Research

UMP Bio-inspired Nanocoolant environmentally friendly refrigerant

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PEKAN, 12 November 2020 - Many problems are faced by vehicle owners, car operators and other industries that use cooling systems.

They need an environmentally friendly cooling fluid or engine coolant that can dissipate heat quickly.

It also plays a vital role in determining how vehicles operate properly and need to be maintained consistently.

Cooling material works to prevent the engine from overheating during hot weather and freezing in extremely cold weather. Both of these environmental conditions can cause severe damage to the engine.

A researcher from the Faculty of Mechanical and Automotive Engineering Technology (FTKMA), Universiti Malaysia Pahang (UMP), Associate Professor Ts. Ir. Dr. Kumaran Kadirgama, 39, who has expertise in nanofluids, said the development in the world's nanotechnology allow new liquids to be used as a solution to problems in dissipating heat in vehicles and equipment.

"This 4-year research with Associate Professor Ts. Dr. Devarajan Ramasamy successfully produced bio-inspired nanocoolant using nanocellulose as a new material to be used to improve thermal performance.

"This study can solve the problem of overheating in vehicles with more environmentally friendly and inexpensive liquid.

This product is also being researched for use in machines and electronic equipment for cooling purposes," he said.

He explained, at this time, his team is also collaborating with a private university and also industry.

This product bagged a gold medal in CITREX 2020, ITEX 2018 and British Invention Show (BIS) 2018 in London.

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