

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
27 January 2022 (27.01.2022)



(10) International Publication Number
WO 2022/018013 A1

(51) International Patent Classification:

C08F 220/18 (2006.01) C09D 133/08 (2006.01)
C08F 2/26 (2006.01) C08K 3/22 (2006.01)

(21) International Application Number:

PCT/EP2021/070108

(22) International Filing Date:

19 July 2021 (19.07.2021)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

20186698.5 20 July 2020 (20.07.2020) EP
20215915.8 21 December 2020 (21.12.2020) EP

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

(72) Inventors: **ROSCHMANN, Konrad**; Carl-Bosch-Strasse
38, 67056 Ludwigshafen (DE). **LOHMEIJER, Basti-
aan**; Carl-Bosch-Strasse 38, 67056 Ludwigshafen (DE).
WOLF, Thomas; Carl-Bosch-Strasse 38, 67056 Lud-
wigshafen (DE). **WILLERICH, Immanuel**; Carl-Bosch-
Strasse 38, 67056 Ludwigshafen (DE). **WAGNER, Oliver**;
Carl-Bosch-Strasse 38, 67056 Ludwigshafen (DE).
EICHHORN, Sabine; Carl-Bosch-Strasse 38, 67056 Lud-
wigshafen (DE). **FLECKENSTEIN, Christoph**; Carl-
Bosch-Strasse 38, 67056 Ludwigshafen (DE). **FLEISCH-
HAKER, Friederike**; Carl-Bosch-Strasse 38, 67056 Lud-
wigshafen (DE). **MISSKE, Andrea**; Carl-Bosch-Strasse
38, 67056 Ludwigshafen (DE). **SCHEUBLE, Martin
Robert**; Carl-Bosch-Strasse 38, 67056 Ludwigshafen (DE).

(74) Agent: **REITSTÖTTER - KINZEBACH**; Im Zollhof 1,
67061 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))

(54) Title: AQUEOUS POLYMER LATEX OF FILM-FORMING COPOLYMERS SUITABLE AS BINDER IN WATERBORNE COATING COMPOSITIONS

(57) Abstract: The present invention relates to aqueous polymer latexes of film-forming copolymers which are suitable as binders in waterborne coating compositions, and are obtainable by aqueous emulsion polymerisation of ethylenically unsaturated monomers M, which comprise • 20 to 95% by weight, based on the total amount of monomers M, of at least one monomer M1, which is selected from isobutyl acrylate and isoamyl acrylate and mixtures thereof; • 0 to 55% by weight, based on the total amount of monomers M, of at least one monomer M2, which is selected from ethyl acrylate, n-propyl acrylate, n-butyl acrylate, n-pentyl acrylate, C₆-C₂₀-alkyl esters of acrylic acid and C₅-C₂₀-alkyl esters of methacrylic acid and mixtures thereof; • 5 to 50% by weight, based on the total amount of monomers M, of at least one monomer M3, which is selected from tert-butyl acrylate, C₁-C₄-alkyl esters of methacrylic acid, C₅-C₂₀-cycloalkyl esters of acrylic acid, C₅-C₂₀-cycloalkyl esters of methacrylic acid, C₅-C₂₀-cycloalkylmethyl esters of acrylic acid, C₅-C₂₀-cycloalkylmethyl esters of methacrylic acid, where cycloalkyl in the aforementioned monomers is mono-, bi- or tricyclic and where 1 or 2 CH₂ moieties of cycloalkyl may be replaced by O and where cycloalkyl may be unsubstituted or carry 1, 2, 3 or 4 methyl groups, and monovinyl aromatic monomers and mixtures thereof; • 0.05 to 4% by weight, based on the total amount of monomers M, of at least one monomer M4, which is selected from monoethylenically unsaturated monomers having an acidic group; where the total amount of monomers M1 and M2 is in the range from 45 to 95% by weight, in particular 50 to 90% by weight, especially 55 to 85% by weight based on the total amount of ethylenically unsaturated monomers M, and where the total amount of monomers M1, M2 and M3 is at least 90% by weight, in particular at least 95% by weight, based on the total amount of ethylenically unsaturated monomers M.

WO 2022/018013 A1