

wherein R_1 is independently an alkylene group comprising at least 4 carbon atoms, n is at least 2, and the ester group substituents are bonded to the ring at an ortho- or meta-position.

Also described are articles such as laminating tapes and protective films as well as methods of bonding substrates with the pressure sensitive adhesive and laminating tape.

What is claimed is:

1. A pressure sensitive adhesive composition comprising a polyurethane polymer that comprises the reaction product of a polyisocyanate component, a polyol component, and a functional acid containing compound; wherein the polyol component has a total solubility parameter ranging from 10 to 14 $(cal/cm^3)^{1/2}$; and wherein the functional acid containing compound is represented by the generic formula $(HX)_2 R^1 A$; wherein A is a functional acid group selected from $-CO_2 M$, $-OSO_3 M$, $-SO_3 M$, $-OPO(OM)_2$, $-PO(OM)_2$, wherein M is H or a cation; X is O, S, NH or NR, wherein R is an alkylene group comprising 1 to 4 carbon atoms; and R^1 is an organic linking group having a valency of at least 3 and comprises 1 to 50 carbon atoms, optionally includes one or more tertiary nitrogen, ether oxygen, or ester oxygen atoms, and is free from isocyanate-reactive hydrogen containing groups.

2. The pressure sensitive adhesive composition of claim 1 wherein the polyol component has hydrogen bonding solubility parameter ranging from 3.5 to 6.

3. The pressure sensitive adhesive composition of claim 1 wherein the polyol component comprises a polyester polyol, a polycaprolactone polyol, a polycarbonate polyol, or a combination thereof.

4. The pressure sensitive adhesive composition of claim 1 wherein the polyol component, isocyanate component, or combination thereof comprises at least one six-membered ring structure.

5. The pressure sensitive adhesive composition of claim 1 wherein the polyol component, isocyanate component, or combination thereof comprises alkylene groups having at least 4, 5, or 6 carbon atoms.

6. The pressure sensitive adhesive of claim 1 wherein the polyisocyanate component comprises a polyisocyanate that is a liquid at 25°C.

7. The pressure sensitive adhesive of claim 1 wherein the polyol component comprises repeat units of an ortho- or meta- phthalate, and an alkylene group comprising at least 4, 5 or 6 carbon atoms.

8. The pressure sensitive adhesive of claim 1, wherein A is $-CO_2M$, X is O or NH, and R^1 is an alkylene having from 1 to 7 carbon atoms.

9. The pressure sensitive adhesive of claim 1, wherein the polyurethane comprises between 0.001 and 37 mmol A/100g PU.

10. The pressure sensitive adhesive composition of claim 1, wherein the composition further comprises a chemical crosslinking agent.

11. The pressure sensitive adhesive composition of claim 10, wherein the chemical crosslinking agent comprises an organo-metallic chelating agent or aziridine.