CLAIMS

[Claim 1]

A 4-methyl-1-pentene polymer wherein: a content of a constitutional unit derived from 4-methyl-1-pentene is 90 to 100% by mol; a content of a constitutional unit derived from at least one olefin selected from ethylene and an α-olefin, other than 4-methyl-1-pentene, having 3 to 20 carbon atoms is 0 to 10% by mol; and the 4-methyl-1-pentene polymer satisfies all the following requirements (a) to (f):

(a) a meso diad fraction (m) measured by ^{13}C-NMR falls within the range of 98 to 100%;

(b) a ratio of Z-average molecular weight Mz to weight-average molecular weight Mw (Mz/Mw) measured by gel permeation chromatography (GPC) falls within the range of 2.5 to 20;

(c) a ratio of weight-average molecular weight Mw to number-average molecular weight Mn (Mw/Mn) measured by gel permeation chromatography (GPC) falls within the range of 3.6 to 30;

(d) a melt flow rate (MFR) measured under conditions of 260°C and a 5 kg load in conformity to ASTM D1238 falls within the range of 0.1 to 500 g/10 min;

(e) an amount of a decane-soluble portion at 23°C is 5.0% by mass or less; and

(f) a proportion of a polymer having a molecular weight of 1×10^6 or larger measured by gel permeation chromatography (GPC) is 15% by mass or more.

[Claim 2]

The 4-methyl-1-pentene polymer according to claim 1, wherein the 4-methyl-1-pentene polymer further satisfies the following requirement (g):

(g) a heat of fusion and a melting point of the 4-methyl-1-pentene polymer measured by differential scanning calorimetry (DSC) satisfy the following requirements (i) and (ii):

(i) the following expression (1) holds:

$\Delta Hm \geq 0.5 \times Tm - 76$... Expression (1)

wherein the heat of fusion is defined as ΔHm J/g, and the melting point is defined as Tm °C; and

(ii) the melting point falls within the range of 200 to 260°C.

[Claim 3]

A resin composition comprising a 4-methyl-1-pentene polymer according to any one of claims 1 to 2.

[Claim 4]

A molded article comprising a resin composition according to claim 3.

[Claim 5]

The molded article according to claim 4, wherein a maximum thickness is 100 mm or smaller and a minimum thickness is 0.001 mm or larger.

[Claim 6]

The molded article according to claim 4 or 5, wherein the molded article is an injection molded article or an extrusion molded article.

[Claim 7]

The molded article according to claim 4, wherein the molded article is a film.

[Claim 8]

A container, the container being a molded article according to claim 4.

[Claim 9]

The container according to claim 8, the container being

intended for medical treatment.

[Claim 10]

The container according to claim 8, the container being intended for infants.

[Claim 11]

The container according to claim 8, the container being intended for food.

[Claim 12]

The container according to claim 8, the container being intended for physicochemical experiments, chemicals, caregiving, or selected from the group consisting of food containers, bottle containers, eating utensils, seasoning containers, kitchen goods, retort containers, freeze preservation containers, retort pouches, microwave oven heat-resistant containers, frozen food containers, chilled sweet cups, cups, nursing bottles, beverage bottles, blood transfusion sets, medical bottles, medical containers, medical hollow bottles, medical bags, transfusion bags, blood preservation bags, transfusion bottles, chemical containers, detergent containers, containers for fabric softeners, containers for bleaches, containers for shampoos, containers for rinses, cosmetics containers, perfume containers, toner containers, powder containers, containers for adhesives, containers for gasoline tanks, containers for kerosene, food containers, heat-resistant containers, and medical containers.

[Claim 13]

An instrument, the instrument being a molded article according to claim 4.

[Claim 14]

The instrument according to claim 13, the instrument being intended for medical treatment.

[Claim 15]

The instrument according to claim 13, the instrument being intended for infants.

[Claim 16]

The instrument according to claim 13, the instrument being intended for food.

[Claim 17]

The instrument according to claim 13, the instrument being intended for physicochemical experiments, chemicals caregiving, or selected from the group consisting of electric instruments, tap water instrument components, musical instruments, instruments for surgeons, dental instruments and instruments for contact lens sterilization.