The invention claimed is:

1. A method of making a chemical composition, comprising:

forming an unsaturated fatty acid methyl ester composition by subjecting an unsaturated fatty acid to an esterification process;

forming an aromatic alkylate from the unsaturated fatty acid methyl ester composition by performing an aromatic alkylation process on the unsaturated fatty acid methyl ester composition; and

ethoxylating the aromatic alkylate.

2. The method of claim **1**, wherein forming the aromatic alkylate comprises reacting the unsaturated fatty acid methyl ester composition with benzene in the presence of an ionic liquid catalyst.

3. The method of claim **1**, wherein ethoxylating the aromatic alkylate comprises contacting the aromatic alkylate with an ethylene oxide in the presence of a catalyst derived from a fatty acid, an alkaline earth salt, and a strong acid.

4. The method of claim **3**, wherein the catalyst is further derived from a glycol.

5. The method of claim **1**, further comprising sulfonating the ethoxylated aromatic alkylate.

6. The method of claim **5**, wherein sulfonating the ethoxylated aromatic alkylate comprises contacting the ethoxylated aromatic alkylate with a sulfonic acid.

7. The method of claim **1**, wherein the unsaturated fatty acid is obtained from at least one of (a) a triglyceride source selected from the group consisting of yellow grease, tallow, lard, vegetable oil, fish oil, algae oil, and combinations thereof, and (b) a biodiesel source.

8. The method of claim **7**, wherein the unsaturated fatty acid is obtained from a vegetable oil.

9. The method of claim **7**, wherein the biodiesel source comprises biodiesel derived from palm oil or canola oil.

10. The method of claim **1**, wherein the unsaturated fatty acid is produced by dehydrogenating at least one of a saturated fatty acid, triglyceride, and fatty acid methyl ester using a conventional dehydrogenation catalyst.