

CLAIMS**What Is Claimed Is:**

1. A method for the preparation of a glycidyl ester comprising the steps of
 - a. admixing a carboxylic acid substrate comprising a rosin acid or derivative thereof, a fatty acid or derivative thereof, or a combination thereof; a catalyst, a molar excess of an epihalogenhydrin based on the total moles of carboxylic acid groups, and optionally, an organic solvent to form a reaction mixture;
 - b. heating the reaction mixture at a temperature from about 60 to about 125 °C to form a halohydrin intermediate;
 - c. combining the reaction mixture comprising the halohydrin intermediate from step (b) with a basic solution comprising an inorganic base, water, optionally a water-soluble organic solvent, and optionally, an organic solvent to form a reaction mixture; and
 - d. allowing the reaction to proceed at a temperature of up to about 30 °C to provide the glycidyl ester.
2. The method of claim 1 wherein step (d) is performed at ambient temperature.
3. The method of claim 1 wherein the halohydrin intermediate is not isolated prior to step (c).
4. The method of claim 1, wherein the organic solvent is present in step (a) and the organic solvent is not added in step (c).
5. The method of claim 1, wherein the organic solvent is not present in step (a) and the organic solvent is added in step (c).
6. The method of claim 1 comprising step (e), wherein step (e) comprises isolating a glycidyl ester reaction product from the reaction mixture of step (d).
7. The method of claim 1 comprising step (f), wherein step (f) comprises reacting the glycidyl ester with a nucleophile in the presence of a ring-opening catalyst to provide a ring-opened derivative.

8. The method of claim 7, wherein the nucleophile comprises water, a hydroxyl functionalized amine, acrylic acid, methacrylic acid, a fatty acid, a thiol, an amine, or an alcohol.
9. The method of claim 4, wherein the ring-opening catalyst comprises an acid, a base, or a phosphine.
10. The method of claim 1, wherein the rosin acid derivative or the fatty acid derivative comprises one carboxylic acid group, two carboxylic acid groups, or three carboxylic acid groups.
11. The method of claim 1, wherein the rosin acid derivative comprises a disproportionated rosin, a maleated rosin, a fumarated rosin, an acrylonitrile adduct, itaconic acid adduct, an acrylic acid adduct, a dimer acid, an oxidized rosin, a hydrogenated rosin, or a combination thereof.
12. The method of claim 1, wherein the fatty acid derivative comprises a maleated fatty acid, an acrylonitrile fatty acid adduct, a fumarated fatty acid adduct, acrylic-acid fatty acid adduct, an itaconic acid fatty acid adduct, a dimer fatty acid, an oxidized fatty acid, a hydrogenated rosin acid, or a combination thereof.
13. The method of claim 1, wherein the molar excess of epihalogenhydrin is from greater than about 1 to about 2, based on the moles of carboxylic acid groups present in the substrate.
14. The method of claim 1, wherein the organic solvent comprises toluene, xylene, hexane, heptane, or a combination thereof.
15. The method of claim 1, wherein the catalyst comprises a phosphine, a tertiary amine, a quaternary ammonium salt, an onium salt, or a combination thereof.

16. The method of claim 1, wherein the water-soluble organic solvent comprises acetone, methanol, ethanol, isopropanol, acetonitrile, tetrahydrofuran, dimethylformamide, dimethyl sulfoxide, or a combination thereof.
17. The method of claim 1, wherein the method does not comprise a step comprising recovering excess epihalogenhydrin.
18. The method of claim 1, wherein the carboxylic acid substrate is derived from tall oil fatty acids, tall oil rosin, distilled tall oil, gum tree rosin, wood rosin, softwood rosin, hardwood rosin, a natural oil, or a combination thereof.
19. The method of claim 18, wherein the natural oil comprises vegetable oil, safflower oil, sesame oil, canola oil, olive oil, oil, coconut oil, or a combination thereof.
20. The method of claim 1, wherein a side-product comprises less than 15% of a glycidyl ester reaction product isolated from the reaction mixture of step (d), as measured by gel permeation chromatography.