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PROCESSES FOR PRODUCING RAW POLYCARBONATE RESIN MATERIAL AND PRODUCING POLYCARBONATE RESIN

VERFAHREN ZUR HERSTELLUNG VON ROHEM POLYCARBONATHARZMATERIAL UND HERSTELLUNG VON POLYCARBONATHARZ

PROCEDES DE PRODUCTION D’UN MATERIAU EN RESINE POLYCARBONATE BRUTE ET PRODUCTION DE CETTE RESINE POLYCARBONATE

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REMARKS:
The file contains technical information submitted after the application was filed and not included in this specification.

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Description

TECHNICAL FIELD

[0001] The present invention relates to a method for producing a starting material for polycarbonate resin and to a method for producing polycarbonate resin. More precisely, the invention relates to an inexpensive and simple method for producing a starting material for polycarbonate resin and for producing polycarbonate resin.

BACKGROUND ART

[0002] Polycarbonate resin is a type of engineering plastics having well-balanced transparency, heat resistance and mechanical strength, and is used in many fields. Based on its overall characteristics of transparency, heat resistance, hydrolysis resistance and dimensional stability, polycarbonate resin is especially much used these days for raw materials for optical recording media for optical memory cards, optical discs, digital video discs, etc. Polycarbonate resin of high transparency suitable to optical appliances including such optical recording media is produced through interfacial polymerization.

[0003] For producing polycarbonate resin through interfacial polymerization, generally employed is a method of reacting a bisphenol compound with phosgene in the presence of an organic solvent and an aqueous alkali solution. For this, it is well known that a granulated solid bisphenol compound, which serves as the essential starting material for polycarbonate resin, is dissolved in an aqueous alkali solution and phosgene gas is introduced into the resulting solution.

[0004] The bisphenol compound, which is the essential starting material for polycarbonate resin, is granulated in a complicated process. For example, 2,2-bis(4-hydroxyphenyl)propane is, after being produced through reaction of phenol with acetone, purified in many steps and then granulated in the final step. For granulating the bisphenol compound, used is a granulator such as a spray drier or the like, in which the bisphenol compound is formed into liquid drops and then cooled and solidified.

[0005] For producing polycarbonate resin from the bisphenol compound through interfacial polymerization, solid grains of the bisphenol compound having been solidified and granulated in the process as above are dissolved in an aqueous alkali solution, and the resulting solution is used in polycondensation.

[0006] The process for producing the bisphenol compound that serves as a starting material in producing polycarbonate resin through interfacial polymerization, and the process for producing polycarbonate resin require many complicated steps as in the above, and are therefore problematic in that many plants and much labor are needed and the production costs are high.

DISCLOSURE OF THE INVENTION

[0007] A method for the preparation of a polycarbonate resin is described in DE -B- 41 29 545. The method implies the preparation of a solution of a molten bisphenol in an aqueous alkali solution as the starting material. The temperature of the preparation of the solution is between 50 and 90 °C. The disadvantage of the method is the discolouring of the final product. A similar preparation is described in WO 00/39191.

[0008] The method which is described in US -A- 5,225,518 considers the preparation of polycarbonate with the first step of providing bisphenol A to the reaction mixture in the form of a liquid saturated with water.

[0009] The present invention is to provide an inexpensive and simple method for producing a starting material for polycarbonate resin and for producing polycarbonate resin.

(1) A method for producing a starting material for polycarbonate resin production through interfacial polymerization, which is characterized in that a bisphenol compound which is in a molten state in a process of bisphenol compound production is mixed and dissolved in an aqueous alkali solution at 20 to 80 °C, wherein the alkali solution contains a reducing agent in an amount of 10 to 1,000 ppm by weight of the aqueous alkali solution.

(2) The method for producing a starting material for polycarbonate resin of above (1), wherein the bisphenol compound includes bis(4-hydroxyphenyl)alkanes.

(3) A method for producing polycarbonate resin through interfacial polymerization, wherein the aqueous alkali solution of the bisphenol compound resulting from the method of above (1) is the starting material for the polycarbonate resin production.
BEST MODE OF THE CARRYING OUT THE INVENTION

[0012] Modes of carrying out the invention are described hereunder.

[0013] In the method of the invention for producing a starting material for polycarbonate resin production through interfacial polymerization, a bisphenol compound prepared in melt in a process of bisphenol compound production is mixed and dissolved in an aqueous alkalai solution at 20 to 80°C; and, in the method of the invention for producing polycarbonate resin, the resulting aqueous alkalai solution of the bisphenol compound is used as the starting material for polycarbonate resin production.

[0014] In the method of the invention, the step of polycarbonate resin production through interfacial polymerization is per-se known. It comprises adding phosgene to the aqueous alkalai solution of a bisphenol compound, with stirring it in the presence of an organic solvent such as methylene chloride or the like capable of well dissolving polycarbonate resin, to thereby form a polycarbonate oligomer having a chloroformate terminal, followed by further polymerizing the oligomer.

[0015] The bisphenol compound that serves as the essential starting material in the polycarbonate resin production includes, for example, 4,4’-dihydroxybiphenyls such as 4,4’-dihydroxybiphenyl, 3,3’-difuoro-4,4’-dihydroxybiphenyl, 4,4’-dihydroxy-3,3’-dimethylbiphenyl, 4,4’-dihydroxy-3,3’-dicyclohexylbiphenyl, etc.; bis(4-hydroxyphenyl) methanes such as bis(4-hydroxyphenyl)methane, bis(4-hydroxyphenyl)diphenylmethane, bis(4-hydroxyphenyl)phenylmethane, bis(3-methyl-4-hydroxyphenyl)methane, bis(3-nonyl-4-hydroxyphenyl)methane, bis(3,5-dibromo-4-hydroxyphenyl)methane, bis(2-bis(4-hydroxyphenyl)propane, 2,2-bis(3-sec-butyl-4-hydroxyphenyl)propane, 2,2-bis(3-phenyl-4-hydroxyphenyl)propane, 2,2-bis(3-cyclohexyl-4-hydroxyphenyl)propane, 2,2-bis(3-chloro-4-hydroxyphenyl)propane, 2,2-bis(3-fluoro-4-hydroxyphenyl)propane, 2,2-bis(3-bromo-4-hydroxyphenyl)propane, 2,2-bis(3-bromo-4-hydroxy-3,5-dimethylphenyl)propane, 1,1-bis(2-tert-butyl-4-hydroxy-5-methylphenyl)propane, 2,2-bis(4-hydroxy-3,5-dichlorophenyl)propane, 2,2-bis(3-bromo-4-hydroxy-3,5-dichlorophenyl)propane, 2,2-bis(4-hydroxyphenyl)1,1,1,3,3,3-hexafluoropropane; bis(4-hydroxyphenyl)propanes such as 2,2-bis(4-hydroxy-3-sec-butylphenyl)propane, 2,2-bis(2-hydroxy-4,6-dimethylphenyl)propane; bis(4-hydroxyphenyl) butanes such as 2,2-bis(4-hydroxyphenyl)butane, 2,2-(3-methyl-4-hydroxyphenyl)butane, 1,1-bis(4-hydroxyphenyl)2-methylpropane, 1,1-bis(2-tert-butyl-4-hydroxy-5-methylphenyl)2-methylpropane, 1,1-bis(2-butyl-4-hydroxy-5-methylphenyl)butane, 1,1-bis(2-tert-butyl-4-hydroxy-5-methylphenyl)butane, 1,1-bis(2-methyl-4-hydroxy-5-tetraylphenyl)butane, 2,2-bis(4-hydroxy-3,5-dichlorophenyl)butane, 2,2-bis(4-hydroxy-3,5-dibromophenyl)butane, 2,2-bis(4-hydroxyphenyl)3-methylbutane, 1,1-bis(4-hydroxyphenyl)3-methylbutane; bis(hydroxyphenyl)alkanes such as 3,3-(4-hydroxyphenyl)pentane, 2,2-bis(4-hydroxyphenyl)hexane, 2,2,2-(4-hydroxyphenyl)heptane, 2,2-bis(2-tert-butyl-4-hydroxy-5-methylphenyl)heptane, 2,2-bis(4-hydroxyphenyl)octane, 2,2-bis(4-hydroxyphenyl)nonane, 2,2-bis(4-hydroxyphenyl)decane, 1,1-bis(4-hydroxyphenyl)cyclopentane, 1,1-bis(4-hydroxyphenyl)cyclohexane, 1,1-bis(3-methyl-4-hydroxyphenyl)cyclohexane, 1,1-bis(4-hydroxy-3,5-dimethylphenyl)cyclohexane, 1,1-bis(3-cyclohexyl-4-hydroxyphenyl)cyclohexane, 1,1-bis(3-phenyl-4-hydroxyphenyl)cyclohexane, 1,1-bis(4-hydroxy-3,5-dimethylphenyl)cyclohexane, 1,1-bis(3-4,4'-dihydroxy-biphenyl)phenylmethane; bis(2-hydroxyphenyl) methanes such as bis(2-hydroxyphenyl)methane, 2-hydroxyphenyl-4-hydroxyphenylmethane, bis(2-hydroxy-4-methylphenyl) methane, bis(2-hydroxy-4-methyl-6-tert-butylphenyl) methane, bis(2-hydroxy-4,6-dimethylphenyl) methane; bis(4-hydroxyphenyl)ethanes such as 1,1-bis(4-hydroxyphenyl)ethane, 1,1-bis(4-hydroxyphenyl)1-phenylethane, 1,1-bis(4-hydroxy-3-methylphenyl)-1-phenylethane, 1,1-bis(4-hydroxy-3-methylphenyl)-1-phenylethane, 2-(4-hydroxy-3-methylphenyl)-2-(4-hydroxyphenyl)-1-phenylethane, 1,1-bis(2-tert-butyl-4-hydroxy-3-methylphenyl)ethane, 1-phenyl-1,1-bis(3-fluoro-4-hydroxyphenyl)ethane; bis(2-hydroxyphenyl)ethanes such as 1,1-bis(2-hydroxy-4-methylphenyl)ethane; bis(4-hydroxyphenyl)propanes such as 2,2-bis(4-hydroxyphenyl)propane, 2,2-bis(2-methyl-4-hydroxyphenyl)propane, 2,2-bis(3-methyl-4-hydroxyphenyl)propane, 2,2-bis(3-isopropyl-4-hydroxyphenyl)pro-
Then, the resulting granular solid of 2,2-bis(4-hydroxyphenyl)menthane, 1,8-bis(4-hydroxy-3,5-dimethylphenyl)menthane; bis[2-(4-hydroxyphenyl)-2-propyl]benzenes such as 1,4-bis[2-(4-hydroxyphenyl)-2-propyl]benzene, 1,3-bis[2-(4-hydroxyphenyl)-2-propyl]benzene; dihydroxynaphthalenes such as 1,3-dihydroxynaphthalene, 1,4-dihydroxynaphthalene, 1,5-dihydroxynaphthalene, 2,6-dihydroxynaphthalene, 2,7-dihydroxynaphthalene; dihydroxybenzenes such as resorcinol, hydroquinone, catechol.

[0016] Of those bisphenols, especially preferred are bis(4-hydroxyphenyl)alkanes, as the polycarbonate resins having started from them have well balanced physical properties of transparency, heat resistance, hydrolysis resistance and dimensional stability, and are favorable to materials for optical appliances.

[0017] Regarding the production of the bisphenols, for example, 2,2-bis(4-hydroxyphenyl)propane is produced by reacting acetone with phenol in the presence of a catalyst. For the catalyst, for example, preferred are sulfonic acid-type cation-exchange resins such as sulfonated styrene-divinylbenzene copolymers, sulfonated crosslinked styrene polymers, phenol-formaldehyde-sulfonic acid resins, benzene-formaldehyde-sulfonic acid resins, etc. In the case, preferably used are alkymercaptans serving as a catalyst promoter. Excess phenol over acetone is reacted with acetone.

[0018] The reaction mixture contains non-reacted phenol and acetone, the catalyst used and also side products such as water, alkymercaptans, organic-sulfur compounds and coloring matters, in addition to the intended product, 2,2-bis(4-hydroxyphenyl)propane. Therefore, the reaction mixture is subjected to distillation under reduced pressure to remove the non-reacted acetone, water and alkymercaptans. Then, this is further subjected to distillation under reduced pressure to remove the non-reacted phenol, in the next step of concentrating the product, 2,2-bis(4-hydroxyphenyl)propane.

[0019] The concentrate residue obtained in the concentration step has a 2,2-bis(4-hydroxyphenyl)propane concentration of from 20 to 50 % by weight, preferably from 20 to 40 % by weight, and this is then cooled to 40 to 70°C in the next crystallization step, in which an adduct of 2,2-bis(4-hydroxyphenyl) propane and phenol (hereinafter referred to as a phenol adduct) is crystallized out in slurry. The concentrate residue slurry is then filtered or centrifuged whereby the phenol adduct crystal is separated from the mother liquid. The thus-obtained crystal, 2,2-bis(4-hydroxyphenyl)propane/phenol 1/1 adduct is heated and melted at 100 to 160°C, and the resulting melt mixture is subjected to distillation under reduced pressure to remove phenol. Thus is obtained 2,2-bis(4-hydroxyphenyl)propane.

[0020] 2,2-Bis(4-hydroxyphenyl) propane thus obtained is in melt. In general, this is formed into liquid drops, and then cooled and solidified into a granular product, in a granulator such as a spray drier or the like. Then, the resulting granular solid of 2,2-bis(4-hydroxyphenyl)propane is transported into an apparatus for polycarbonate resin production, in which this is dissolved in an aqueous alkali solution such as an aqueous sodium hydroxide solution or the like in the unit for preparing the starting material for polycarbonate resin, and the resulting solution is used for polycarbonate resin production.

[0021] In the present invention, the molten bisphenol such as 2,2-bis(4-hydroxyphenyl)propane prepared in the process as above is, without being solidified and granulated in the granulation step, directly dissolved in an aqueous alkali solution such as an aqueous sodium hydroxide solution or the like in the step of preparing the starting material for polycarbonate resin production. The invention is characterized by the direct preparation of the starting material for polycarbonate resin production. In the invention, the temperature of the aqueous alkali solution in which the bisphenol is dissolved is controlled to fall between 20 and 80°C. If the temperature of the aqueous alkali solution is lower than 20°C, a lot of time will be taken to dissolve the bisphenol in the solution, and the productivity of polycarbonate resin will be low. On the other hand, if the temperature is higher than 80°C, the bisphenol will be thermally decomposed and discolored, and, in addition, the aqueous alkali solution will corrode the apparatus.

[0022] For mixing the molten bisphenol with such an aqueous alkali solution, for example, employed is a dissolution tank equipped with a line mixer or a stirrer. Preferably, the atmosphere in the apparatus is previously purged with an inert gas such as nitrogen gas or the like so that the mixing operation can be effected in such an inert gas atmosphere. The temperature of the molten bisphenol is not lower than the melting point of the bisphenol, but is preferably higher by at most 80°C than the melting point thereof. If the temperature of the bisphenol melt is higher than it, the bisphenol will be decomposed and discolored.

[0023] For the aqueous alkali solution in which the molten bisphenol is dissolved, preferred is sodium hydroxide. In place of sodium hydroxide, however, any other alkali metal hydroxide and alkaline earth metal hydroxide may also be employed. The concentration of the aqueous alkali solution may fall between 2 and 47 % by weight. Preferably, the amount of the aqueous alkali solution to be used falls between 1.9 and 2.5 mols relative to one mol of the bisphenol to be dissolved in the solution. Regarding the reaction between bisphenol and alkali such as sodium hydroxide, one mol of bisphenol theoretically reacts with 2 mols of sodium hydroxide. In practical reaction, however, it is desirable that the amount of sodium hydroxide is excessive in some degree over bisphenol.

[0024] When the molten bisphenol is mixed with such an aqueous alkali solution, a reducing agent is added thereto. The reducing agent may be any ordinary one. For example, preferred are sodium sulfite, sodium thiosulfate, sodium dithionite (hydrosulfite), etc. Its amount...
may fall between 10 and 1,000 ppm by weight of the aqueous alkali solution. The reducing agent may be added to the aqueous alkali solution before bisphenol is added to the solution, or may be added to water which is used for controlling the alkali concentration of the solution, or may be added to the aqueous alkali solution simultaneously with molten bisphenol added thereto. The reducing agent added improves the color tone of the polycarbonate resin that starts from the aqueous alkali solution of bisphenol obtained herein.

[0025] The method of the invention for producing polycarbonate that starts from the aqueous alkali solution of bisphenol compound prepared in the manner as above may be the same as that for conventional poly- carbonate resin production through interfacial polymerization, except that it does not require the step of dissolving solid grains of bisphenol compound in an aqueous alkaline solution.

[0026] For example, phosgene is added to the aqueous alkali solution of bisphenol compound, with stirring it in the presence of an organic solvent such as methyl- ene chloride or the like capable of well dissolving poly- carbonate resin, to thereby form a polycarbonate oligomer having a chloroformate terminal, and the oligomer is further polymerized. The polycondensation condition, the catalyst, the mode of molecular weight control and the additives to be optionally added for the method may be the same as those for conventional methods.

[0027] The invention is described more concretely with reference to the following Examples and Comparative Examples.

[Example I-1]

[0028] A 300-ml reactor equipped with a condenser and a stirrer was purged with nitrogen gas. 224 g of an aqueous sodium hydroxide solution having a concentration of 5.6 % by weight, and 0.035 g of hydrosulfite serving as the reducing agent were put into the reactor, and heated up to 50°C.

[0029] Next, with stirring the mixture in the reactor at 350 rpm, 35 g of a melt (at 170°C) of 2,2-bis(4-hydroxyphenyl)propane and 0.035 g of solid hydrosulfite serving as the reducing agent were fed into the reactor through different feed lines. Having been thus fed thereto, the melt of 2,2-bis(4-hydroxyphenyl)propane immediately dissolved in the aqueous sodium hydroxide solution, without forming deposit.

[0030] The APHA color hue of the aqueous sodium hydroxide solution of 2,2-bis(4-hydroxyphenyl)propane was almost 10, and did not differ from that of the solution prepared by dissolving granulated solid 2,2-bis(4-hydroxyphenyl)propane in aqueous sodium hydroxide.

[Example I-2]

[0031] A 300-ml reactor equipped with a condenser and a stirrer was purged with nitrogen gas. Bubbled with nitrogen gas, 224 g of an aqueous sodium hydroxide solution having a concentration of 5.6 % by weight was put into the reactor, and heated up to 50°C.

[0032] Next, with stirring the mixture in the reactor at 350 rpm, 35 g of a melt (at 170°C) of 2,2-bis(4-hydroxyphenyl)propane and 0.035 g of solid hydrosulfite serving as the reducing agent were fed into the reactor through different feed lines. Having been thus fed thereto, the melt of 2,2-bis(4-hydroxyphenyl)propane immediately dissolved in the aqueous sodium hydroxide solution, without forming deposit.

[Example I-3]

[0033] The APHA color hue of the aqueous sodium hydroxide solution of 2,2-bis(4-hydroxyphenyl)propane was almost 10, and did not differ from that of the solution prepared by dissolving granulated solid 2,2-bis(4-hydroxyphenyl)propane in aqueous sodium hydroxide.

[Comparative Example I-1]

[0034] A 300-ml reactor equipped with a condenser and a stirrer was purged with nitrogen gas. 224 g of an aqueous sodium hydroxide solution having a concentration of 5.6 % by weight, 0.035 g of hydrosulfite serving as the reducing agent, and 28 g of solid granular 2,2-bis(4-hydroxyphenyl)propane were put into the reactor, and heated up to 40°C.

[0035] Next, with stirring the mixture in the reactor at 350 rpm, 7 g of a melt (at 170°C) of 2,2-bis(4-hydroxyphenyl)propane was poured into it. Having been poured thereto, the melt of 2,2-bis(4-hydroxyphenyl)propane partly deposited, but, after 6 minutes, it completely dissolved in the aqueous sodium hydroxide solution.

[0036] The APHA color hue of the aqueous sodium hydroxide solution of 2,2-bis(4-hydroxyphenyl)propane was at most 10, and did not differ from that of the solution prepared by dissolving granulated solid 2,2-bis(4-hydroxyphenyl)propane in aqueous sodium hydroxide.

[Comparative Example I-2]

[0037] A 300-ml reactor equipped with a condenser and a stirrer was purged with nitrogen gas. 224 g of an aqueous sodium hydroxide solution having a concentration of 5.6 % by weight, and 0.035 g of hydrosulfite serving as the reducing agent were put into the reactor. The mixture in the reactor was kept at 15°C.

[0038] Next, with stirring the mixture in the reactor at 350 rpm, 35 g of a melt (at 170°C) of 2,2-bis(4-hydroxyphenyl)propane was poured into it. Having been poured thereto, the melt of 2,2-bis(4-hydroxyphenyl)propane immediately solidified and gave large masses. At least 1 hour was taken to dissolve the masses.

[Comparative Example I-3]
ing as a reducing agent were put into the reactor, and heated up to 85°C.

[0040] Next, with stirring the mixture in the reactor at 350 rpm, 35 g of a melt (at 170°C) of 2,2-bis(4-hydroxyphenyl)propane was poured into it. Having been poured thereinto, the melt of 2,2-bis(4-hydroxyphenyl)propane immediately dissolved in the aqueous sodium hydroxide solution, without forming deposit.

[0041] However, the APHA color hue of the aqueous sodium hydroxide solution of 2,2-bis(4-hydroxyphenyl)propane fell between 20 and 25. This means the decomposition of 2,2-bis(4-hydroxyphenyl)propane.

[Example I-4]

(1) Production of polycarbonate oligomer:

[0042] The aqueous sodium hydroxide solution of 2,2-bis(4-hydroxyphenyl)propane obtained in Example I-1 (the 2,2-bis(4-hydroxyphenyl)propane concentration in the solution = 13.5 % by weight) was cooled to room temperature.

[0043] Next, the aqueous sodium hydroxide solution of 2,2-bis(4-hydroxyphenyl)propane at a flow rate of 138 liters/hr and a solvent, methylene chloride at a flow rate of 69 liters/hr were introduced into a tubular reactor having an inner diameter of 10 mm and a length of 10 m, through an orifice plate, with phosgene being introduced thereinto at a flow rate of 10.7 kg/hr, and these were continuously reacted for 3 hours. The tubular reactor used herein had a double-walled structure. With cooling water being circulated through the jacket of the reactor, the temperature inside the reactor was so controlled that the reaction mixture could be at 25°C at the outlet.

[0044] The thus-obtained reaction mixture was kept static, and the aqueous phase separated was removed to obtain 220 liters of a methylene chloride phase. 170 liters of methylene chloride was added to the methylene chloride phase, and stirred to obtain a methylene chloride solution of polycarbonate oligomer obtained in the above step (1). The resulting methylene chloride solution of polycarbonate oligomer obtained in the above step (1). The resulting methylene chloride solution of polycarbonate oligomer had a polycarbonate oligomer concentration of 314.7 g/liter, a degree of polymerization of from 3 to 4, and a chlorofor- 

(2) Production of polycarbonate resin:

[0045] 3.28 liters of methylene chloride was added to 5.72 liters of the methylene chloride solution of polycarbonate oligomer obtained in the above step (1). The resulting methylene chloride solution of polycarbonate oligomer had a polycarbonate oligomer concentration of 200 g/liter and a chlorofor- 

[0046] serving as a terminator were added thereto.

[0047] With that, the mixture in the reactor was kept stirred at 600 rpm for 10 minutes in turbulent flow. Next, 167 ml of an aqueous sodium hydroxide solution having a concentration of 48 % by weight was added to this, and further stirred at 200 rpm for 60 minutes in laminar flow.

[0048] According to the invention, a step of granulat-

Claims

1. A method for producing a starting material for poly-

2. The method for producing a starting material for polycarbonate resin as claimed in claim 1, wherein the bisphenol compound includes bis(4-hydroxy-

3. A method for producing polycarbonate resin through interfacial polymerization, wherein the aqueous alkali solution of the bisphenol compound resulting from the method of claim 1 is the starting material for the polycarbonate resin production.
Patentansprüche

1. Verfahren zur Herstellung eines Ausgangsmaterials zur Polycarbonatharzherstellung durch Grenzflächenpolymerisation, das dadurch charakterisiert ist, dass eine Bisphenolverbindung, die im Herstellungsverfahren für eine Bisphenolverbindung im geschmolzenen Zustand vorliegt, mit einer wässrigen Alkalilösung bei 20 bis 80 °C gemischt und darin gelöst wird, wobei die Alkalilösung ein Reduktionsmittel in einer Menge von 10 bis 1000 ppm bezogen auf das Gewicht der wässrigen Alkalilösung enthält.

2. Verfahren zur Herstellung eines Ausgangsmaterials zur Polycarbonatharzherstellung wie in Anspruch 1 beansprucht, wobei die Bisphenolverbindung Bis(4-hydroxyphenyl)alkane einschließt.

3. Verfahren zur Herstellung eines Polycarbonatharzes durch Grenzflächenpolymerisation, wobei die aus dem Verfahren von Anspruch 1 resultierende wässerige Alkalilösung der Bisphenolverbindung das Ausgangsmaterial für die Polycarbonatharzherstellung ist.

Revendications

1. Procédé de production d’une matière de départ pour la production d’une résine de polycarbonate par une polymérisation interfaciale, qui est caractérisé en ce qu’un composé bisphénol qui est dans un état fondu dans un procédé de production d’un composé bisphénol, est mélangé et dissous dans une solution alcaline aqueuse à une température de 20 à 80 °C, dans lequel la solution alcaline contient un agent réducteur en une quantité de 10 à 1 000 ppm en poids de la solution alcaline aqueuse.

2. Procédé de production d’une matière de départ pour une résine de polycarbonate selon la revendication 1, dans lequel le composé bisphénol comprend des bis(4-hydroxyphényl)alkanes.

3. Procédé de production d’une résine de polycarbonate par une polymérisation interfaciale, dans lequel la solution alcaline aqueuse du composé bisphénol résultant du procédé de la revendication 1 est la matière de départ pour la production de la résine de polycarbonate.