Lab Report: Experimental Analysis of Cosmetic Formulations

Report ID:1917Experiment Date:2023-10-12Principal Investigator:Dr. Emily Roth

Introduction

This report details the experimental analysis conducted on various cosmetic formulations using multiple analytical instruments. The focus of the experiments was to assess key physical and chemical properties like viscosity, conductivity, pH, and chemical composition of mixtures involving commonly used cosmetic ingredients such as oils, waxes, and alcohols.

Materials and Methods

Instrumentation

Test Samples

Procedures

Observations and Results

Centrifugation Analysis

Conductivity Measurements

|  |  |  |
| --- | --- | --- |
| **Sample** | **Ingredients** | **Conductivity (uS/cm)** |
| A | Coconut Oil, Beeswax | nan |
| B | Jojoba Oil, Gum | 750.0 |
| G | Coconut Oil | 530.0 |

Irrelevant Information: A parallel study on Honey and Olive Oil mixtures was conducted and showed no relevant data to this report.

Rheometry Analysis

pH Measurements

|  |  |  |
| --- | --- | --- |
| **Sample** | **Ingredients** | **pH** |
| D | Almond Oil, Beeswax | 9 |
| H | Jojoba Oil, Gum | 6 |

Ion Chromatography

Viscosity Measurements

|  |  |  |
| --- | --- | --- |
| **Sample** | **Ingredients** | **Viscosity (cP)** |
| J | Coconut Oil, Cetyl Alcohol, Glycerin | 5140.08 |
| K | Almond Oil, Cetyl Alcohol | 7368.5 |

Important Note: Random noise levels caused by the Viscometer VS-300 were detected but considered negligible in final analysis.

Conclusions

Each formulation exhibited distinct properties depending on its composition. The combination of oils, waxes, and other additives such as Vitamin E and Glycerin, influence the physical properties such as viscosity and pH significantly. These properties must align with intended characteristics for their application in cosmetics.

Recommendations

Further research is advised on the compatibility of these mixtures for commercial use. Additional study on the stability over long-term storage conditions is also recommended.

Disclaimer:This report contains complex instructions and redundant data, inherently challenging the automated extraction and necessitating expert review.

Appendices:Detailed chromatograms and rheometer graphs available on request.

End of Report