greatly depending on the number of carbon atoms, degree of unsaturation (number of double bonds), and structure thereof. Thereby, for example, even at the same number of carbon atoms, the dimer acid structure becomes completely different due to the difference in the degree of unsaturation.

[0007] Even with the same combination of the flux and the solder material such as the resin flux cored solder, the finish after soldering such as the wetting and spreading properties may be completely different due to the difference in the heat history. Furthermore, even when the same amount of organic acid is added in formulation of the flux, the reliability such as the specific resistance of an aqueous solution which affects the corrosiveness of the metal can be significantly changed. Therefore, stable and good-finish soldering through any heat history is required, and the high reliability thereof is ideal. Furthermore, as a matter of course, good processability is required.

[0008] The present invention has been made to solve such problems, and an object of the present invention is to provide a resin composition for soldering with not only improved wetting and spreading properties and but also excellent reliability and processability, a resin flux cored solder and a flux coated solder using this resin composition for soldering, and a liquid flux.

SOLUTION TO PROBLEM

[0009] It has been found that a dimer acid which is a reaction product of oleic acid and linoleic acid, the hydrogenated product thereof, a trimer acid which is a reaction product of oleic acid and linoleic acid, and the hydrogenated product thereof have heat resistance and a solder wets and spreads well.

[0010] In one aspect, there is provided a resin composition for soldering including 1 wt% or more and 40 wt% or less of: any of a dimer acid which is a reaction product of oleic acid and linoleic acid, a trimer acid which is a reaction product of oleic acid and linoleic acid, a hydrogenated dimer acid obtained by adding hydrogen to a dimer acid which is a reaction product of oleic acid and linoleic acid, or a hydrogenated trimer acid obtained by adding hydrogen to a trimer acid which is a reaction product of oleic acid and linoleic acid; or a total

of two or more of a dimer acid which is a reaction product of oleic acid and linoleic acid, a trimer acid which is a reaction product of oleic acid and linoleic acid, a hydrogenated dimer acid obtained by adding hydrogen to a dimer acid which is a reaction product of oleic acid and linoleic acid, and a hydrogenated trimer acid obtained by adding hydrogen to a trimer acid which is a reaction product of oleic acid and linoleic acid, and 30 wt% or more and 99 wt% or less of a rosin.

[0010a] In another aspect, there is provided a resin flux cored solder, wherein a linear solder is filled with the resin composition for soldering as described herein.

[0010b] In yet another aspect, there is provided a flux coated solder, wherein a solder is coated with the resin composition for soldering as described herein.

[0010c] In another aspect, there is provided a liquid flux comprising the resin composition for soldering as described herein and a solvent.

[0011] In the present invention, 0 wt% or more and 4 wt% or less of an organic acid, 0 wt% or more and 2 wt% or less of an amine, 0 wt% or more and 5 wt% or less of an organic halogen compound, and 0 wt% or more and 1 wt% or less of an amine hydrohalide salt may be included. 0 wt% or more and 13 wt% or less of a solvent may also be included. 0 wt% or more and 3 %wt or less of an antifoaming agent, 0 wt% or more and 5 wt% or less of a silicone oil, and 0 wt% or more and 10 wt% or less of an organophosphorus compound may also be included. 0 wt% or more and 40 wt% or less of another resin may also be included.

[0012] The present invention is also a resin flux cored solder obtained by filling a linear solder with the above resin composition for soldering, a flux coated solder obtained by coating a solder with the above resin composition for soldering, and liquid flux consisting of the above resin composition for soldering and a solvent.

ADVANTAGEOUS EFFECTS OF INVENTION

[0013] The present invention exhibits good wetting and spreading of a solder by including 1 wt% or more and 40 wt% or less of: any of a dimer acid which is a reaction product of oleic acid and linoleic acid, a trimer acid which is a reaction product of oleic acid and linoleic acid, a hydrogenated dimer acid obtained by adding hydrogen to a dimer acid which is a reaction

product of oleic acid and linoleic acid, or a hydrogenated trimer acid obtained by adding hydrogen to a trimer acid which is a reaction product of oleic acid and linoleic acid; or a total of two or more of a dimer acid which is a reaction product of oleic acid and linoleic acid, a trimer acid which is a reaction product of oleic acid and linoleic acid, a hydrogenated dimer acid obtained by adding hydrogen to a dimer acid which is a reaction product of oleic acid and linoleic acid, and a hydrogenated trimer acid obtained by adding hydrogen to a trimer