

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

(19) World Intellectual Property
Organization

International Bureau

(43) International Publication Date
31 January 2019 (31.01.2019)



(10) International Publication Number
WO 2019/022890 A1

(51) International Patent Classification:

C07C 67/39 (2006.01) C07C 69/54 (2006.01)

(21) International Application Number:

PCT/US2018/039239

(22) International Filing Date:

25 June 2018 (25.06.2018)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

62/538,240 28 July 2017 (28.07.2017) US

(71) Applicants: ROHM AND HAAS COMPANY [US/US];
400 Arcola Road, Collegeville, PA 19426 (US). DOW
GLOBAL TECHNOLOGIES LLC [US/US]; 2040 Dow
Center, Midland, MI 48674 (US).

(72) Inventors: LIMBACH, Kirk W.; 400 Arcola Road, Col-
legeville, PA 19426 (US). WALKER, Justin; 1776 Build-
ing, Midland, MI 48674 (US). STOTTLEMYER, Alan
L.; 7613 Mammoth Pines Drive, Midland, MI 48642 (US).
HERRON, Jeffrey; 1776 Building, Midland, MI 48674
(US).

(74) Agent: CRIMALDI, Kenneth; Dow Global Technologies
LLC, 2040 Dow Center, Midland, Michigan 48674 (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, CZ, DE, DJ, DK, DM, DO,
DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN,
HR, HU, ID, IL, IN, IR, IS, JO, JP, KE, KG, KH, KN, KP,
KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME,
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, SM, ST, SV, SY, TH, TJ, TM, TN,
TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, 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, 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: A METHOD FOR PRODUCTION OF METHYL METHACRYLATE BY OXIDATIVE ESTERIFICATION USING A HETEROGENEOUS CATALYST

(57) Abstract: A method for preparing methyl methacrylate from methacrolein and methanol; said method comprising contacting in a reactor a mixture comprising methacrolein, methanol and oxygen with a catalyst bed of heterogeneous catalyst comprising a support and a noble metal, wherein base is added to the reactor while maintaining time to reach 95% homogeneity at no greater than 10 minutes.

WO 2019/022890 A1