CLAIMS

1. A polymerizable nail coating composition comprising:

at least one reactive (meth)acrylate;

at least one reactive urethane (meth)acrylate;

~~at least one reactive polypropylene glycol monomethacrylate;~~

at least one polymethylmethacrylate (PMMA)---polymethacrylic acid (PMAA) copolymer;

~~at least one pyromellitic dianhydride glyceryl dimethacrylate (PMGDM);~~

at least one non-reactive, solvent-dissolvable polymer; and

at least one non-reactive solvent;

wherein upon exposure to actinic radiation, said polymerizable composition cures to an acrylic thermoset having voids defined therein~~, said voids containing said at least one non-reactive, solvent-dissolvable polymer~~.

2. The polymerizable composition of ~~C~~claim 1, wherein said at least one non-reactive, solvent-dissolvable polymer is a cellulose ester.

3. The polymerizable composition of ~~C~~claim 2, wherein said cellulose ester is a cellulose acetate alkylate.

4. The polymerizable composition of ~~C~~claim 3, wherein said cellulose acetate alkylate is selected from the group consisting of cellulose acetate butyrate, cellulose acetate propionate, and mixtures thereof.

5. The polymerizable composition of ~~C~~claim 1, wherein said at least one PMMA-PMAA copolymer has a PMMA:PMAA monomer ratio of about 50:50.

6. The polymerizable composition of ~~C~~claim 1, wherein said at least one PMMA-PMAA

copolymer has a PMMA:PMAA monomer ratio of about 60:40.

7. The polymerizable composition of ~~C~~claim 1, wherein said at least one PMMA-PMAA copolymer has a PMMA:PMAA monomer ratio of about 80:20.

8. The polymerizable composition of ~~C~~claim 1, wherein said at least one PMMA-PMAA copolymer has a PMMA:PMAA monomer ratio of about 90:10.

9. The polymerizable composition of ~~C~~claim 1, wherein said at least one PMMA-PMAA copolymer has a PMMA:PMAA monomer ratio of about 95:5.

10. The polymerizable composition of ~~C~~claim 1, wherein said at least one ~~at least one~~ urethane (meth)acrylate has a molecular weight (grams/mole) of from about 100 to about 20,000.

11. The polymerizable composition of ~~C~~claim 10, wherein said at least one ~~at least one~~ urethane (meth)acrylate has a molecular weight of from about 200 to about 10,000.

12. The polymerizable composition of ~~C~~claim 11, wherein said at least one ~~at least one~~ urethane (meth)acrylate has a molecular weight of from about 300 to about 5,000.

13. The polymerizable composition of ~~C~~claim 12, wherein said at least one ~~at least one~~ urethane (meth)acrylate has a molecular weight of from about 300 to about 1,000.

14. The polymerizable composition of ~~C~~claim 1, wherein said at least one solvent is selected from the group consisting of ketones, alkyl acetates, alcohols, alkanes, alkenes, and mixtures thereof.

15. The polymerizable composition of ~~C~~claim 14, wherein said at least one non-reactive solvent is selected from the group consisting of acetone, ethyl acetate, butyl acetate, isopropyl alcohol, ethanol, methyl ethyl ketone, toluene, hexane, and mixtures thereof.

16. The polymerizable composition of ~~C~~claim 1, wherein said at least one solvent is included at up to about 70 weight percent.

17. The polymerizable composition of ~~C~~claim 1, further comprising at least one photoinitiator.

18. The polymerizable composition of ~~C~~claim 17, wherein said at least one photoinitiator is selected from the group consisting of benzoylphenylphosphinates, cyclohexylphenyl ketones, benzyl ketals, and mixtures thereof.

19. The polymerizable composition of ~~C~~claim 17, wherein said at least one photoinitiator is selected from the group consisting of 2,4,6-trimethylbenzoyldiphenylphosphinate, hydroxycyclohexyl phenyl ketone, benzyl dimethyl ketal, and mixtures thereof.

20. The polymerizable composition of ~~C~~claim 17, wherein said at least one photoinitiator is present at up to about 10 wt%.

~~21. An acrylic thermoset having a plurality of voids defined therein, said voids containing at least one non-reactive, solvent-dissolvable polymer.~~

~~22. An acrylic thermoset having a plurality of voids defined therein, said voids formed around least one non-reactive, solvent-dissolvable polymer.~~

~~23. An acrylic thermoset having a plurality of thermoplastic inclusions defined therein.~~

~~24. The acrylic thermoset having a plurality of thermoplastic inclusions according to Claim 23; said acrylic thermoset being the reaction product of a polymerizable composition comprising:~~

~~at least one (meth)acrylate;~~

~~at least one urethane (meth)acrylate;~~

~~at least one polypropylene glycol monomethacrylate;~~

~~at least one polymethylmethacrylate (PMMA) - polymethacrylic acid (PMAA) copolymer;~~

~~at least one pyromellitic dianhydride glyceryl dimethacrylate (PMGDM);~~

~~at least one non-reactive, solvent-dissolvable polymer; and~~

~~at least one non-reactive solvent; and~~

~~wherein said thermoplastic inclusions comprise said at least one non-reactive, solvent-dissolvable polymer.~~

~~25. A method of making an acrylic thermoset having a plurality of thermoplastic inclusions defined therein, comprising:~~

~~providing a polymerizable liquid composition; and,~~

~~exposing said polymerizable liquid composition to an actinic radiation;~~

~~wherein said polymerizable liquid composition comprises:~~

~~at least one (meth)acrylate;~~

~~at least one urethane (meth)acrylate;~~

~~at least one polypropylene glycol monomethacrylate;~~

~~at least one polymethylmethacrylate (PMMA) - polymethacrylic acid (PMAA) copolymer;~~

~~at least one pyromellitic dianhydride glyceryl dimethacrylate (PMGDM);~~

~~at least one non-reactive, solvent-dissolvable polymer; and~~

~~at least one non-reactive solvent.~~

21. The polymerizable composition of claim 1, further comprising at least one pyromellitic dianhydride glyceryl dimethacrylate (PMGDM).

22. The polymerizable composition of claim 1, further comprising at least one reactive polypropylene glycol (meth)acrylated monomer or polyethylene glycol (meth)acrylated monomer.

23. The polymerizable composition of claim 1, further comprising polypropylene glycol-4-monomethacrylate (PPG4 monomethacrylate).

24. The polymerizable composition of claim 1, further comprising at least one pyromellitic dianhydride glyceryl dimethacrylate (PMGDM) and at least one reactive polypropylene glycol (meth)acrylated monomer or polyethylene glycol (meth)acrylated monomer.

25. The polymerizable composition of claim 1, further comprising polypropylene glycol-4-monomethacrylate (PPG4 monomethacrylate).

26. The polymerizable composition of claim 1, wherein said at least one non-reactive solvent is ethyl acetate.

27. The polymerizable composition of claim 1, wherein said at least one non-reactive solvent is butyl acetate.