

Title (en)

Calixarenes as charge control agents and toner

Title (de)

Calixarene als Ladungsstabilisatoren und Toner

Title (fr)

Calixarènes comme agent de contrôle de charge et toner

Publication

**EP 0712049 B1 20010711 (EN)**

Application

**EP 95117332 A 19951103**

Priority

JP 30286194 A 19941111

Abstract (en)

[origin: EP0712049A1] Charge control agent and toner for developing electrostatic images comprising the agent whose active ingredient is calix(n)arene compound of formula  $\text{A}_1\text{I}_2$ :  $<\text{CHEM}> \ x+y=n$ , x, y: integer of 1 or more; n: integer of 4 to 8; x repeat units and y repeat units can be arranged in any order; R<1>, R<2> is H, C1-12 alkyl, C7-12 aralkyl, phenyl, C4-8 cycloalkyl, halogen, nitro, amino, alkyl - or phenyl - substituted amino, - Si(CH<sub>3</sub>)<sub>3</sub> or - SO<sub>3</sub>H; of the n R radicals in the n - OR groups, 1 to (n - 1) are H, the remaining (n - 1) to 1 being alkyl, phenyl, aralkyl, cycloalkyl, - COR<3> ÄR<3>: H, alkyl , phenyl, aralkyl, or cycloalkylÜ, - Si(CH<sub>3</sub>)<sub>3</sub>, - (CH<sub>2</sub>)<sub>m</sub>COOR<4> ÄR<4>: H or lower alkyl; m: integer of 1 to 3Ü, - (CH<sub>2</sub>CH<sub>2</sub>O)<sub>r</sub>H ÄR: integer of 1 to 10Ü, or <CHEM> Äq: integer of 1 to 10Ün

IPC 1-7

**G03G 9/097**

IPC 8 full level

**G03G 9/09** (2006.01); **G03G 9/097** (2006.01)

CPC (source: EP)

**G03G 9/09733** (2013.01); **G03G 9/09775** (2013.01)

Cited by

EP0801332A1; US5736289A; US5972554A; EP0875793A3; US10474050B2; US9835965B2

Designated contracting state (EPC)

CH DE FR GB LI

DOCDB simple family (publication)

**EP 0712049 A1 19960515**; **EP 0712049 B1 20010711**; DE 69521662 D1 20010816; DE 69521662 T2 20020711; JP 3325730 B2 20020917; JP H08137138 A 19960531

DOCDB simple family (application)

**EP 95117332 A 19951103**; DE 69521662 T 19951103; JP 30286194 A 19941111