

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

(19) World Intellectual Property
Organization

International Bureau

(43) International Publication Date
08 December 2022 (08.12.2022)



(10) International Publication Number
WO 2022/254007 A1

(51) International Patent Classification:
A61M 5/315 (2006.01)

(21) International Application Number:
PCT/EP2022/065190

(22) International Filing Date:
03 June 2022 (03.06.2022)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
21305749.0 03 June 2021 (03.06.2021) EP

(71) Applicants: **BECTON DICKINSON FRANCE** [FR/FR];
Rue Aristide Bergès, 38800 LE PONT-DE-CLAIX (FR).
BECTON, DICKINSON AND COMPANY [US/US]; 1
Becton Drive, Franklin Lakes, NJ 07417-1880 (US).

(72) Inventors: **PERRIN, Eloïse**; 28A Avenue de la republique,
38320 Eybens (FR). **JOUFFRAY, Sébastien**; 111 Allée
Pras-Bert, 38410 Saint Martin D'Uriage (FR). **LEHEE,**
Guillaume; Avenue Henri Chapays, 38340 Voreppe (FR).
RODRIGUEZ SAN JUAN, Nestor; 6 Hornbeam Way,
Hamburg, New Jersey 07419 (US). **DELEUIL, Nicolas**;
11, Allée du parc Georges Pompidou, 38100 Grenoble (FR).

(74) Agent: **CABINET GERMAIN ET MAUREAU**; 12 rue
Boileau, 69006 LYON (FR).

(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, IQ, IR, IS, IT, JM, 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).

Published:

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



WO 2022/254007 A1

(54) Title: METHOD OF MAKING A LOW-SILICONE OIL SYSTEM FOR A MEDICAL INJECTION DEVICE

(57) Abstract: A method for storing an article within a pre-filled silicone-free barrel for use as a medical injection device, the barrel comprising a tubular member having inner and outer surfaces, the article comprising an elastomeric material having at least a partial coating of a fluoropolymer material on at least a front face thereof, wherein the article has between two and four perimetrical contact surfaces with respect to the inner surface of the barrel, the perimetrical contact surfaces separately disposed with respect to each other along a longitudinal length of the article and the barrel, wherein the method of storing the article within the pre-filled silicone-free barrel comprises storing the article within the pre-filled silicone-free barrel in cold storage at temperatures within the range of -80°C to -40°C and wherein the container closure integrity (CCI) of the article within the pre-filled silicone-free barrel is maintained upon thawing to ambient conditions.