9902071-1
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INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 :		(11) International Publication Number:	WO 98/19789
B01J 19/00, C07C 51/31, B01J 19/26, 10/00	A1	(43) International Publication Date:	14 May 1998 (14.05.98)

(21) International Application Number: PCT/US97/17684

(22) International Filing Date: 30 September 1997 (30.09.97)

(30) Priority Data:
60/030,699 7 November 1996 (07.11.96) US
08/861,180 21 May 1997 (21.05.97) US

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(81) Designated States: AL, AM, AT, AU, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG).

Published
With international search report.

(54) Title: METHODS AND DEVICES FOR CONTROLLING THE OXIDATION RATE OF A HYDROCARBON BY ADJUSTING THE RATIO OF THE HYDROCARBON TO A RATE-MODULATOR

(57) Abstract

Methods and devices for controlling the oxidation rate of a hydrocarbon to an acid by adjusting addition of a rate-modulator are disclosed. In order to control oxidation rate, the ratio of hydrocarbon to rate-modulator is appropriately adjusted. Preferably, this ratio is adjusted continually based on feedback relative to oxidation progress parameters. It may be kept substantially constant at steady state conditions of the oxidation, or it may take a path of predetermined values. The rate-modulator preferably comprises a hydrocarbon oxidation initiator.

