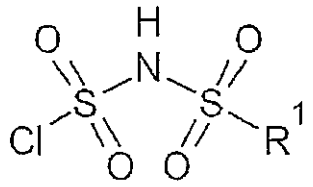
CLAIMS

1. A process for producing a fluorosulfonylimide ammonium salt represented by formula [II], the method comprising reacting a compound represented by formula [I] and a fluorinating agent represented by formula [III]:

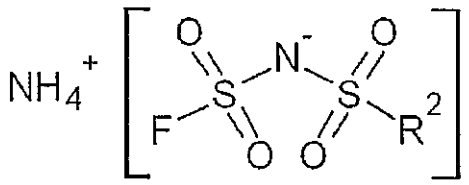


[I]

wherein R^1 represents a fluoroalkyl group having 1 to 6 carbon atoms, a fluorine atom, or a chlorine atom,

$$NH_4F(HF)_p \qquad [III]$$

wherein p represents a real number of 0 to 10,

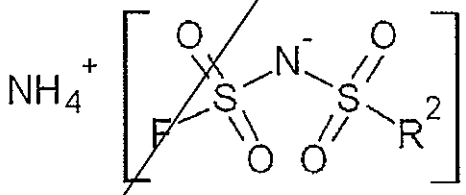


[II]

wherein R^2 represents a fluoroalkyl group having 1 to 6 carbon atoms, or a fluorine atom.

2. A process for producing a fluorosulfonylimide salt represented by formula [IV], the method comprising

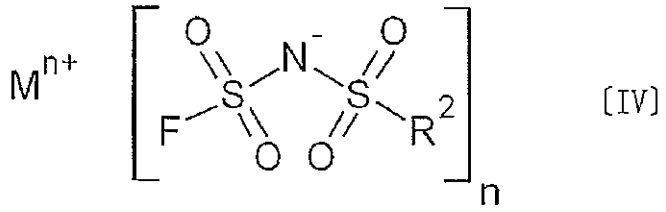
obtaining a fluorosulfonylimide ammonium salt of formula [II] by the process defined in claim 1:



[II]

wherein R^2 represents a fluoroalkyl group having 1 to 6 carbon atoms, or a fluorine atom; and

reacting the fluorosulfonylimide ammonium salt represented by formula [II] obtained by the method according to claim (1) with at least one compound selected from the group consisting of metal compounds, onium compounds and organic amine compounds:



[IV]

wherein M^{n+} represents a metal cation or an onium cation (excluding NH_4^+), n corresponds with a valency of the metal cation or the onium cation (excluding NH_4^+) and is an integer of 1 to 4, and R^2 is as defined above in formula [II].

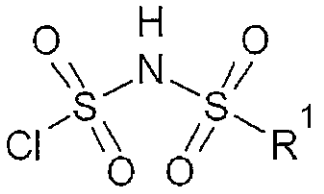
3. The process for producing a fluorosulfonylimide salt according to claim 2, wherein the at least one compound is selected from the group consisting of alkali metal compounds, onium compounds and organic amine compounds.

4. The process for producing a fluorosulfonylimide salt according to claim 3, wherein the reaction of the fluorosulfonylimide ammonium salt of formula [II] with at least one compound is performed under reduced pressure, and

the at least one compound is an alkali metal hydroxide.

CLAIMS

1. A process for producing a fluorosulfonylimide ammonium salt represented by formula [II], the method comprising reacting a compound represented by formula [I] and a fluorinating agent represented by formula [III]:

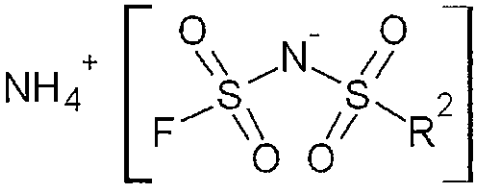


[I]

wherein R^1 represents a fluoroalkyl group having 1 to 6 carbon atoms, a fluorine atom, or a chlorine atom,

$$NH_4F\ (HF)_p \qquad [III]$$

wherein p represents a real number of 1 to 10,

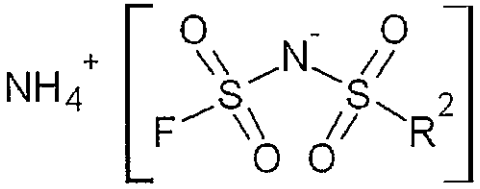


[II]

wherein R^2 represents a fluoroalkyl group having 1 to 6 carbon atoms, or a fluorine atom.

2. A process for producing a fluorosulfonylimide salt represented by formula [IV], the method comprising:

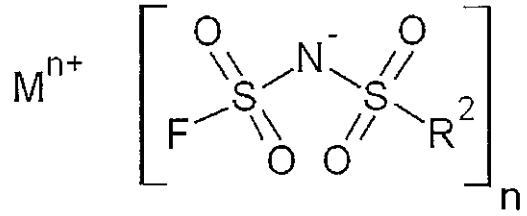
obtaining a fluorosulfonylimide ammonium salt represented by formula [II] by the process defined in claim 1:



[II]

wherein R^2 represents a fluoroalkyl group having 1 to 6 carbon atoms, or a fluorine atom; and

reacting the fluorosulfonylimide ammonium salt represented by formula [II] with at least one compound selected from the group consisting of metal compounds, onium compounds and organic amine compounds:



[IV]

wherein M^{n+} represents a metal cation or an onium cation (excluding NH_4^+), n corresponds with a valency of the metal cation or the onium cation (excluding NH_4^+) and is an integer of 1 to 4, and R^2 is as defined above in formula [II].

3. The process for producing a fluorosulfonylimide salt according to claim 2, wherein the at least one compound is selected from the group consisting of alkali metal compounds, onium compounds and organic amine compounds.

4. The process of producing a fluorosulfonylimide salt according to claim 3, wherein:

the reaction of the fluorosulfonylimide ammonium salt of formula [II] with at least one compound is performed under reduced pressure; and

the at least one compound is an alkali metal hydroxide.