CLAIM(S)

1. A method for producing hydrogenated petroleum resin pellets, comprising:

thermally polymerizing a cyclopentadiene compound and a vinyl aromatic compound to obtain a copolymer;

adding hydrogen to the obtained copolymer under the presence of a hydrogenation solvent to perform a hydrogenation reaction;

heating a hydrogenated product obtained by the hydrogenation reaction to separate the hydrogenation solvent from the hydrogenated product to provide a molten resin, and

pelletizing the molten resin, the method further comprising:

preparing a solution in which an antioxidant is dissolved; and

adding the solution to the hydrogenated product after the hydrogenation reaction and before the pelletizing.

2. The method for producing the hydrogenated petroleum resin pellets according to claim 1, wherein

the solution in which the antioxidant is dissolved is added at a time between: a first solvent separating step in which the hydrogenation solvent is separated after the hydrogenation reaction; and a second solvent separating step in which the hydrogenation solvent and a low-molecular-weight component are heated to be separated from the hydrogenated product from which most of the hydrogenation solvent is separated in the first solvent separating step.

3. The method for producing the hydrogenated petroleum resin pellets according to claim 1 or 2, wherein

the hydrogenation solvent is a naphthenic solvent, and

the solution in which the antioxidant is dissolved is in a blend of the antioxidant and an aromatic solvent having the same carbon atoms as those of the hydrogenation solvent, as main components.

CLAIM(S)

1. A method for producing a hydrogenated petroleum resin pellet, the method comprising:

thermally polymerizing a cyclopentadiene compound and a vinyl aromatic compound to obtain a copolymer;

adding hydrogen to the copolymer in the presence of a hydrogenation solvent to perform a hydrogenation reaction to obtain a hydrogenated product;

preparing a solution in which an antioxidant is dissolved in an antioxidation solvent;

heating the hydrogenated product to separate most of the hydrogenation solvent;

adding the solution to the hydrogenated product from which most of the hydrogenation solvent is separated;

heating the hydrogenated product to which the solution was added to separate the remaining hydrogenation solvent, a low molecular weight component and the antioxidant solvent from the hydrogenated product to provide a molten resin; and

pelletizing the molten resin to obtain the hydrogenated petroleum resin pellet.

2. The method according to claim 1, wherein

the hydrogenation solvent is a naphthenic solvent, and

the solution in which the antioxidant is dissolved comprises, as a main component, an aromatic solvent comprising the same carbon atoms as those of the hydrogenation solvent.

3. The method according to claim 1, wherein the cyclopentadiene compound is cyclopentadiene, methylcyclopentadiene, ethylcyclopentadiene, a dimer thereof or co-dimers thereof.

4. The method according to claim 1, wherein the antioxidant solvent is an aliphatic hydrocarbon solvent.

5. The method according to claim 1, wherein the antioxidant solvent is benzene, toluene, xylene, cyclohexane, methylcyclohexane, dimethylcyclohexane or

ethylcyclohexane.

6. The method according to claim 1, wherein the vinyl aromatic compound is styrene, α-methylstyrene, or vinyl toluene.

7. The method according to claim 1, wherein the cyclopentadiene compound and the vinyl aromatic compound are in a ratio in a range from 70:30 to 20:80.

8. The method according to claim 1, wherein the hydrogenation solvent is cyclohexane, methylcyclohexane, dimethylcyclohexane, ethylcyclohexane or tetrahydrofuran.

9. The method according to claim 1, wherein the hydrogenated product has a softening point in a range from 70 to 140 degrees C., a content of the vinyl aromatic compound in a range from 0 to 35 mass %, a bromine number in a range from 0 to 30 g/100 g and a number average molecular weight in a range from 400 to 1000.

10. The method according to claim 1, wherein the heating the hydrogenated product to separate most of the hydrogenation solvent is performed in a solvent evaporation tank and the heating the hydrogenated product to which the solution was added to separate the remaining hydrogenation solvent, the low molecular weight component and the antioxidant solvent from the hydrogenated product to provide a molten resin is performed in a thin film evaporator.