

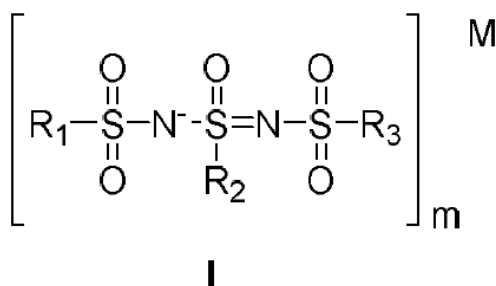
SOLID ELECTROLYTES COMPRISING IONIC COMPOUNDS AND USES THEREOF

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The aim of the present invention is to provide electrolytes comprising ionic compounds derived from sulfonimides in which the delocalization of the anionic charge is improved, thus resulting in markedly better acidity and dissociation than those of the known compounds, while at the same time retaining good stability and displaying higher total ionic conductivity by proper electronic modulation of the sulfonimides.

The inventors have surprisingly found that in incorporating a salt of formula I into a solid electrolyte, preferably a solid polymer electrolyte, the total ionic conductivity of said solid polymer electrolyte is substantially increased. In particular, the anion of salt I involves an S-N-S-N-S core where sulfur atoms are hexavalent and the negative charge is delocalized between the two nitrogen atoms and the five oxygen atoms linked to the sulfur atoms; and specifically a fluorine atom directly attached to the S-NS-N-S core at least at one of the substituents R1, R2 or R3. It has unexpectedly been found that salts of this type lead to improved solid electrolytes that are more conductive than reported solid electrolytes comprising analogous salts with no fluorine substituents linked to any of the sulfur atoms.



ADDED VALUE

- ✓ Highly conductive solid polymer electrolytes
- ✓ Good conductivity solid polymer electrolytes at low temperatures

APPLICATION OF THE TECHNOLOGY

- ✓ Safe lithium metal batteries operating at low temperatures

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