What is claimed is:

1. A curable adhesive composition comprising:

a) a solute (meth)acryolyl oligomer having a M_w of 5 to 30k and a T_g of < 20°C comprising

i. greater than 50 parts by weight of (meth)acrylate ester monomer units,

ii. 10 to 49 parts by weight of hydroxyl-functional monomer units,

iii. 1 to 10 parts by weight of monomer units having pendent acrylate groups,

iv. 0 to 20 parts by weight of polar monomer units,

v. 0 to 10 parts by weight of silane-functional monomer units,

wherein the sum of the monomer units is 100 parts by weight;

b) a diluent monomer component, and

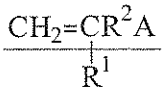
c) a photoinitiator,

wherein the composition comprises no crosslinking agents.

2. The adhesive composition of claim 1 comprising less than 50 wt.% of the diluent monomer component and greater than 50 wt.% of the solute oligomer.

~~3. The adhesive of claim 1 wherein the monomer units having pendent acrylate groups are prepared by reaction of said oligomer having pendent hydroxyl functional groups with an acryloyl compound having co-reactive functions groups.~~

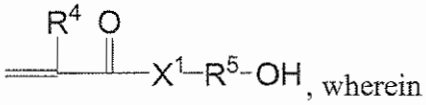
~~4. The adhesive of claim 3 wherein the acryloyl compound having co-reactive functional groups is of the formula:~~



~~wherein R^1 is hydrogen, a C_1 to C_4 alkyl group, or a phenyl group,; R^2 is a single bond or a (hetero)hydrocarbyl divalent linking group that joins an ethylenically unsaturated group to co-reactive functional group A, and A is a carboxyl, isocyanato, epoxy, anhydride, or oxazolinyl group.~~

~~5~~3. The adhesive of claim 1, wherein the alkanol of the (meth)acrylate ester monomer units of the oligomer have an average carbon number of C_{10}-C_{14}.

~~6~~4. The adhesive of claim 1, wherein the hydroxyl functional monomer has the general formula:



, wherein

R^5 is a hydrocarbyl group;

R^4 is -H or C_1-C_4 alkyl; and

X^1 is –NR^4- or –O-.

~~7. The curable composition of claim 1 wherein the diluent monomer component comprises at least one monomer selected from acrylate ester monomer units, hydroxyl-functional monomer units; monomer units having pendent acrylate groups, polar monomer units, and silane-functional monomer units.~~

~~8~~5. The curable composition of claim 1 wherein the diluent monomer component comprises:

80 to 100 parts by weight of (meth)acrylate ester monomers;

0 to 20 parts by weight of hydroxy-functional monomers;

0 to 5 parts by weight of polar monomers;

0 to 2 parts by weight of silane functional monomers, wherein the sum of the monomer of the diluent monomer component is 100 parts by weight.

~~9. The adhesive of claim 1 wherein the (meth)acrylic acid ester monomer component may comprise (meth)acrylate esters of 2-alkyl alkanols wherein the molar carbon number average of said 2-alkyl alkanols is 12 to 32.~~

~~10~~6. The adhesive of claim 1 wherein the oligomer is of the formula:
~$[M^{Ester}]_a$-$[M^{OH}]_{b*}$-$[M^{Polar}]_c$-$[M^{Silyl}]_e$- $[M^{Acryl}]_d$-, where
-$[M^{Ester}]$- represents interpolymerized (meth)acrylate ester monomer units;
-$[M^{OH}]$- represents interpolymerized (meth)acryloyl monomer units having a pendent hydroxy group,
-$[M^{Polar}]$- represents interpolymerized polar monomer units; and
$[M^{Acryl}]$ represents interpolymerized (meth)acryloyl monomer units having a pendent polymerizable (meth)acryloyl group;
$[M^{Silyl}]$ represent optional silane-functional monomer
subscripts a, b*, c, d and represent the parts by weight of each monomer unit.

~~11. The curable composition of claim 1 further comprising an additive selected from heat stabilizers, antioxidants, antistatic agents, thickeners, fillers, pigments, dyes, colorants, thixotropic agents, processing aides, nanoparticles, fibers and any combination thereof.~~

~~12. The curable composition of claim 11 wherein an additive is in amounts of 0.01 to 10 wt. % relative to the mass of curable composition.~~

~~13~~7. The curable composition of claim 1 further comprising metal oxide particles having an average particle size of 1 nm to about 100 nm in amounts of 1 to 10 wt.%, relative to the total weight of the curable composition.

~~14~~8. The curable composition of claim 1 wherein the hydroxyl-functional monomer is used in amounts such that the curable composition (oligomer + diluent) has a hydroxyl content greater than 6.5 $x10^{-4}$ mol OH/g.

~~15~~9. The curable composition of claim 1 wherein the oligomer is prepared by an adiabatic polymerization process.

~~16~~10. An optically clear laminate comprising:

a first substrate having at least one major surface;

a second substrate having at least one major surface; and

the curable composition of claim 1 situated between and in contact with at least one major surface of the first substrate and at least one major surface of the second substrate.

~~17~~11. An optically clear laminate according to claim ~~16~~10, wherein the first substrate, the second substrate, or both the first substrate and the second substrate are selected from a display panel, a touch panel, an optical film, a cover lens, or window.

~~18. An optically clear laminate according to claim 17, wherein the cover lens comprises at least one of glass, polymethylmethacrylate, or polycarbonate.~~

~~19. An optically clear laminate according to claim 17, wherein the display panel is selected from a liquid crystal display, a plasma display, an OLED display, an electrowetting display, and a cathode ray tube display.~~

~~20~~12. An optically clear laminate according to claim ~~17~~11, wherein the optical film is selected from a reflector, a polarizer, a mirror, an anti-glare or anti-reflective film, an anti-splinter film, a diffuser, or electromagnetic interference filter.

~~21~~13. A laminate according to claim ~~16~~10, wherein the curable composition has a thickness of greater than about 100 μm.

~~22~~14. A laminate according to claim ~~16~~10, wherein at least one of the substrates is polycarbonate or poly(methyl)methacrylate.

~~23~~15. An optically clear laminate comprising:

a first substrate having at least one major surface;

a second substrate having at least one major surface; and

an optically clear adhesive composition of claim 1 situated between and in contact with at least one major surface of the first substrate and at least one major surface of the second substrate, wherein the adhesive has a moisture-vapor transmission rate of at least 400 $g/m^2/day$.

~~24~~16. A method of preparing an adhesive comprising the steps of:

(i) providing an essentially curable composition of claim 1,

(ii) partially polymerizing said composition to provide a partially polymerized mixture exhibiting a Brookfield viscosity of between 1,000 and 500,000 mPas at 20°C and a

degree of conversion of monomers to polymer of between 85-99 wt. %, with respect to the mass of the monomers prior to polymerization,

(iii) converting a portion of the hydroxyl functional monomer units of said oligomer to pendent polymerizable (meth)acrylate groups,

(iv) adding one or more photoinitiators and solvent diluent monomers to the partially polymerized mixture to provide a radiation-curable composition,

(iv) subsequently coating the radiation-curable composition on a substrate, and

(v) further polymerizing the radiation-curable composition by subjecting it to actinic irradiation to provide said adhesive.

~~25. The method of claim 24 wherein the radiation-curable composition is coated by knife-coating, gravure-coating, curtain-coating, air-knife-coating spray-coating, die-coating, draw bar-coating or curtain-coating or roll-coating.~~

~~26. The method of claim 24 wherein the radiation-curable composition is coated by applying dots and/or lines via a needle, needle die or slot die to the substrate.~~

~~27. The method of claim 24 further comprising a tackifier.~~

~~28. The method of claim 24 further comprising a plasticizer.~~