



(51) International Patent Classification:

C10L 1/08 (2006.01) *C10B 57/12* (2006.01)
C10G 1/06 (2006.01) *C10G 3/00* (2006.01)
C10B 53/02 (2006.01) *C10L 1/02* (2006.01)

(21) International Application Number:

PCT/US2022/078419

(22) International Filing Date:

20 October 2022 (20.10.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/257,735 20 October 2021 (20.10.2021) US

(71) Applicant (for US only): SHELL USA, INC. [US/US];
P.O. Box 576, Houston, Texas 77001-0576 (US).(71) Applicant (for all designated States except CV, US): SHELL INTERNATIONALE RESEARCH
MAATSCHAPPIJ B.V. [NL/NL]; Carel van Bylandtlaan
30, NL-2596 The Hague (NL).

(72) Inventors: **VAN DIJK, Nicolaas**; Grasweg 31, 1031HW Amsterdam (NL). **BALAM, Harish Kumar**; Plot No 7, Bengaluru Hardware Park, Devanahalli Industrial Park, Mahadeva Kodigahalli, Bangalore North 562149, Karnataka (IN). **POPE, Michael Richard**; 2 York Road, Waterloo, London SE1 7NA (GB). **SHIOSAKI, Daniel Thomas**; 3333 Hwy 6 South, Houston, TX 77082-3101 (US). **CAIAZZO, Aldo**; Grasweg 31, 1031 HW Amsterdam (NL).

(74) Agent: **REYES, Priscilla T**; Shell USA, Inc., P.O. Box 576, Houston, Texas 77001-057 (US).

(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, 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,

(54) Title: BIOFUEL BLENDS

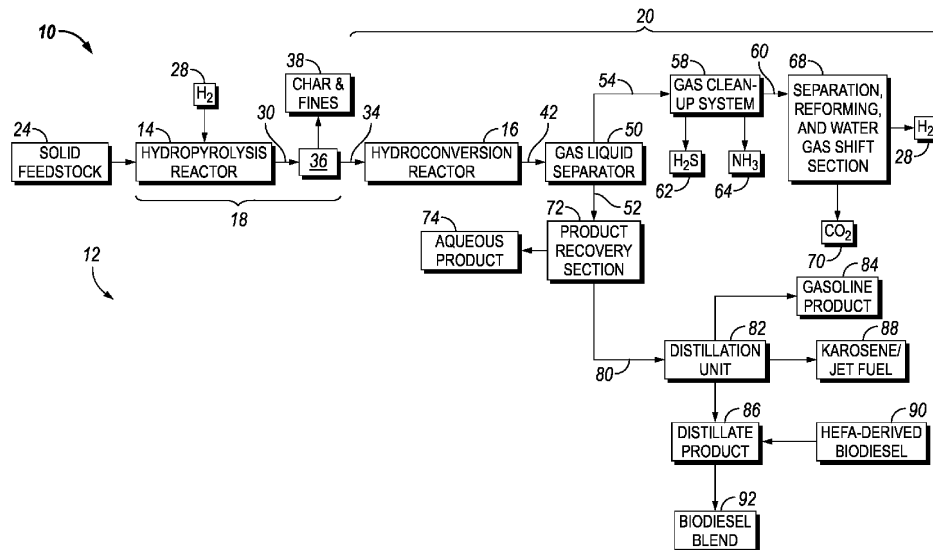


FIG. 1

(57) Abstract: A biofuel includes a mixture of a gasoil generated from hydrolysis and hydroconversion of a solid biomass containing lignocellulose. The gasoil has a cetane index less than 46. The biofuel also includes a hydroprocessed ester fatty acid (HEFA) generated from hydrotreating a renewable resource having fats and oils. A cetane index of the biofuel is greater than 46.

[Continued on next page]

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, 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))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*