

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
28 November 2024 (28.11.2024)



(10) International Publication Number
WO 2024/243272 A2

(51) International Patent Classification:
Not classified

(21) International Application Number:
PCT/US2024/030499

(22) International Filing Date:
22 May 2024 (22.05.2024)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
63/503,798 23 May 2023 (23.05.2023) US

(71) Applicant: **ALBEMARLE CORPORATION** [US/US];
4250 Congress Street, Suite 900, Charlotte, North Carolina
28209 (US).

(72) Inventors: **ROY, Raghunath**; 2452 Creek Hallow Avenue,
Zachary, Louisiana 70791 (US). **MATHUR, Rajeev S.**;
1546 Saint Albans Drive, Baton Rouge, Louisiana 70810
(US). **MCCARNEY, Jonathan P.**; 12235 Lake Sherwood
Ave S, Baton Rouge, Louisiana 70816 (US). **HUBERTY,
Wayne**; 986 White Oak Ln., Starkville, Mississippi 39758
(US).

(74) Agent: **DUNN, Nathan C.** et al.; 4250 Congress Street,
Suite 900, Charlotte, North Carolina 28209 (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).

Published:

— *without international search report and to be republished
upon receipt of that report (Rule 48.2(g))*

(54) Title: POLYMERIC BROMINATED FLAME RETARDANT COMPOSITION FOR USE IN WIRE AND/OR CABLE

(57) Abstract: This invention relates to flame retardant compositions and to polymeric brominated flame retardant compositions for use in wire and/or cable. The brominated flame retardants contain aromatically bound bromine, and in several embodiments are considered to be brominated styrenic polymers. The brominated flame retardants have weight average molecular weights (Mw) of about 650 to about 75,000 and a bromine content of about 60 wt% or more. This invention further relates to a process for forming a flame retardant composition comprising a first step comprising of combining at least one polymeric composition; at least one synergist; at least one brominated flame retardant wherein the brominated flame retardant contains aromatically-bound bromine and is selected from a) brominated styrenic polymers which have weight average molecular weights of about 650 to about 75,000 and a bromine content of about 60 wt% or more, and/or b) a brominated anionic chain transfer vinyl aromatic polymer which contains about 70 wt% or more bromine; and at least one silanol catalyst; a second step of extruding the mixture of the first step to coat a wire and/or cable; and a third step of exposing the mixture of the first step to either or both elevated temperature and external moisture such that the article reaches a desired degree of crosslinking.

WO 2024/243272 A2