

Title (en)  
Cyclic thioureas as additives for lubricating oils

Title (de)  
Cyclische Thioharnstoffe als Zusatz für Schmieröle

Title (fr)  
Thioureas comme additifs pour huiles lubrifiantes

Publication  
**EP 1394241 A1 20040303 (EN)**

Application  
**EP 03254689 A 20030728**

Priority  
US 40154002 P 20020807

Abstract (en)  
A composition comprising: (a) from 0.1% to 20% of at least one cyclic thiourea compound of formula I: <CHEM> wherein W is O or S; R<1> and R<2> independently are hydrogen, alkyl, alkenyl, aryl or aralkyl; R<3> and R<4> independently are hydrogen, alkyl, alkenyl, aryl or aralkyl, or R<3> and R<4> groups combine with ring carbon atoms to which they are attached to form a five- to seven-membered heterocyclic ring; and (b) a lubricating oil.

IPC 1-7  
**C10M 135/16**

IPC 8 full level  
**C10M 135/32** (2006.01); **C10M 105/24** (2006.01); **C10M 107/04** (2006.01); **C10M 135/16** (2006.01); **C10M 135/36** (2006.01); **C10N 30/06** (2006.01); **C10N 30/10** (2006.01); **C10N 30/12** (2006.01)

CPC (source: EP US)  
**C10M 105/24** (2013.01 - EP US); **C10M 107/04** (2013.01 - EP US); **C10M 135/16** (2013.01 - EP US); **C10M 135/36** (2013.01 - EP US); **C10M 2205/143** (2013.01 - EP US); **C10M 2205/163** (2013.01 - EP US); **C10M 2207/1253** (2013.01 - EP US); **C10M 2219/09** (2013.01 - EP US); **C10M 2219/102** (2013.01 - EP US); **C10N 2010/04** (2013.01 - EP US); **C10N 2030/06** (2013.01 - EP US); **C10N 2030/10** (2013.01 - EP US); **C10N 2030/12** (2013.01 - EP US); **C10N 2050/023** (2020.05 - EP US)

Citation (search report)  
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• [Y] US 4189587 A 19800219 - HOLT BRIAN [GB], et al  
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Designated contracting state (EPC)  
DE FR GB IT

DOCDB simple family (publication)  
**US 2004029743 A1 20040212**; EP 1394241 A1 20040303; JP 2004162027 A 20040610

DOCDB simple family (application)  
**US 63611103 A 20030807**; EP 03254689 A 20030728; JP 2003287826 A 20030806