

Title (en)  
IMIDAZOLE DERIVATIVES.

Title (de)  
IMIDAZOLE DERIVATE.

Title (fr)  
DERIVES DE L'IMIDAZOLE.

Publication  
**EP 0603377 A1 19940629 (EN)**

Application  
**EP 93915749 A 19930630**

Priority  
• CH 221992 A 19920713  
• EP 9301682 W 19930630

Abstract (en)  
[origin: WO9401432A1] Novel 4,5-dicyanoimidazole derivatives of formula (I), wherein X is oxygen, sulfur, SO or SO<sub>2</sub>; R<sub>1</sub> is hydrogen, C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>1</sub>-C<sub>6</sub>haloalkyl, C<sub>1</sub>-C<sub>6</sub>hydroxyalkyl, C<sub>1</sub>-C<sub>6</sub>cyanoalkyl, or a C<sub>1</sub>-C<sub>6</sub>alkylene substituted by C<sub>1</sub>-C<sub>6</sub>alkoxy, C<sub>1</sub>-C<sub>6</sub>haloalkoxy, C<sub>1</sub>-C<sub>6</sub>alkylthio, C<sub>1</sub>-C<sub>6</sub>haloalkylthio, C<sub>1</sub>-C<sub>6</sub>alkylsulfinyl, C<sub>1</sub>-C<sub>6</sub>haloalkylsulfinyl, C<sub>1</sub>-C<sub>6</sub>alkylsulfonyl, C<sub>1</sub>-C<sub>6</sub>haloalkylsulfonyl, C<sub>1</sub>-C<sub>6</sub>hydroxyalkyl, C<sub>1</sub>-C<sub>6</sub>alkyloxycarbonyl, C<sub>1</sub>-C<sub>6</sub>alkylcarbonyl, C<sub>1</sub>-C<sub>6</sub>alkylcarbonyloxy or by COOH; R<sub>2</sub> is hydrogen, halogen, CN, C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>1</sub>-C<sub>6</sub>haloalkyl, C<sub>1</sub>-C<sub>6</sub>cyanoalkyl, C<sub>1</sub>-C<sub>6</sub>hydroxyalkyl, C<sub>1</sub>-C<sub>6</sub>alkoxy, C<sub>1</sub>-C<sub>6</sub>haloalkoxy, C<sub>1</sub>-C<sub>6</sub>alkylthio, C<sub>1</sub>-C<sub>6</sub>haloalkylthio or C<sub>3</sub>-C<sub>7</sub>cycloalkyl; R<sub>3</sub> is hydrogen, halogen, C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>1</sub>-C<sub>6</sub>haloalkyl, cyano or nitro; R<sub>4</sub> is hydrogen, halogen, nitro, cyano, NCS, C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>1</sub>-C<sub>6</sub>haloalkyl, C<sub>1</sub>-C<sub>6</sub>alkoxy or C<sub>1</sub>-C<sub>6</sub>haloalkoxy; and R<sub>5</sub> is hydrogen, halogen, nitro, C<sub>1</sub>-C<sub>6</sub>alkyl, C<sub>1</sub>-C<sub>6</sub>haloalkyl, C<sub>1</sub>-C<sub>6</sub>alkoxy or C<sub>1</sub>-C<sub>6</sub>haloalkoxy; or R<sub>4</sub> and R<sub>5</sub> together form a -O-(CH<sub>2</sub>)<sub>m</sub>-O- bridge, wherein m is an integer selected from the group consisting of 1, 2 and 3, with the proviso that R<sub>4</sub> and R<sub>5</sub> are located at adjacent carbon atoms; including the physiologically tolerable addition compounds, can be used against insects and representatives of the order Acarina that are harmful to animals and plants, as well as against helminths in warm-blooded animals.

Abstract (fr)  
L'invention concerne de nouveaux dérivés de la 4,4-dicyanoimidazole de la formule (I). Dans cette formule X représente oxygène, soufre, SO ou SO<sub>2</sub>; R<sub>1</sub> représente hydrogène, C<sub>1</sub>-C<sub>6</sub>alkyle, C<sub>1</sub>-C<sub>6</sub>haloalkyle, C<sub>1</sub>-C<sub>6</sub>hydroxyalkyle, C<sub>1</sub>-C<sub>6</sub>cyanoalkyle, ou C<sub>1</sub>-C<sub>6</sub>alkylène avec comme substituant un C<sub>1</sub>-C<sub>6</sub>alkoxy, C<sub>1</sub>-C<sub>6</sub>haloalkoxy, C<sub>1</sub>-C<sub>6</sub>alkylthio, C<sub>1</sub>-C<sub>6</sub>haloalkylthio, C<sub>1</sub>-C<sub>6</sub>alkylsulfinyle, C<sub>1</sub>-C<sub>6</sub>haloalkylsulfinyle, C<sub>1</sub>-C<sub>6</sub>alkylsulfonyle, C<sub>1</sub>-C<sub>6</sub>haloalkylsulfonyle, C<sub>1</sub>-C<sub>6</sub>hydroxyalkyle, C<sub>1</sub>-C<sub>6</sub>alkyloxycarbonyle, C<sub>1</sub>-C<sub>6</sub>alkylcarbonyle, C<sub>1</sub>-C<sub>6</sub>alkylcarbonyloxy ou COOH; R<sub>2</sub> représente hydrogène, halogène, CN, C<sub>1</sub>-C<sub>6</sub>alkyle, C<sub>1</sub>-C<sub>6</sub>haloalkyle, C<sub>1</sub>-C<sub>6</sub>cyanoalkyle, C<sub>1</sub>-C<sub>6</sub>hydroxyalkyle, C<sub>1</sub>-C<sub>6</sub>alkoxy, C<sub>1</sub>-C<sub>6</sub>haloalkoxy, C<sub>1</sub>-C<sub>6</sub>alkylthio, C<sub>1</sub>-C<sub>6</sub>haloalkylthio ou C<sub>3</sub>-C<sub>7</sub>cycloalkyle; R<sub>3</sub> est un hydrogène, halogène, C<sub>1</sub>-C<sub>6</sub>alkyle, C<sub>1</sub>-C<sub>6</sub>haloalkyle, cyano ou nitro; R<sub>4</sub> est hydrogène, halogène, nitro, cyano, NCS, C<sub>1</sub>-C<sub>6</sub>alkyle, C<sub>1</sub>-C<sub>6</sub>haloalkyle, C<sub>1</sub>-C<sub>6</sub>alkoxy ou C<sub>1</sub>-C<sub>6</sub>haloalkoxy; et R<sub>5</sub> représente hydrogène, halogène, nitro, C<sub>1</sub>-C<sub>6</sub>alkyle, C<sub>1</sub>-C<sub>6</sub>haloalkyle, C<sub>1</sub>-C<sub>6</sub>alkoxy ou C<sub>1</sub>-C<sub>6</sub>haloalkoxy, ou R<sub>4</sub> et R<sub>5</sub> forment ensemble un pont -O-(CH<sub>2</sub>)<sub>m</sub>-O- où m représente un nombre entier choisi parmi 1, 2 et 3, une condition à satisfaire étant alors que R<sub>4</sub> et R<sub>5</sub> doivent être liés à des atomes de carbone adjacents. L'invention concerne également les composés d'addition de ces dérivés acceptables sur le plan physiologique. On peut utiliser ces dérivés et composés d'addition contre les insectes appartenant à l'ordre des acariens qui sont nuisibles pour les animaux et les plantes et contre les helminthes chez les animaux à sang chaud.

IPC 1-7  
**C07D 417/12**; **C07D 513/04**; **C07D 277/68**; **C07D 277/74**; **C07D 277/76**; **A61K 31/425**; **A01N 43/78**

IPC 8 full level  
**A01N 43/78** (2006.01); **A61K 31/425** (2006.01); **A61P 33/10** (2006.01); **C07D 417/12** (2006.01); **C07D 513/04** (2006.01)

CPC (source: EP)  
**A01N 43/78** (2013.01); **A61P 33/10** (2017.12); **C07D 417/12** (2013.01); **C07D 513/04** (2013.01)

Citation (search report)  
See references of WO 9401432A1

Designated contracting state (EPC)  
AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)  
**WO 9401432 A1 19940120**; AU 4561993 A 19940131; CA 2116455 A1 19940120; EP 0603377 A1 19940629; JP H06511260 A 19941215

DOCDB simple family (application)  
**EP 9301682 W 19930630**; AU 4561993 A 19930630; CA 2116455 A 19930630; EP 93915749 A 19930630; JP 50290294 A 19930630