

Research Article

Therapy Crayon

Hannah Widad Rashid, Nurfatin Irdina Sidek, and Nur Nisa Insyirah Nurul Hisham

^{1,2,3} Sabak Bernam Integrated Boarding School

Abstract: Crayon is one of the famous colouring methods to use among kids. Unfortunately, studies showed that most crayons contain toxic substances that have been blamed for thousands of mesothelioma cases. On top of that, we came out with the idea of producing crayons using natural products. Instead of using chemical pigments, we use natural pigments that are made from organic substances. Our aim for this product is for children and also people who have to deal with a difficult time. In addition, we add some therapeutic fragrances from flowers that can enhance mood and help reduce stress and anxiety. In brief, our product is safe to use and also beneficial to all age groups.

Keywords: natural, therapeutic, safe



Copyright: © 2023 by the authors. Submitted for open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. INTRODUCTION

Crayon is one of the famous colouring methods among kids. A 2018 study tested the effects of colouring on 66 college students and found evidence that colouring had short-term benefits on stress levels. On top of that, we came up with the idea of producing The-Cra (therapy crayon) where we use natural products like beeswax, cocoa butter and carnauba wax since it is safer to use for producing crayons.

Most of the crayons on the market are made up of paraffin wax and pigments that are made naturally or man-made. Paraffin wax is a product of heating and distilling petroleum, also known as crude oil. As we know, petroleum is a non-renewable energy that comes from sources that will run out or will be replenished in our lifetimes and it is used in industrial production. The crayons also contain toxic substances, that can cause diseases such as cancer in the lungs when we inhale them and also in the abdominal cavity when digested.

In addition, our product is different from the others because we create our crayons by adding scents. Lemongrass, lemon and kaffir lime are some of the materials that we use to extract the fragrance oils and they are easy to find at home. We extract our fragrance oil from organic materials that can enhance mood and evoke feelings of happiness, relaxation, and calmness, which can also help reduce stress and anxiety.

We aim to help people who are having a stressful day by taking a break to do some colouring that might help make it more manageable.

2. METHOD & MATERIAL

The idea of making this product is because of the ingredients that contain toxic substances being used and sold in the market. We decided to make the crayons using only four main ingredients and add essential oil. The ingredients that we used are beeswax, carnauba wax, coconut wax, pigments and essential oil that is safe, renewable and easy to find daily. The main ingredient is beeswax, it is a naturally occurring wax produced in the bee's hive by honeybees. Carnauba wax is used to help soften

the crayon consistency nicely because using the beeswax alone can make the crayon hard to use as a drawing tool, while the coconut wax can help the crayon become super smooth and makes the crayon smell nice. The pigments that we used can be found in art shops. Last but not least, we obtain our essential oil by conducting soxhlet distillation and fractional distillation.

Let's begin our journey of making crayons. Firstly, we conduct the soxhlet distillation for three hours to get enough essential oil to use in our products. While waiting for the soxhlet distillation process, we melted down the beeswax, carnauba wax and coconut wax together. With the ratio of 12: 6: 2 for the beeswax, carnauba wax and coconut wax respectively, we can make six different colours of the crayon. We separated the melted ingredients into six containers and combined them with one tablespoon of pigments to make five different colours, red, yellow, blue, green, orange and purple.

After three whole hours, the essential oil is ready to use. We put a few drops of the essential oil into the melted wax and stir it well until they are fully mixed. Next, pour the mixture into the mould which is from plastic straws to make it a cylindrical shape and let it cool down for 15-30 minutes. Lastly, our product is ready to use.

3. FINDINGS

The purpose of this product being created is to make sure that crayons are safe to use by children. Our product also may help people who are dealing with stress to overcome it and make it more manageable.

3.1 *Free from harmful chemical*

Most of the crayons on the market are made up of paraffin wax and pigments that are made naturally or man-made. Paraffin wax is a product of heating and distilling petroleum, also known as crude oil. As we know, petroleum is a non-renewable energy that comes from sources that will run out or will be replenished in our lifetimes and it is used in industrial production. The crayons also contain toxic substances, that can cause diseases such as cancer in the lungs when we inhale them and also in the abdominal cavity when digested.

3.2.2 *Reduce stress*

A 2018 study tested the effects of colouring on 66 college students and found evidence that colouring had short-term benefits on stress levels. In addition, our product is different from the others because we create our crayons by adding scents. Lemongrass, lemon and kaffir lime are some of the materials that we use to extract the fragrance oils and they are easy to find at home. We extract our fragrance oil from organic materials that can enhance mood and evoke feelings of happiness, relaxation, and calmness, which can also help reduce stress and anxiety.

4. CONCLUSION

In conclusion, the Therapy Crayon is a great product as it is the safest and most beneficial crayon compared to the others. It is incredibly useful for parents as it is safe for their kids. Besides, this crayon will also help people who are having a stressful day by taking a break to do some colouring that might help make it more manageable. As we know, this world will be a better place with our help. Moreover, this product will also save the earth by reducing the use of non-renewable energy and cutting trees.

References

- Fredric Rieders, Ph.D.; Heinrich Brieger, M.D. (1953) Mechanism of poisoning from wax crayons. *JAMA*. 1953;151(17):1490. doi:10.1001/jama.1953.02940170026007a
- Kristen Barnes, Kaamilah Joosub, Mbulelo Koko, Elana Landman, Nadia Parak, Carla Nel, Alicia Sherriff, Gina Joubert (2019) The acceptability of colouring in as a mindfulness activity to reduce distress among adult chemotherapy in patients at Universitas Academic Hospital, Bloemfontein. a84. <https://doi.org/10.4102/sajo.v3i0.84>