SUMMARY

In a first aspect, the present invention refers to elastomeric materials, containing butyl rubbers and/or halobutyl rubbers or mixtures thereof, with 1 to 20 phr of at least one liquid imidazolium salt and with 1 to 40 phr of at least one filler having a graphitic structure. In a second aspect, the present invention refers to the use of elastomeric materials of the present invention for elastomer materials with low to very low gas permeability.

DETAILED DESCRIPTION

The object of the present invention is the specification of elastomeric materials which have lower gas permeability.

The object is attained by the invention disclosed in the claims. Advantageous embodiments are the subject matter of the dependent claims.

The elastomeric materials according to the invention contain butyl rubbers and/or halobutyl rubbers or mixtures thereof, with 1 to 20 phr of at least one liquid imidazolium salt and with 1 to 40 phr of at least one filler having a graphitic structure.

Also advantageously, butyl-3-methylimidazolium bis(trifluoromethylsulfonyl)imides, more advantageously 1-butyl-3-methylimidazolium bis(trifluoromethylsulfonyl)imides, are present as liquid imidazolium salts.

Also advantageously, 1 to 5 phr of liquid imidazolium salts is present in the elastomeric materials.

Likewise advantageously, 1 to 20 phr of fillers having a graphitic structure is present in the elastomeric materials.

It is also advantageous if, as a filler having a graphitic structure, graphene is present.

According to the invention, the elastomeric materials are used for elastomer materials with low to very low gas permeability.

Advantageously, the elastomeric materials are used as an inner liner for vehicle tires.

With the solution according to the invention, it is possible for the first time to specify elastomeric materials which have a significantly lower gas permeability than other elastomeric materials according to the prior art.

Patent Claims

1. Elastomeric materials, containing butyl rubbers and/or halobutyl rubbers or mixtures thereof, with 1 to 20 phr of at least one liquid imidazolium salt and with 1 to 40 phr of at least one filler having a graphitic structure.

2. Elastomeric materials according to claim 1 in which butyl-3-methylimidazolium bis(trifluoromethylsulfonyl)imides, such as 1-butyl-3-methylimidazolium bis(trifluoromethylsulfonyl)imides), are present as liquid imidazolium salts.

3. Elastomeric materials according to claim 1 in which 1 to 5 phr of liquid imidazolium salts is present.

4. Elastomeric materials according to claim 1 in which 1 to 20 phr of fillers having a graphitic structure is present.

5. Elastomeric materials according to claim 1 in which, as a filler having a graphitic structure, graphene is present.

6. Use of elastomeric materials according to claim 1 for elastomer materials with low to very low gas permeability.

7. Use according to claim 6 as an inner liner for vehicle tires.