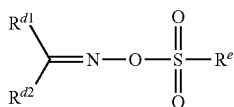


(Photosensitive Compound Including an Oxime Skeleton)

**[0104]** The photosensitive compounds according to some embodiments of the present invention can be a photosensitive compound including an oxime skeleton including the Te atom containing group. The oxime skeleton can include the ones represented by the following formula (7), and the present invention is not limited so far as the oxime skeleton includes the Te atom containing group directly or via a bonding group.

[Chemical Formula 13]



(7)

**[0105]** At least either one of  $R^{d1}$ ,  $R^{d2}$ , and  $R^e$  includes one or more divalent Te atom. At least either one of  $R^{d1}$  and  $R^{d2}$  preferably includes at least one electron withdrawing group such as a cyano group, a fluorinated alkyl group and the like.

**[0106]**  $R^{d1}$  and  $R^{d2}$  are, independently from each other, preferably a linear, branched, or cyclic alkyl group having 1 to 20 carbon atoms which can be substituted, an aryl group, a cyano group and the like. A part of or all of the hydrogen atoms of these groups can be substituted with a substituent group. The alkyl group and the aryl group of  $R^{d1}$  and  $R^{d2}$  can include the alkyl group and the aryl group similar to those of  $R^1$  of formula (1).

**[0107]** The substituent group which can be possessed by  $R^{d1}$  and  $R^{d2}$  can include an alkyl group or an alkoxy group having 1 to 4 carbon atoms; an aryl group having 5 to 20 carbon atoms; an aromatic heterocyclic group having 3 to 5 carbon atoms; a nitro group; a halogen atom such as a chlorine atom, a fluorine atom and the like; and the like. Here, the substituent group can be a substituent group similar to the substituent group of  $R^1$ .

**[0108]** As  $R^e$ , the ones similar to  $R^b$  of formula (6) can be mentioned. Particularly,  $R^e$  represents a linear, branched, or substituted alkyl group; an alkenyl group; an alkoxyalkyl group; an aryl group such as a phenyl group, a naphthyl group or the like; and the like. A part of or all of the hydrogen atoms of these groups can be substituted with a substituent group.

**[0109]** The substituent group which can be possessed by  $R^e$  can include; an alkyl group or an alkoxy group having 1 to 4 carbon atoms; an aryl group having 5 to 20 carbon

atoms; an aromatic heterocyclic group having 3 to 5 carbon atoms; a nitro group; a halogen atom such as a chlorine atom, a fluorine atom and the like; and the like. Here, the substituent group can be a substituent group similar to the substituent group of  $R^1$ .

**[0110]** As the alkyl group of  $R^e$ , number of carbon atoms of the alkyl group is preferably 1 to 20, more preferably 1 to 10, further preferably 1 to 8, especially preferably 1 to 6, and most preferably 1 to 4. As the alkyl group, an alkyl group being partially or fully halogenated is especially preferable (hereinafter can be referred to as halogenated alkyl group). Here, the partially halogenated alkyl group means an alkyl group having a part of hydrogen atoms substituted with halogen atoms. The fully halogenated alkyl group means an alkyl group having all of the hydrogen atoms substituted with halogen atoms. The halogen atom can include a fluorine atom, a chlorine atom, a bromine atom, an iodine atom and the like, and the fluorine atom is especially preferable. That is, halogenated alkyl group is preferably a fluorinated alkyl group.

**[0111]** Regarding the aryl group, number of carbon atoms of the aryl group is preferably 4 to 20, more preferably 4 to 10, and most preferably 6 to 10. As the aryl group, an aryl group being partially or fully halogenated is especially preferable. Here, the partially halogenated aryl group means an aryl group having a part of hydrogen atoms substituted with halogen atoms. The fully halogenated aryl group means an aryl group having all of the hydrogen atoms substituted with halogen atoms.

**[0112]**  $R^{11}$  and  $R^{12}$  can bond with each other to form a ring.

(Photosensitive Compound Including Other Skeleton)

**[0113]** The photosensitive compound according to some embodiments of the present invention is not particularly limited so long as they include a Te atom containing group. In addition to the ones mentioned above, the photosensitive compound can be an onium salt such as a phosphonium salt, an ammonium salt, a pyridinium salt and the like; a glyoxime compound; a sulfone compound such as a bis-sulfonic acid compound, a  $\beta$ -keto sulfonic acid compound, a disulfonic acid compound and the like; a sulfonic acid ester and the like. The photosensitive compound according to some embodiments of the present invention can be used alone or two or more can be used in combination as a component of the resist composition.

(Embodiment of Photosensitive Compound)

**[0114]** The photosensitive compound according to some embodiments of the present invention is suitably used as a photoacid generator, a photodegradable base, a sensitizer and the like. It is especially preferable that the photosensitive compound according to some embodiments of the present invention is used as a photoacid generator and a photodegradable base.

**[0115]** In addition, as discussed, the photosensitive compounds according to some embodiments of the present invention can be a polymer. When the photosensitive compound is a polymer, the polymer can be a homopolymer when it includes a unit which can function as a photosensitive compound, and can also be a copolymer including another unit. The another unit when the polymer is a copolymer can include a unit which can react as an acid-