



The Latex Doctor

Harry F Bader

? Can it be expected that synthetic polyisoprene latex from one source can be compounded and processed the same way as a synthetic polyisoprene from another source?

Anonymous: U.S. International Latex Conference

In my experience the answer is, definitely not. In fact, I have had problems getting equivalent results from one batch to the next of latex from the same source. These differences have been much greater than what is expected from Malaysian versus Liberian natural latex.

However, my sources of synthetic polyisoprene no longer exist and I am not up to date on the performance of current suppliers. Pos-

Maturity of trees counts a lot in terms of latex film properties

sibly the problems of continuing and consistent product performance have been resolved.

Reduction of zinc ions

Are there any recommendations for the reduction of zinc ions in the effluent from latex product manufacturing.

Anonymous: U.S. International Latex Conference.

One method is to substitute sodium accelerators for the more common zinc accelerators.

The other major source of zinc in plant effluent is zinc oxide. New products which are, or will soon be, available will significantly reduce the zinc oxide content of latex compounds. This will, of course, reduce the zinc ions in the effluent

Tensile properties of NR vs SR

What are the differences in performance of latex films of synthetic polyisoprene and natural hevea latex?

Anonymous: U.S. International Latex Conference.

I've had difficulty getting the tensile properties that normally are possible with hevea natural latex. Also in those cases where I have achieved equivalent tensile properties, I've found that the next sample of synthetic polyisoprene did not react in the same fashion as the original sample.

It should be noted that I haven't worked on that project for a few years and possibly the problems of batch uniformity have been resolved.

Maturity counts

Is the latex from very mature trees different from that of very young trees? What are the advantages/disadvantages of using one versus the other?

Anonymous: International Latex Conference

There is a difference in film properties. However, the major problem would be maintaining a supply of latex from trees having a consistent level of maturity.

Once the desired properties of a given level of tree maturity were established, you would have the problem of moving the source of latex continuously from plantation area to plantation area to maintain the same level of tree maturity.

Other factors such as soil differences would come into play. I believe the disadvantages would be overwhelming.

Stabilising and accelerating properties

Field latex contains many materials which function as natural stabilisers and antioxidants. I understand some also act as vulcanisation accelerators. Much of these are removed during centrifuging. If I used

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Rubber Asia

Field latex instead of centrifuged latex will be able to utilise the stabilising and accelerating properties of the field latex?

K: Via e-mail

In my opinion, any advantage would be lost due to the field latex varying from season to season, from plantation to plantation and from one tree maturity to another. There are also soil variations and clone variations to consider.

There are so many variables that continuing experimentation and recipe adjustment would be needed to offset the variables.

Latex suppliers have over the years greatly improved the uniformity of natural latex entering the market place. This effort would need to be repeated to provide a uniform field latex.

Antistatic properties in SR latex film

What additive can provide antistatic properties to a synthetic latex being used as a paper or fabric coating?

PY: Via e-mail

Antistatic properties in a latex film are usually achieved by the addition of conductive carbon black to the latex compound. This would be unsuitable in most paper coatings.

There is a general increase in latex conductivity as a latex or a latex compound "ages". In fact, electrical conductivity was once considered as a test method for measuring latex ageing. This may be of value for antistatic coatings.

A higher pre-cure, which produces an increase in conductivity, may provide the needed information about antistatic properties.

If this property increases sufficiently during normal or induced compound maturation, it would be quite easy to measure the degree of conductivity change prior to the paper coating operation.

Once a compound has been evaluated to establish the maturation level [pre-cure] which produces the desired antistatic property, simple pre-cure measurement would determine if optimum coating conditions were achieved. ■

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