

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
23 January 2025 (23.01.2025)



(10) International Publication Number
WO 2025/019186 A1

(51) International Patent Classification:
C09K 5/04 (2006.01)

Published:

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

(21) International Application Number:
PCT/US2024/037123

(22) International Filing Date:
09 July 2024 (09.07.2024)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
63/527,151 17 July 2023 (17.07.2023) US
63/565,024 14 March 2024 (14.03.2024) US

(71) Applicant: **THE CHEMOURS COMPANY FC, LLC**
[US/US]; 1007 Market Street, Wilmington, Delaware
19801 (US).

(72) Inventors: **HUGHES, Joshua**; 11 Ross Court, Wilming-
ton, Delaware 19810 (US). **SIMONI, Luke, David**; 2429
W. 18th Street, Wilmington, Delaware 19806 (US). **KON-
TOMARIS, Konstantinos**; 702 Abbey Road, Wilmington,
Delaware 19808 (US). **KOBAN, Mary, E.**; 14 Concord
Way, Chadds Ford, Delaware 19317 (US).

(74) Agent: **CRONIN, Christopher, J.**; 1007 Market Street,
Patent Legal Group, Wilmington, Delaware 19801 (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).

(54) Title: METHODS AND APPARATUS USING DIFLUOROPROPENE

(57) Abstract: The present disclosure relates to use of 1,1-difluoropropene (HFO-1252zc) in methods of cooling and heating, and sys-
tems for cooling and heating. In particular, the composition is useful in air-conditioning and heat pumps. The properties of HFO-1252z
make it uniquely useful in high temperature heat pumps, hot water heat pumps and air-conditioning for high ambient temperature
regions.

WO 2025/019186 A1