9th INDES 2020

LIMITLESS MIND:

EMPOWERING INNOVATION THROUGH VISUALIZATION

UNIVERSITI TEKNOLOGI MARA

Cawangan Perak

PROGRAM
PROCEEDINGS
ABSTRACTS BOOK

The 9th International Innovation, Invention & Design Competition
INDES2020

17th May – 10th October 2020

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Published by: Department of Research, Industrial Linkages, Community & Alumni Networking (PJIM&A)
Universiti Teknologi MARA, Perak Branch
Bandar Seri Iskandar, 32610, Seri Iskandar
Perak Darul Ridzuan, Malaysia

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PLINK

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ABSTRACT

Ever since the plastics industry began in 1900s, the production of plastics has shown a dramatic increase globally as the world is moving towards year 2050. Ironically, most plastics are only being used once and discarded to the landfills and oceans. This phenomenon will be one of the most crucial problem of the century. Hence, a lot of research has been done to study the potential usage of plastic waste in various field. Thus, this study was aimed to find an alternative way to recycle plastics waste into a beneficial product without polluting the environment. PLINK enables those plastic waste to become a useful plastic ink in the form of crayon and can be used widely in the arts and batik making field. Py.rolysis method has been used to extract crude oil from the plastic waste will then undergo petroleum distillation to get petrol that is then change into wax by deoiling. Then organic color pigment is aded to the wax to create a crayon mixture in order to obtain PLINK. PLINK has been tested by the students from the Faculty of Arts and Design at UITM Shah Alam in their art painting classes. Results showed that PLINK has been one of the most green and compatible with the commercial crayons in the market. The simple techniques that need to be apply in using PLINK especially as batik mixture and dyes for shirts was accredited to be green and eco-friendly for the users. PLINK has been proven to be one of the best ways to make abundance of plastic waste more useful and provide a greener way of using crayon in arts and batik making field.

Keywords: plastic, crayon, pyrolysis, arts, zero waste

1. INTRODUCTION AND OBJECTIVES

PLINK is a crayon that is made fro used plastic that put helping the earth as the number one priority.this makes it the most underlying and useful crayon to be used daily to avoid excessive plastic pollution. Rather then just to be used as an ordinary crayon on the market. PLINK is made to help artist all around the world to innovate their own art by incorporating many new method. Also to reduce the increasing amount of plastic waste on a global scale. Other than that PLINK also aims to create a multipurpose product which can be use not only as crayons but also as batik mixture and shirt dye. PLINK has never been done before but the nearest is the use of plastic in pyrolysis for crude oil extraction but in the year 2019 there's a university in New Zealand that replicates the use of colors in waste material.

2. MATERIAL

Materials used are plastic waste that varies such that plastic bottle, food wrapper, plastic utensils and plastic bags. Other materials are natural color pigment that is based on dry FX dye. Methods used are Pyrolysis, Petroleum distillation, and Deoiling. All of the methods are done using machines at UITM Shah Alam, Selangor.

3. METHOD

To make PLINK a reality the methods that are applied are pyrolysis, petroleum distillation and deoiling. That this the important method to be used

4. RESULTS

We study the yield of crude oil in PET and PP type plastic. Also, the color gradient of the crayons. Results show that plastic yield of PET an PP type of plastic can be high if done on certain temperature.

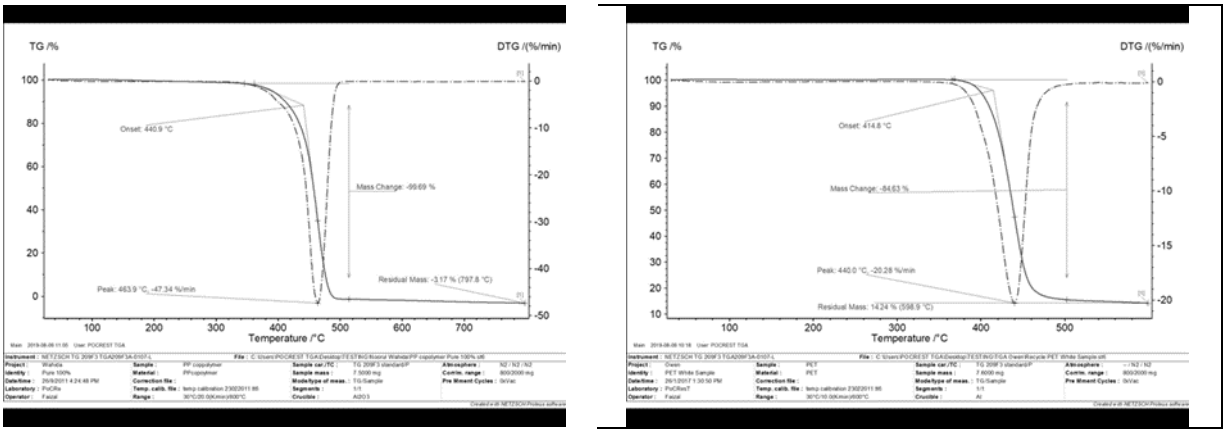

Figure 1.

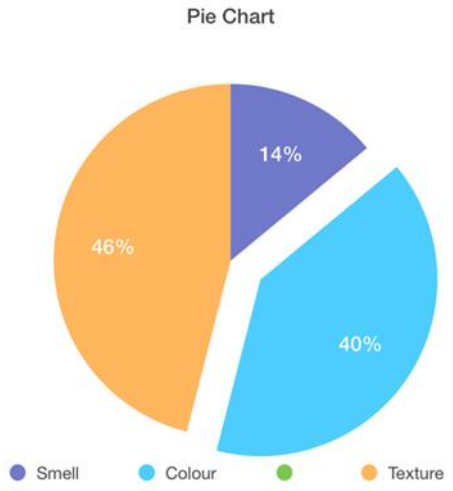

Figure 2. Pie chart that shows the likability of PLINK in arts students

5. ARGUMENTS

Many useful products can be. Extracted from plastic waste alone this gives us an opportunity to discover new feeds in chemical engineering alone. Other than that the PLINK also is able to make use of it's ability to dissolve in water to be used as a batik mixture and dye.

6. CONCLUSION AND SUGGESTION

In a nutshell, PLINK is a great and responsive discovery towards an era of useful waste technology where all waste products of any give substances can be reused to become more than it offer. Plink also is able to help artist get into a new of creating art by combining many new methods of painting onto a single canvas

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Kelulusan daripada pihak YBhg. Profesor dalam perkara ini amat dihargai.

Sekian, terima kasih.

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