CLAIMS

What is claimed is:

1. A method of storing and/or transporting oxo alcohol, comprising:

combining an oxo alcohol having an initial aldehyde content X and an initial peroxide content Y with 5 ppm to 100 ppm of a phenolic antioxidant; and

storing and/or transporting the oxo alcohol;

wherein the phenolic antioxidant is 1,1,3-tris(2'-methyl-4'-hydroxy-5'-t-butylphenyl)butane or 3,5-bis(1,1-dimethylethyl)-4-hydroxy-benzenepropanoic acid.

2. The method of Claim 1, wherein after a period of time, the oxo alcohol with the antioxidant has a subsequent aldehyde content "x" and a subsequent peroxide content "y" after a period of time;

wherein the period of time is greater than or equal to 2 weeks, preferably greater than or equal to 3 weeks, more preferably greater than or equal to 4 weeks, or greater than or equal to 16 weeks; and

wherein the subsequent aldehyde content x is less than or equal to 1.10 X, preferably less than or equal to 1.00 X, or less than or equal to 0.95 X, or less than or equal to 0.80 X; and/or

wherein the subsequent peroxide content y is less than or equal to 1.10 Y, preferably less than or equal to 1.00 Y, or less than or equal to 0.95 Y, or less than or equal to 0.80 Y.

3. The method of any of the preceding claims, wherein the oxo alcohol comprises 2-ethylhexanol, 2-propylheptanol, isononyl alcohol, isodecyl alcohol, butanol, or a combination comprising at least one of the foregoing; preferably 2-ethylhexaldehyde.

4. The method of any of the preceding claims, wherein the amount of the phenolic antioxidant is 5 to 80 ppm, preferably, 5 to 50 ppm, or 5 to 30 ppm.

5. The method of any of the preceding claims, wherein a temperature of the oxo alcohol during the storage and/or transport is greater than or equal to 40ºC, or greater than or equal to 50ºC, or greater than or equal to 65ºC.

6. The method of any of the preceding claims, wherein the oxo alcohol contacts oxygen during the storage and/or transport.

7. The method of any of the preceding claims, wherein autoxidation of the oxo alcohol does not occur during storage and/or transport.

8. The method of any of the preceding claims, wherein the initial aldehyde content X is greater than or equal to 20 ppm.

9. The method of any of the preceding claims, wherein the initial peroxide content Y is greater than or equal to 0.2 ppm.

10. A method of producing a plasticizer, comprising:

esterification of an acid and/or an anhydride with an oxo alcohol having an initial aldehyde content X and an initial peroxide content Y with 5 ppm to 100 ppm of a phenolic antioxidant; and

wherein the phenolic antioxidant is 1,1,3-tris(2'-methyl-4'-hydroxy-5'-t-butylphenyl)butane or 3,5-bis(1,1-dimethylethyl)-4-hydroxy-benzenepropanoic acid;

to produce the plasticizer; and

isolating, and preferably purifying, the plasticizer.

11. The method of Claim 10, wherein the plasticizer comprises dioctyl phthalate, trioctyl trimellitate, acrylate, or a combination comprising at least one of the foregoing.

12. The method of any of Claims 10 or 11, wherein the plasticizer has a score of less than or equal to best in class on the Platinum-Cobalt Scale according to ASTM D1209, as updated in 2011, preferably, less than best in class.