CLAIMS

1. A pharmaceutical package comprising:

a glass container comprising a first surface and a second surface opposite the first surface, wherein the first surface is an outer surface of the glass container; and

a coating positioned over at least a portion of the first surface of the glass container, the coating comprising:

one or more polyimide compositions; and

one or more metal oxide compositions;

wherein the one or more polyimide compositions and the one or more metal oxide compositions are mixed in the coating.

2. The pharmaceutical package of claim 1, wherein a weight ratio of the one or more metal oxide compositions to the one or more polyimide compositions is from about 20/80 to about 95/5.

3. The pharmaceutical package of claim 1, wherein a total amount of the one or more metal oxide compositions in the coating is from about 20 wt.% to about 95 wt.%.

4. The pharmaceutical package of claim 1, wherein a total amount of the one or more polyimide compositions in the coating is from about 5 wt.% to about 80 wt.%.

5. The pharmaceutical package of claim 1, wherein a combination of polyimides and metal oxides in the coating comprises at least about 50 wt.% of the coating.

6. The pharmaceutical package of any of claims 1-5, wherein at least one of the one or more metal oxide compositions is zirconia, alumina, or titania.

7. The pharmaceutical package of any of claims 1-5, wherein the coating has a thickness of 100 nm or less.

8. The pharmaceutical package of any of claims 1-5, wherein the one or more polyimide compositions is fluorinated.

9. The pharmaceutical package of any of claims 1-5, wherein the portion of the first surface of the glass container with the coating has a coefficient of friction of less than or equal to about 0.7.

10. The pharmaceutical package of claim 9, wherein the portion of the first surface of the glass container with the coating retains the coefficient of friction of less than or equal to about 0.7 following a heat treatment at a temperature of at least about 250 °C for 30 minutes.