

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
05 October 2023 (05.10.2023)



(10) International Publication Number
WO 2023/192286 A3

- (51) **International Patent Classification:**
C07D 207/408 (2006.01) *C10M 133/44* (2006.01)
C10L 1/232 (2006.01)
- (21) **International Application Number:**
PCT/US2023/016576
- (22) **International Filing Date:**
28 March 2023 (28.03.2023)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
63/324,918 29 March 2022 (29.03.2022) US
63/454,515 24 March 2023 (24.03.2023) US
- (71) **Applicant:** VERTELLUS HOLDINGS LLC [US/US];
201 North Illinois Street, Suite 1800, Indianapolis, Indiana
46204 (US).
- (72) **Inventors:** DUKE, Brett; 10077 Juban Crossing Blvd,
Apt 718, Denham Springs, Louisiana 70726 (US). AD-
HVARYU, Atanu; 4936 Riverplace Ct., Glen Allen, Vir-
ginia 23059 (US). STEPHENS, Matthew; 208 Grand Ave,
Cranston, Rhode Island 02905 (US).
- (74) **Agent:** LIPTAK, Vincent P; BARNES & THORNBURG
LLP, 11 South Meridian Street, Indianapolis, Indiana 46204
(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, 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).

Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

Published:

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

(88) Date of publication of the international search report:

09 November 2023 (09.11.2023)

(54) **Title:** ALKENYL SUCCINIMIDE COMPOUNDS AND THEIR USE

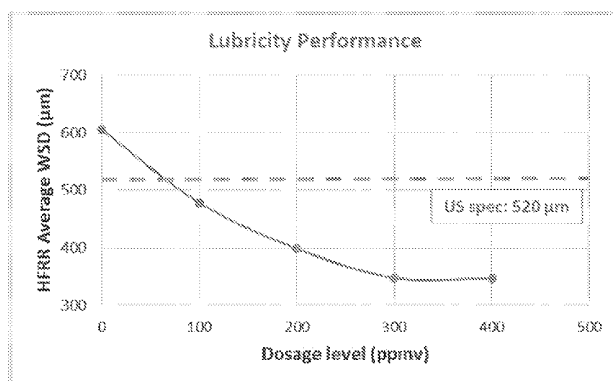


Fig. 1

(57) **Abstract:** This disclosure relates to processes for preparing succinimide derivatives that are useful in the chemical arts, such as in the manufacture of products, such as lubricants and fuel additives. In particular, the present disclosure pertains to novel processes for preparing certain succinimide derivatives.

WO 2023/192286 A3