

USING NATURAL TOMATO INK FOR SCREEN PRINTING ON PAPER

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ABSTRACT: This research paper gives brief idea about the preparation of natural tomato ink for screen printing. Prepared ink is used for printing on paper and its printing feasibility is checked in terms of rub-resistance, peel-off, stability of print in UV light, sunlight and normal day-light conditions. Natural tomato ink is easy to prepare, effective and easy to apply. Various natural inks are used for textile printing, food colouring, glass colouring, pharmaceuticals, cosmetics etc. Using natural inks have various advantages like non-toxic, skin friendly, non-carcinogenetic, biodegradable. Prepared ink is used to print on paper and printed ink is evaluated for various parameters. After evaluation, this can be predicted that ink is stable.

Keywords: tomato, natural colourant, ink, screen printing

I. INTRODUCTION

To understand the concept of natural inks, first we need to understand about natural colourants. Natural colourants are the substances which are derived from nature and are used in ink as pigment. Basically natural colourants give colour to the ink. There are various sources of natural colourants from nature like plants, fruits, vegetables, microbes, minerals etc. Natural colourants are used exclusively in natural dyes, which are used for textile dyeing. This research work is about using natural tomato ink for screen printing on paper. In this research work water is used as solvent, lycopene as pigment, vinegar and salt are used as additives, gum acacia is used as a resin. Simple method is used for ink preparation.

STEPS FOLLOWED FOR NATURAL JAMUN INK PREPARATION

- 250 gm of tomatoes with 100ml of water are cooked in pressure cooker for 30 minutes at low flame.
- After cooling, this whole mixture is grinded in mixer and filtered using muslin cloth.
- Now the sap is boiled again at 70°C for half an hour to bring the final concentration to 100ml.
- 1 tbsp salt, 10ml vinegar, 1 tbsp gum acacia and ½ tbsp arrow root powder are added in the mixture and boiled till the consistency of mixture changes.
- Now the prepared ink is used for printing on paper using screen. Print obtained is shown in figure 1. Prepared ink gives light orange colour as shown in figure 1.

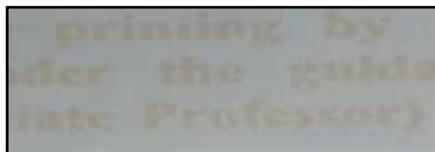


Figure 1

DATA ANALYSIS

Print was evaluated on various parameters which are shown in table 1.

Sr. No.	Parameters	Tomato Ink
1.	Sunlight exposure for 7 days	Stable
2.	Rub resistance test	Stable (upto 1000 rounds)
3.	Peel-off test	Stable
4.	UV exposure for 6 hours	Stable
5.	Stability at low temperature	Stable
6.	Permanency of colour in normal day-light conditions	Stable
7.	Drying time	3-5 sec.
8.	Colour of printed ink	Light orange colour

II. CONCLUSION

Following are the conclusions from this research work:

1. Life of ink is from 30-45 days.
2. Light orange colour obtained gives less colour strength.
3. Prepared ink is eco-friendly.
4. Steps followed are simple.

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