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54 **Process for upgrading diesel oils.**

57 A process for upgrading diesel oil to produce an up-graded diesel fuel comprising the steps of:

(a) reacting a diesel oil, having a boiling point at normal pressure of about 300°F to about 700°F, derived from a petroleum source with an oxidant selected from the group consisting of nitrogenous oxidizing agents and ozone wherein

(1) the reacting is to an extent sufficient to increase the cetane number of the diesel oil obtained in step (a) by at least 5 cetane numbers over the cetane number of the diesel oil feed to step (a), and

(2) (i) the reacting is such that when the oxidant is a nitrogenous treating agent, the amount of oxidant, equivalent on a 100% nitric acid basis, is about 10% or less by weight of diesel oil feed to step (a); and
(ii) the reacting is such that when the oxidant is ozone, the amount of oxidant is sufficient to achieve an about 10% or greater reduction in the sulfur content of the reacted diesel oil obtained in step (a) over the diesel oil feed to step (a);

(b) contacting the diesel oil from step (a) above with an extracting solvent, the extracting solvent

(1) having a dipole moment of about 2 or greater.

(2) being substantially immiscible with the diesel oil at

the temperature of contacting with the diesel oil obtained in step (a).

(3) being a nonhalogenated solvent, and

(4) excluding amines, which are reactive with the oxidant,

or a mixture of such solvents or a water mixture of such solvents comprising about 50% by weight or less water; and

(c) separating the diesel oil from step (b) above from the extracting solvent to recover upgraded diesel fuel.



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EUROPEAN SEARCH REPORT

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Application Number

EP 87 30 1467

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
D,A	US-A-4 280 818 (SCHULZ et al.) ---		C 10 G 53/10
A	US-A-3 309 309 (F.K. HESS) ---		C 10 G 53/14
A	US-A-4 113 607 (MILLER) ---		
A	US-A-3 197 400 (FIERCE et al.) ---		
D,A	EP-A-0 097 055 (ENVIRONMENTAL RESEARCH AND TECHNOLOGY, INC.) ---		
A	US-A-2 521 698 (DENISON et al.) -----		
			TECHNICAL FIELDS SEARCHED (Int. Cl.4)
			C 10 G C 10 L
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 27-10-1988	Examiner LO CONTE C.
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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