

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
15 February 2024 (15.02.2024)



(10) International Publication Number
WO 2024/033645 A1

(51) International Patent Classification:

C10L 1/16 (2006.01) C10L 1/224 (2006.01)
C10L 1/196 (2006.01) C10L 1/238 (2006.01)
C10L 1/197 (2006.01) C10L 10/14 (2006.01)

(21) International Application Number:

PCT/GB2023/052110

(22) International Filing Date:

09 August 2023 (09.08.2023)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/396,321 09 August 2022 (09.08.2022) US
2214655.9 05 October 2022 (05.10.2022) GB

(71) Applicant: **INNOSPEC FUEL SPECIALTIES LLC**
[US/US]; Suite 350, 8310 South Valley Highway, Englewood, Colorado 80112 (US).

(71) Applicant (for DJ only): **APPLEDENE LIMITED**
[GB/GB]; 15 Clare Road, Halifax Yorkshire HX1 2HY (GB).

(72) Inventors: **LENNON, Jason Allen**; 303 Chestnut Ave, Wilmington, Delaware 19809 (US). **GOLISZ, Suzanne**; Innospec Fuel Specialties LLC, Suite 350, 8310 South Valley Highway, Englewood, Colorado 80112 (US).

(74) Agent: **APPLEYARD LEES IP LLP**; 15 Clare Road, Halifax Yorkshire HX1 2HY (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, MG, MK, MN, MU, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

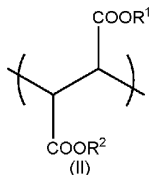
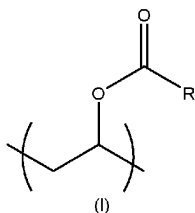
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, CV, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, ME, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

— with international search report (Art. 21(3))

(54) Title: IMPROVEMENTS IN FUELS

(57) Abstract: A fuel composition comprising renewable diesel and one or more low temperature enhancing additives selected from: (a) a copolymer comprising units of formula (I): and units of formula (II): wherein R is an alkyl group and each of R¹ and R² is an alkyl or alkenyl group having 6 to 22 carbon atoms; (b) the reaction product of a polycarboxylic acid having at least one tertiary amino group and a primary or secondary amine; and (c) the reaction product of secondary amines and a copolymer of maleic anhydride and an α -olefin.



WO 2024/033645 A1