Bio-Based Pressure Sensitive Adhesive Alternative to Petroleum-Based Adhesives

Technology #20110026

Bio-Based Pressure Sensitive Adhesive Applications

Bio-based pressure sensitive adhesives (PSAs) are a developing area in the adhesives market. Of particular importance is the latex-based pressure sensitive adhesive. These latex-based PSAs have a wide variety of applications from self-adhesive stamps to bandages but are derived from petroleum which is a limited resource and is susceptible to price fluctuations.

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<th>MN-IP Try and Buy</th>
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<td><strong>Try</strong></td>
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<td>• Trial fee is $5,000 for a six month license</td>
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<td><strong>Buy</strong></td>
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<td>• $30,000 conversion fee (TRY to BUY)</td>
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<td>• No patent costs</td>
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** Contact Larry Micek for specific details. **

** Bio-Based Monomer Chains are the Key to Bio-Based Pressure Sensitive Adhesives **

The University of Minnesota has developed renewable macromonomers, or chains of monomers, that graft onto petroleum based acrylates such as 2-ethyl hexyl acrylate or n-butyl acrylate resulting in a PSA with high bio-based content and similar adhesive properties to petroleum based PSAs. The resulting polymer is composed of up to 60% bio-based material. Unlike other macromonomers, these monomer chains are compatible with established manufacturing techniques, such as conventional emulsion and miniemulsion polymerization. Furthermore, the amount and composition of the macromonomer can be modified to adjust the properties of the PSA.

** FEATURES AND BENEFITS OF BIO-BASED PRESSURE SENSITIVE ADHESIVE **

- Efficiently combines commercially available acrylate with a bio-based monomer chain to form a bio-based pressure sensitive adhesive
- Able to use up to 60% bio-based materials without sacrificing performance
- Can be scaled up using emulsion polymerization, an existing manufacturing technology

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