from a hindered phenol, formaldehyde and an amine are useful as stabilizers for middle distillate fuels.

IPC 1-7

C07D 239/04; C10L 1/22

IPC 8 full level

C07D 239/04 (2006.01); **C10L 1/14** (2006.01); **C10L 1/22** (2006.01); **C10L 1/222** (2006.01); **C10L 1/232** (2006.01); **C10L 1/18** (2006.01); **C10L 1/24** (2006.01)

CPC (source: EP)

C10L 1/14 (2013.01); **C10L 1/22** (2013.01); **C10L 1/221** (2013.01); **C10L 1/232** (2013.01); **C10L 1/1832** (2013.01); **C10L 1/2222** (2013.01); **C10L 1/2283** (2013.01); **C10L 1/2493** (2013.01)

Citation (applicant)

- EP 0385633 A1 19900905 - ETHYL PETROLEUM ADDITIVES INC [US]
- US 2984550 A 19610516 - CHAMOT WALTER M
- US 3490882 A 19700120 - DUNWORTH WILLIAM P
- US 4166726 A 19790904 - HARLE OLIVER L [US]
- US 4501595 A 19850226 - SUNG RODNEY L [US], et al
- US 4533361 A 19850806 - SUNG RODNEY L [US], et al

Citation (search report)

- [A] US 4025316 A 19770524 - STOVER WILLIAM HAROLD
- [A] US 3725480 A 19730403 - TRAISE T, et al
- [A] US 3634515 A 19720111 - PIASEK EDMUND J, et al
- [A] BE 660155 A 19650616
- [A] US 4668412 A 19870526 - HART WILLIAM P [US], et al
- [A] US 3787416 A 19740122 - CYBA H

Designated contracting state (EPC)

BE DE ES FR GB IT

DOCDB simple family (publication)

EP 0385633 A1 19900905; EP 0385633 B1 19930407; AU 5060390 A 19900906; AU 619957 B2 19920206; CA 2010183 A1 19900902; DE 69001269 D1 19930513; DE 69001269 T2 19930722; EP 0408087 A1 19910116; JP H02292392 A 19901203

DOCDB simple family (application)

EP 90301791 A 19900220; AU 5060390 A 19900301; CA 2010183 A 19900215; DE 69001269 T 19900220; EP 90116830 A 19900220; JP 4736490 A 19900301