CLAIMS

1. A carbon black comprising a chain body in which (1) a region of spherical carbon particles and (2) a region of rod-shaped carbon particles are connected, wherein the carbon black is produced by supplying a hydrocarbon containing a catalyst for carbon nanotube formation during a pyrolysis of acetylene gas and/or in a state that the acetylene gas has been pyrolyzed, and heat treating a resulting mixture at a temperature equal to or higher than a thermal decomposition temperature of the hydrocarbon.

2. The carbon black as claimed in claim 1, wherein a proportion of the acetylene gas, the hydrocarbon other than the acetylene gas and the catalyst for carbon nanobube formation is such that the acetylene gas is 40-99% by mass, the hydrocarbon other than the acetylene gas is 1-60% by mass, and the catalyst for carbon nanotube formation is 5-20 parts by mass per 100 parts by mass of the hydrocarbon.

3. The carbon black as claimed in claim 1 or 2, wherein the region of spherical carbon particles comprises acetylene black, and the region of rod-shaped carbon particles comprises a carbon black other than acetylene black.

4. A carbon black powder comprising the carbon black as claimed in any one of claims 1 to 3 and a carbon black other than the carbon black.

5. The carbon black powder as claimed in claim 4, which contains the carbon black as claimed in any one of claims 1 to 3 in an amount of 10% by mass or more based on the carbon black powder.

6. A method of producing a carbon black, comprising supplying a hydrocarbon (1-60% by mass) other than acetylene gas containing a catalyst for carbon nanotube formation (5-20 parts by mass per 100 parts by mass of the hydrocarbon) during a pyrolysis of acetylene gas (40-99% by mass) and/or in a state that the acetylene gas (40-99% by mass) has been pyrolyzed, and heat treating a resulting mixture at a temperature equal to or higher than a thermal decomposition temperature of the hydrocarbon.

7. A composition comprising a resin and/or a rubber, and the carbon black as claimed in any one of claims 1 to 3 or the carbon black powder as claimed in claim 4 or 5 compounded therewith.

Claims

1. A carbon black comprising a chain body in which (1) a chain part of spherical carbon particles and (2) a chain part of rod-shaped carbon particles are connected.

2. The carbon black as claimed in claim 1, wherein the chain part of spherical carbon particles comprises acetylene black, and the chain part of rod-shaped carbon particles comprises a carbon black other that acetylene black.

3. A carbon black powder comprising the carbon black as claimed in claim 1 or 2 and a carbon black other than the carbon black of claims 1 and 2.

4. The carbon black powder as claimed in claim 3, which contains the carbon black as claimed in claim 1 or 2 in an amount of 10% by mass or more based on the carbon black powder.

5. A method of producing a carbon black of claim 1 or 2, comprising supplying acetylene gas (40-99% by mass), pyrolyzing the acetylene gas, then supplying a hydrocarbon (1-60% by mass) other than the acetylene gas containing a catalyst for carbon nanotube formation (5-20 parts by mass per 100 parts by mass of hydrocarbon) in a state that the acetylene gas has been pyrolyzed, and heat treating a resulting mixture at a temperature equal to or higher than a thermal decomposition temperature of the hydrocarbon wherein the temperature is from 500°C to 1500°C.

6. A composition comprising a resin and/or a rubber, and the carbon black as claimed in claim 1 or 2 or the carbon black powder as claimed in claim 3 or 4 compounded therewith.