WHAT IS CLAIMED:

1. A barrier coating, comprising:

at least two polyol fatty acid esters (PFAE) or saccharide fatty acid esters (SFAE),

wherein at least one of the at least two PFAEs or SFAEs has an HLB value of equal to or less than 3 and at least one of the at least two PFAEs or SFAEs has an HLB value of equal to or greater than 7, and

wherein at least one PFAE or SFAE is a penta-, hexa-, hepta, or octa-ester or a mixture thereof.

2. The barrier coating of claim 1, wherein each one of the PFAEs or SFAEs possesses a different degree of substitution (DS).

3. The barrier coating of claim 1, wherein when said coating consists essentially of a first PFAE or SFAE having an HLB value of 3 and second PFAE or SFAE having an HLB value of greater than 7, and a Hercules Size Test (HST) value of a substrate comprising the coating is greater than the combined HST values of a coating containing only the first or second PFAEs or SFAEs.

4. The barrier coating of claim 2, wherein said at least two PFAEs or SFAEs are present in the barrier coating at a sufficient concentration to cause a surface of an article containing the coating to become substantially resistant to application of water, oil and/or grease in the absence of a secondary lipophobe or hydrophobe.

5. The barrier coating of claim 1, wherein one of the at least two SFAEs contains 1 to 5 fatty acid moieties.

6. The barrier coating of claim 1, wherein the fatty acid moieties are saturated or are a combination of saturated and unsaturated fatty acids.

7. The barrier coating of claim 1, further comprising one or more compositions including clay, precipitated calcium carbonate (PCC), ground calcium carbonate (GCC), natural and/or synthetic latexes, prolamines, polyvinyl alcohol (PvOH), TiO_2, talc, glyoxal, modified starches, kaolin and combinations thereof, and optionally, one or more additives selected from the group consisting of starches, modified starches, hydrocarbon resins, polymers, waxes, polysaccharides, proteins, dyestuffs, optical brightening agents, and combinations thereof.

8. The barrier coating of claim 1, wherein the coating comprises clay, GCC or PCC.

9. The barrier coating of claim 8, wherein at least one of the at least two PFAEs or SFAEs is a monoester or a diester.

10. The barrier coating of claim 1, wherein the barrier coating is biodegradable and/or compostable.

11. An article, comprising:

a substrate; and

the barrier coating of claim 1 adhered to a surface of the substrate,

wherein the substrate is selected from the group consisting of paper, paperboard, paper pulp, a carton for food storage, fruit, a bag for food storage, a shipping bag, a container for coffee or tea, a tea bag, bacon board, diapers, weed-block/barrier fabric or film, mulching film, plant pots, packing beads, bubble wrap, oil absorbent material, laminates, envelops, gift cards, credit cards, gloves, raincoats, OGR paper, a shopping bag, a compost bag, release paper, eating utensil, container for holding hot or cold beverages, cup, paper towels, plate, a bottle for carbonated liquid storage, insulating material, a bottle for non-carbonated liquid storage, film for wrapping food, a garbage disposal container, a food handling implement, a lid for a cup, a fabric fibre, a water storage and conveying implement, a storage and conveying implement for alcoholic or non-alcoholic drinks, an outer casing or screen for electronic goods, an internal or external piece of furniture, a curtain, upholstery, film, box, sheet, tray, pipe, water conduit, packaging for pharmaceutical products, clothing, medical device, contraceptive, camping equipment, cellulosic material that is molded and combinations thereof.

12. The article according to claim 11, wherein a surface of the article having the barrier coating has a water contact angle of equal to or greater than 90°.

13. The article according to claim 11, wherein a surface of the article having the barrier coating has a TAPPI T 559 KIT test value of at least 5.

14. The article according to claim 11, wherein a surface of the article having the barrier coating has a TAPPI T 559 KIT test value of at least 7 and a water contact angle of equal to or greater than 90°.

15. A method for tuneably derivatizing a cellulose-based material for lipid and water resistance, the method comprising:

contacting a cellulose-based material with the barrier coating of claim 1; and

exposing the contacted cellulose-based material to heat, radiation, a catalyst or combination thereof for a sufficient time to adhere the barrier coating to the cellulose based material.

16. The method of claim 15, wherein the cellulose-based material having the barrier coating adhered thereto is substantially resistant to application of water, oil and/or grease in the absence of a secondary lipophobe or hydrophobe.

17. The method of claim 15, wherein the cellulose-based material having the barrier coating adhered thereto is substantially resistant to application of water and grease.

18. A barrier coating, comprising:

at least two polyol fatty acid esters (PFAEs) or saccharide fatty acid esters (SFAEs); and

one or more inorganic particles,

wherein at least one of the at least two PFAEs or SFAEs has an HLB value of equal to or less than 3 and at least one of the at least two PFAEs or SFAEs has an HLB value of equal to or greater than 7, and

wherein at least one PFAE or SFAE is a penta-, hexa-, hepta, or octa-ester or a mixture thereof.

19. The barrier coating of claim 18, wherein the inorganic particles are selected from the group consisting of clay, talc, precipitated calcium carbonate, ground calcium carbonate, TiO_2 and combinations thereof.

20. The barrier coating of claim 18, wherein each one of the PFAEs or SFAEs possesses a different degree of substitution (DS).