

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

(19) World Intellectual Property
Organization

International Bureau

(43) International Publication Date
07 October 2021 (07.10.2021)



(10) International Publication Number
WO 2021/197953 A1

(51) International Patent Classification:

C07C 45/50 (2006.01) C07C 47/02 (2006.01)

(21) International Application Number:

PCT/EP2021/057526

(22) International Filing Date:

24 March 2021 (24.03.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

20167893.5 03 April 2020 (03.04.2020) EP

(71) Applicant: **BASF SE** [DE/DE]; Carl-Bosch-Strasse 38,
67056 Ludwigshafen Am Rhein (DE).

(72) Inventors: **PAPP, Rainer**; Carl-Bosch-Strasse 38, 67056
Ludwigshafen (DE). **HUETTEN, Frank**; Carl-Bosch-
Strasse 38, 67056 Ludwigshafen (DE). **JUNGSMANN,**
Dirk; Carl-Bosch-Strasse 38, 67056 Ludwigshafen (DE).
RICHMOND, Edward; Carl-Bosch-Strasse 38, 67056
Ludwigshafen (DE).

(74) Agent: **BASF IP ASSOCIATION**; BASF SE GBI - C006,
67056 Ludwigshafen (DE).

(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, IT, 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, 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, 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).

Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- of inventorship (Rule 4.17(iv))

Published:

- with international search report (Art. 21(3))
- in black and white; the international application as filed contained color or greyscale and is available for download from PATENTSCOPE

(54) Title: METHOD FOR THE HYDROFORMYLATION OF OLEFINS

(57) Abstract: Process for hydroformylation of olefins having 6 to 20 carbon atoms in the presence of a cobalt catalyst in the presence of an aqueous phase with thorough mixing in a reactor wherein a hydroformylation products-containing first stream is withdrawn at the top of the reactor and an aqueous phase-containing second stream is withdrawn from the bottom of the reactor via at least one line leading out of the bottom of the reactor, which process comprises controlling one or more mass flow parameters of the second stream in accordance with the density of the second stream.



WO 2021/197953 A1