CLAIMS

1. A polymer polyol comprising the free-radical polymerization reaction product of:

(1) a base polyol selected from the group consisting of:

(c) one or more polyols which comprise the alkoxylation product of one or more natural oils which naturally contains at least one hydroxyl group with one or more alkylene oxides,

(d) one or more polyols which comprise the alkoxylation product of one or more hydroxylated derivatives of one or more natural oils with one or more alkylene oxides; and

(e) mixtures thereof;

(2) at least one ethylenically unsaturated monomer,

and

(3) a preformed stabilizer,

in the presence of

(4) a free-radical polymerization initiator, and

(5) a chain transfer agent;

wherein said polyol (1)(c) and (1)(d) are alkoxylation products prepared in the presence of a double metal cyanide (DMC) catalyst.

2. The polymer polyol of Claim 1, wherein said base polyol additionally comprises one or more conventional polyol components selected from the group consisting of polyether polyols, polyester polyols and mixtures thereof.

3. The polymer polyol of Claim 1, wherein said natural oils of (1)(d) do not naturally contain one or more hydroxyl groups prior to being hydroxylated.

4. The polymer polyol of Claim 1, wherein said polyol (1)(c) comprises an alkoxylation product of castor oil.

5. The polymer polyol of Claim 1, wherein said polyol (1)(d) comprises an alkoxylation product of a hydroxylated derivative of soybean oil.

6. The polymer polyol of Claim 1, wherein (3) said preformed stabilizer is free of natural oils, derivatives thereof, or both.

7. The polymer polyol of Claim 1, in which the solids content is at least 20% by weight, based on the total weight of the polymer polyol.

8. The polymer polyol of Claim 1, in which the solids content is at least 30% by weight, based on the total weight of the polymer polyol.

9. The polymer polyol of Claim 1, wherein (2) said at least one ethylenically unsaturated monomer comprises a mixture of styrene and acrylonitrile in a weight ratio of from 80:20 to 40:60.

10. A process for the preparation of a polymer polyol comprising:

(A) free-radically polymerizing:

(1) a base polyol selected from the group consisting of:

(c) one or more polyols which comprise the alkoxylation product of one or more natural oils with one or more alkylene oxides,

(d) one or more polyols which comprise the alkoxylation product of one or more hydroxylated derivatives of one or more natural oils with one or more alkylene oxides;

and

(e) mixtures thereof;

(2) at least one ethylenically unsaturated monomer,

and

(3) a preformed stabilizer,

in the presence of

(4) a free-radical polymerization initiator, and

(5) a chain transfer agent;

wherein said polyol (1)(c) and said polyol (1)(d) are alkoxylation products prepared in the presence of a double metal cyanide (DMC) catalyst.

11. The process for the preparation of a polymer polyol of Claim 10, wherein said base polyol additionally comprises one or more conventional polyol components selected from the group consisting of polyether polyols, polyester polyols and mixtures thereof.

12. The process for the preparation of a polymer polyol of Claim 10, wherein said natural oils of (1)(d) do not naturally contain one or more hydroxyl groups prior to being hydroxylated.

13. The process for the preparation of a polymer polyol of Claim 10, wherein said polyol (1)(c) comprises an alkoxylation product of castor oil.

14. The process for the preparation of a polymer polyol of Claim 10, wherein said polyol (1)(d) comprises an alkoxylation product of a hydroxylated derivative of soybean oil.

15. The process for the preparation of a polymer polyol of Claim 10, wherein (3) said preformed stabilizer is free of natural oils, derivatives thereof, or both.

16. The process for the preparation of a polymer polyol of Claim 10, in which the solids content is at least 20% by weight, based on the total weight of the polymer polyol.

17. The process for the preparation of a polymer polyol of Claim 10, in which the solids content is at least 30% by weight, based on the total weight of the polymer polyol.

18. The process for the preparation of a polymer polyol of Claim 10, wherein (2) said at least one ethylenically unsaturated monomer comprises a mixture of styrene and acrylonitrile in a weight ratio of from 80:20 to 40:60.

19. A polyurethane foam comprising the reaction product of:

(I) at least one polyisocyanate component,

with

(II) at least one isocyanate-reactive component which comprises the polymer polyol of Claim 1,

in the presence of

(III) at least one blowing agent, and

(IV) at least one catalyst.

20. The polyurethane foam of Claim 19, wherein (II) said isocyanate-reactive component additionally comprises at least one conventional polyol component selected from the group consisting of polyether polyols, polyester polyols and mixtures thereof.

21. A process for the preparation of a polyurethane foam comprising reacting

(I) at least one polyisocyanate component,

with

(II) at least one isocyanate-reactive component which comprises the polymer polyol of Claim 1,

in the presence of

(III) at least one blowing agent, and

(IV) at least one catalyst.

22. The process for the preparation of a polyurethane foam of Claim 21, wherein (II) said isocyanate-reactive component additionally comprises at least one conventional polyol component selected from the group consisting of polyether polyols, polyester polyols and mixtures thereof.

23. The process for the preparation of a polyurethane foam of Claim 21, in which the foam is produced by a free-rise process.

24. The process for the preparation of a polyurethane foam of Claim 21, in which the foam is produced in a closed mold.

25. The process for the preparation of a polyurethane foam of Claim 21, in which the foam is flexible foam having elongation of at least 50%.

26. The process for the preparation of a polyurethane foam of Claim 21, in which the foam is a semi-rigid foam having a 50% CFD of at least 7 psi.