TABLE 2-continued

Resin	Composition	Mw	Mw/Mn
HR-74	100	13000	1.4
HR-75	70/30	8000	1.3
HR-76	50/40/10	9500	1.5
HR-77	100	9000	1.6
HR-78	80/20	3500	1.4
HR-79	90/8/2	13000	1.5
HR-80	85/10/5	5000	1.5
HR-81	80/18/2	6000	1.5
HR-82	50/20/30	5000	1.3
HR-83	90/10	8000	1.4
HR-84	100	9000	1.6
HR-85	80/20	15000	1.6
HR-86	70/30	4000	1.42
HR-87	60/40	8000	1.32
HR-88	100	3800	1.29
HR-89	100	6300	1.35
HR-90	50/40/10	8500	1.51

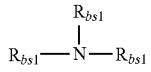
[6] Basic Compound

The actinic ray-sensitive or radiation-sensitive resin composition of the present invention preferably contains a basic compound.

The basic compound is preferably a nitrogen-containing organic basic compound.

The compound which can be used is not particularly limited but, for example, compounds classified into the following (1) to (4) are preferably used.

(1) Compound Represented by the Following Formula (BS-1)



(BS-1)

In formula (BS-1), each R_{bs1} independently represents any one of a hydrogen atom, an alkyl group (linear or branched), a cycloalkyl group (monocyclic or polycyclic), an aryl group and an aralkyl group. However, it does not occur that three R_{bs1}s all are a hydrogen atom.

The carbon number of the alkyl group as R_{bs1} is not particularly limited but is usually from 1 to 20, preferably from 1 to 12.

The carbon number of the cycloalkyl group as R_{bs1} is not particularly limited but is usually from 3 to 20, preferably from 5 to 15.

The carbon number of the aryl group as R_{bs1} is not particularly limited but is usually from 6 to 20, preferably from 6 to 10. Specific examples thereof include a phenyl group and a naphthyl group.

The carbon number of the aralkyl group as R_{bs1} is not particularly limited but is usually from 7 to 20, preferably from 7 to 11. Specific examples thereof include a benzyl group.

In the alkyl group, cycloalkyl group, aryl group or aralkyl group as R_{bs1}, a hydrogen atom may be substituted for by a substituent. Examples of the substituent include an alkyl group, a cycloalkyl group, an aryl group, an aralkyl group, a hydroxyl group, a carboxyl group, an alkoxy group, an aryloxy group, an alkylcarbonyloxy group, and an alkyloxycarbonyl group.

The compound represented by formula (BS-1) is preferably a compound where only one of three R_{bs1}s is a hydrogen atom or all R_{bs1}s are not a hydrogen atom.

Specific examples of the compound represented by formula (BS-1) include tri-n-butylamine, tri-n-pentylamine, tri-n-octylamine, tri-n-decylamine, triisodecylamine, dicyclohexylmethylamine, tetradecylamine, pentadecylamine, hexadecylamine, octadecylamine, didecylamine, methyloctadecylamine, dimethylundecylamine, N,N-dimethyldodecylamine, methyldioctadecylamine, N,N-dibutylaniline, and N,N-dihexylaniline.

Also, one preferred embodiment is a compound where in formula (BS-1), at least one R_{bs1} is an alkyl group substituted with a hydroxyl group. Specific examples of the compound include triethanolamine and N,N-dihydroxyethylaniline.

The alkyl group as R_{bs1} may have an oxygen atom in the alkyl chain to form an oxyalkylene chain. The oxyalkylene chain is preferably —CH_2CH_2O—. Specific examples thereof include tris(methoxyethoxyethyl)amine and compounds exemplified in column 3, line 60 et seq. of U.S. Pat. No. 6,040,112.

(2) Compound Having a Nitrogen-Containing Heterocyclic Structure

The heterocyclic structure may or may not have aromaticity. Also, the heterocyclic structure may contain a plurality of nitrogen atoms and may further contain a heteroatom other than nitrogen. Specific examples of the compound include a compound having an imidazole structure (e.g., 2-phenylbenzimidazole, 2,4,5-triphenylimidazole), a compound having a piperidine structure (e.g., N-hydroxyethylpiperidine, bis(1,2,2,6,6-pentamethyl-4-piperidyl)sebacate), a compound having a pyridine structure (e.g., 4-dimethylaminopyridine), and a compound having an antipyrine structure (e.g., antipyrine, hydroxyantipyrine).

A compound having two or more ring structures is also suitably used. Specific examples thereof include 1,5-diazabicyclo[4.3.0]non-5-ene and 1,8-diazabicyclo[5.4.0]-undec-7-ene.

(3) Amine Compound Having a Phenoxy Group

The amine compound having a phenoxy group is a compound where the alkyl group in an amine compound has a phenoxy group at the terminal opposite the nitrogen atom. The phenoxy group may have a substituent such as alkyl group, alkoxy group, halogen atom, cyano group, nitro group, carboxyl group, carboxylic acid ester group, sulfonic acid ester group, aryl group, aralkyl group, acyloxy group and aryloxy group.

A compound having at least one alkyleneoxy chain between the phenoxy group and the nitrogen atom is preferred. The number of alkyleneoxy chains per molecule is preferably from 3 to 9, more preferably from 4 to 6. Among alkyleneoxy chains, —CH_2CH_2O— is preferred.

Specific examples of the compound include 2-[2-{2-(2,2-dimethoxy-phenoxyethoxy)ethyl}-bis-(2-methoxyethyl)]-amine and Compounds (C1-1) to (C3-3) exemplified in paragraph [0066] of U.S. Patent Application Publication No. 2007/0224539A1.

(4) Ammonium Salt

An ammonium salt is also appropriately used. The salt is preferably a hydroxide or a carboxylate. More specifically, a tetraalkylammonium hydroxide typified by tetrabutylammonium hydroxide is preferred. In addition, an ammonium salt derived from amines of (1) to (3) above can be used.

Other examples of the basic compound which can be used include compounds described in JP-A-2011-85926, compounds synthesized in Examples of JP-A-2002-363146, and compounds described in paragraph 0108 of JP-A-2007-298569.