

Watch Our Very Own DOST-ITDI's TekNegoShow

Episode #5

Nanoclay from bentonite ore as composite filler

As experts at the Industrial Technology Development Institute (DOST-ITDI) continue to explore areas of interest in materials science, it developed nanoclay using locally sourced bentonite ore.

But, what is nanoclay?

Nanoclay is clay mineral optimized for use as a multifunctional additive or filler in polymer nanocomposites.

Nanocomposites are materials that combine nanosized particles into a medium of standard material to improve on its mechanical strength, toughness, and electrical or thermal conductivity.

Among the various uses of nanocomposites are for industrial applications such as automotive, construction, electronics, and packaging industry.

Some of the products derived from nanoclay are: biodegradable nanocomposite films for green packaging (food packaging and cutlery); halloysite nanoclay-filled epoxy molding compound for integrated circuit packaging; recycled polycarbonate-layered silicate nanocomposites (PLSN); local bioactive polymer nanofibrous scaffold for tissue engineering; and nanostructures fibrous membrane for wastewater treatment.

Other possible applications of these clay-based polymer nanocomposites are in the biomedical and biotechnological fields such as tissue engineering, drug delivery, biosensors, and biomedical devices.

Know more about Nanoclay Production in DOST-ITDI's #TekNegoShow Special Edition, an off-the-cuff online business talk show on technology, which will air narratives and insights of technology generators, business people, and the consuming public on how they perceive a featured technology.

#TekNegoShow Special Edition can be viewed through ITDI's Facebook account www.facebook.com/ITDIDOSTUpdates with a weekly Thursday afternoon show date. (DDGotis\ITDI S&T Media Service)



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Episode #6

Expanding biodegradable, green plastic technology

The Industrial Technology Development Institute (DOST-ITDI) is expanding use of nanotechnology to produce biodegradable thermoplastic polymer from starch and nanoparticles.

The green technology will replace petroleum used as feedstock or raw material in making plastics. It makes use of widely-available renewable resources and locally-produced nano materials to produce several biodegradable plastic products like disposable cutleries and packaging materials.



Biodegradable plastic making employs equipment that is compatible with those used in traditional plastic processing.

Cheaper than other synthetic biodegradable plastic products, use of the technology can help also in reducing build-up of plastic waste piles.

Because its feedstock is green it can reduce the plastic industry's dependence on fossil resources.

Know more about Thermoplastic Polymer from Starch and Nanoparticles in DOST-ITDI's #TekNegoShow Special Edition, an off-the-cuff online business talk show on technology, which will air narratives and insights of technology generators, business people, and the consuming public on how they perceive a featured technology.

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