We Claim:

1. A polyamide composition comprising:

from 45 wt% to 95 wt% of polyamide polymer comprising PA10, PA11, PA12, PA6,6, PA6,9, PA6,10, PA6,11, PA6,12, PA6,13, PA6,14, PA6,15, PA6,16, PA6,17, PA6,18, PA10,10, PA10,12, PA12,12, PA9T, PA10T, PA11T, PA12T, PA6T/66, PA6T/6I, PA6T/6I/66, PA6T/DT, PA6,T/6,10, PA6,T/6,12, PA6,T/6,13, PA6,T/6,14, PA6,T/6,15, PA6,T/6,16, PA6,T/6,17, PA6,T/6,18, PA6,C/6,10, PA6,C/6,12, PA6,C/6,13, PA6,C/6,14, PA6,C/6,15, PA6,C/6,16, PA6,C/6,17, or PA6,C/6,18, or combinations thereof;

from 5 wt% to 55 wt% of a dimer modifier comprising a C_{18-44} dimer acid or a C_{18-44} dimer amine or a combination thereof;

wherein the polyamide composition has:

a number average molecular weight of the polyamide polymer is less than 30,000 g/mol;

a chemical resistance, as measured by exposure to HCl (10%) for 14 days at 58 °C, resulting in a weight loss of less than 3.0 wt%; and

a moisture uptake of less than about 2.0 wt% moisture at 95% RH.

~~2. The polyamide composition of claim 1, wherein the polyamide polymer comprises PA10, PA11, PA12, PA6,6, PA6,9, PA6,10, PA6,11, PA6,12, PA6,13, PA6,14, PA6,15, PA6,16, PA6,17, PA6,18, PA10,10, PA10,12, PA12,12, PA9T, PA10T, PA11T, PA12T, PA6T/66, PA6T/6I, PA6T/6I/66, PA6T/DT, PA6,T/6,10, PA6,T/6,12, PA6,T/6,13, PA6,T/6,14, PA6,T/6,15, PA6,T/6,16, PA6,T/6,17, PA6,T/6,18, PA6,C/6,10, PA6,C/6,12, PA6,C/6,13, PA6,C/6,14, PA6,C/6,15, PA6,C/6,16, PA6,C/6,17, or PA6,C/6,18, or combinations thereof.~~

~~3.~~2. The polyamide composition of claim ~~2~~1, wherein the polyamide polymer comprises PA6,10, PA6,12, or combinations thereof.

~~4.~~3. The polyamide composition of claim 1, wherein the polyamide composition comprises a single modifier comprising either a single dimer acid or a single dimer amine.

~~5.~~4. The polyamide composition of claim 1, wherein the polyamide composition has a melting temperature from 165ºC to 270ºC ~~or from 170 ºC to 215 ºC~~.

~~6.~~5. The polyamide composition of claim 1, wherein the polyamide composition comprises from 20 wt% to 45 wt% of the modifier.

~~7.~~6. The polyamide composition of claim 1, wherein the polyamide composition has a methyl/amide ratio ranging from 6:1 to 15:1 ~~or from 9:1 to 15:1~~.

~~8.~~7. The polyamide composition of claim 1, wherein the number average molecular weight of the polyamide polymer ranges from 10,000 g/mol to 25,000 g/mol.

~~9.~~8. The polyamide composition of claim 1, wherein the polyamide polymer has an amine end group content ranging from 10 microeq/g to 110 microeq/g ~~or from 35 microeq/g to 80 microeq/g~~.

~~10.~~9. The polyamide composition of claim 1, further comprising at least one of:

glass fibers present in an amount greater than 5 wt%;

a lubricant present in an amount greater than 0.3 wt%; and

an impact modifier present in an amount greater than 3 wt%.

~~11.~~10. The polyamide composition of claim 1, wherein the polyamide polymer comprises PA6,12, and the dimer modifier is present in an amount ranging from 15 wt% to 50 wt%, wherein one of either:

the dimer modifier is a single dimer amine and the polyamide composition demonstrates a tensile elongation of at least 50%; and,

the dimer modifier is a single dimer acid and the polyamide composition demonstrates a tensile elongation of at least 20%.

~~12.~~11. The polyamide composition of claim 1, wherein the polyamide polymer comprises PA6,12, the dimer modifier is a single dimer amine present in an amount ranging from 35

wt% to 55 wt%, and wherein the polyamide composition demonstrates a notched Charpy impact energy loss at 23 °C that is greater than 4.5 kJ/m^2.

~~13.~~12. The polyamide composition of claim 1, wherein the polyamide polymer comprises PA6,12, the dimer modifier is in an amount of about 20 wt%, and wherein the polyamide composition demonstrates a notched Charpy impact energy loss at 23 °C that is greater than 3.5 kJ/m^2, a tensile strength greater than 50 MPa, and a tensile modulus greater than 1950 MPa.

~~14.~~13. A molded or extruded article comprising:

a polyamide composition comprising:

from 45 wt% to 95 wt% of polyamide polymer comprising PA10, PA11, PA12, PA6,6, PA6,9, PA6,10, PA6,11, PA6,12, PA6,13, PA6,14, PA6,15, PA6,16, PA6,17, PA6,18, PA10,10, PA10,12, PA12,12, PA9T, PA10T, PA11T, PA12T, PA6T/66, PA6T/6I, PA6T/6I/66, PA6T/DT, PA6,T/6,10, PA6,T/6,12, PA6,T/6,13, PA6,T/6,14, PA6,T/6,15, PA6,T/6,16, PA6,T/6,17, PA6,T/6,18, PA6,C/6,10, PA6,C/6,12, PA6,C/6,13, PA6,C/6,14, PA6,C/6,15, PA6,C/6,16, PA6,C/6,17, or PA6,C/6,18, or combinations thereof;

from 5 wt% to 55 wt% of a modifier comprising a C_{18-44} dimer acid or a C_{18-44} dimer amine or a combination thereof;

wherein the molded or extruded article composition has:

a number average molecular weight of the polyamide polymer is less than 30,000 g/mol;

a chemical resistance, as measured by exposure to HCl (10%) for 14 days at 58 °C, resulting in a weight loss of less than 3.0 wt%; and

a moisture uptake of less than about 2.0 wt% moisture at 95% RH.

~~15.~~14. A process for preparing a polyamide composition comprising:

preparing a high solids monomer solution in aqueous salts, wherein ~~the~~ solid~~s~~ content of the high solids monomer solution is greater than 80%;

evaporating the high solids monomer solution in an evaporator to form a polyamide polymer, wherein starting concentrations are greater than ~~60~~ 40wt%; and,

adding a modifier comprising a C_{18-44} dimer acid or a C_{18-44} dimer amine or a combination thereof to form a single mixture, wherein the modifier bypasses the evaporator;

wherein the polyamide composition demonstrates:

a number average molecular weight of the polyamide polymer is less than 30,000 g/mol;

a chemical resistance, as measured by exposure to HCl (10%) for 14 days at 58 °C, resulting in a weight loss of less than 3.0 wt%; and

a moisture uptake of less than about 2.0 wt% moisture at 95% RH.

15. An extruded article comprising the polyamide composition of any one of claims 1-12.