

User-friendly device to fight water pollution

REDUCING USE OF PETROLEUM: Eco-SMOC to convert waste cooking oil into bio-monomers

NST 1/07/2014
m/s : B5

AZLAN ABU BAKAR
KUALA LUMPUR
alan@nstp.com.my

WASTE cooking oil is a serious hazard to the environment, causing pollution to waterways and clogging municipal drainage systems.

Universiti Tun Hussein Onn Malaysia researcher Prof Madya Dr Anika Zafiah Mohd Rus said the waste cooking oil can be converted to monomer using the Eco-Smart Monomer Converter (Eco-SMOC) to produce renewable polymer products hence reducing environmental pollution.

She said the user-friendly device can be used to convert waste cooking oil into bio-monomers beginning with the preparation of a catalyst.

"Eco-SMOC is an apparatus to convert waste cooking oil to monomers for bio-polymer prepa-

ration, consisting of rotational blade, temperature controller, smart condenser and a portable system," she said.

Production of bio-monomer by Eco-SMOC is used as an alternative source of polymer besides the petroleum-based polymer industries.

The use of monomer from waste vegetable oil and waste animal fat oil will reduce the use of petroleum as a feedstock in terms of polymer applications.

It will reduce environmental pollution and problems, thus preventing an overload of waste cooking oil, pollution of waterways and clogging of drain systems that can cause water pollution.

The monomer can be used in a variety of applications, such as films, membranes, foams and membranes

for tissue engineering as skin wound covers.

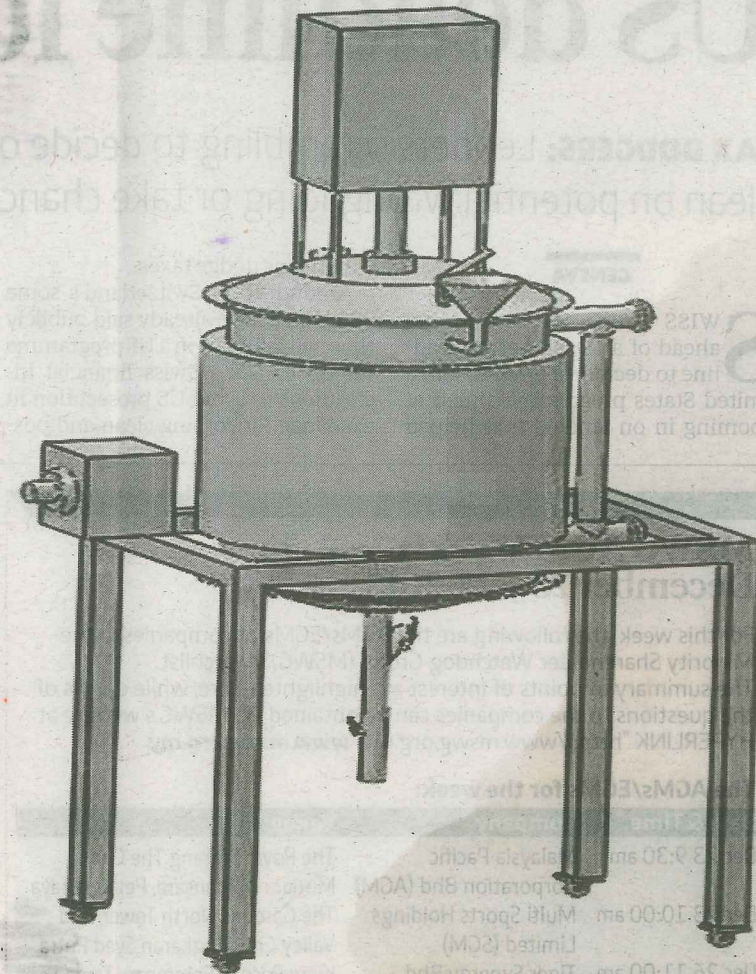
"It helps to reduce environmental pollution and problems, prevent overload of waste cooking oil, prevents pollution of waterways and clogging of the drainage system that can lead to water pollution," Dr Anika said.

She said the Eco-SMOC has a good potential to blend different types of oil for the conversion process to bio-monomer for versatile bio-polymer ap-

plications.

The bio-monomer production can prevent environmental problems and as a new product based on cheaper feedstock that is waste cooking oil.

The bio-monomer can be applied for the fabrication of thin films,



Eco-SMOC is an apparatus to convert waste cooking oil to monomers for bio-polymer preparation, consisting of rotational blade, temperature controller, smart condenser and portable system

mulch films, foams, membrane, heat insulation and surface coating.

"It can also be used as replacement of petroleum-based synthetic polymer coating (water proofing and

thermo isolation paints," said Dr Anika.

For more information on the product, the researcher can be reached at 07-453 7823 or email to zafiah@uthm.edu.my