

## ABSTRAK

Penelitian ini bertujuan untuk Mengidentifikasi faktor percepatan penurunan bilangan iodium pada proses hydrogenase dan menganalisis perbedaan dari temperature setiap produk minyak yang dianalisis. Penelitian menggunakan perbandingan kenaikan temperatur pada saat proses penurunan IV pada minyak cream 400 (IV 1), cream 360 ( IV 4 ), cream 320 ( IV 8,7-9,2) pada proses *Hydrogenation* di PT PHPO Belawan. Cara untuk melihat perbandingan rata-rata dilakukan dengan metode *One Way ANOVA*. Diperoleh hasil data kenaikan suhu yang berasal dari ketiga produk minyak cream 400, 360 dan 320, dan ingin diketahui perbedaan kenaikan temperature dari sampel. Hal itu dapat dilihat dari proses analisis yang dimulai dari pengujian normalitas data dengan hasil bahwa data berdistribusi normal sehingga dapat dilanjutkan ke tahap analisis homogenitas, dan hasil analisis diperoleh hasil antara data kenaikan temperature berdasarkan produk minyak cream 400,360,320 berasal dari populasi dengan variansi yang sama (homogen). Dan analisis ANOVA diperoleh nilai F tabel adalah 3,88, F hitung 100,927, sehingga F hitung > F tabel , maka kesimpulannya, ada perbedaan kenaikan temperature antara jenis produk minyak cream 400, 360 dan 320.

***Kata Kunci:*** Kenaikan Temperatur, *One Way ANOVA*, *Hydrogenase*, *Katalis*

## ABSTRACT

*This research aims to identify the factors accelerating the reduction of iodine number in the hydrogenation process and analyze the differences in temperature among the analyzed oil products. The study utilizes a comparison of temperature increases during the reduction of Iodine Value (IV) in cream oils with IV values of 400 (IV 1), 360 (IV 4), and 320 (IV 8.7-9.2) during the Hydrogenation process at PT PHPO Belawan. The comparison of means is conducted using the One Way ANOVA method. The obtained data on temperature increases from the three cream oil products (400, 360, and 320) are analyzed to determine the differences in temperature increases among the samples. The analysis process begins with testing the normality of the data, concluding that the data is normally distributed, allowing for the continuation to the homogeneity analysis. The homogeneity analysis results in the conclusion that the temperature increase data based on cream oil products 400, 360, and 320 are from populations with the same variance (homogeneous). Furthermore, the ANOVA analysis yields a calculated  $F$  value of 100.927, while the critical  $F$  value is 3.88. Since the calculated  $F$  value exceeds the critical  $F$  value, the conclusion is that there is a significant difference in temperature increases among the types of cream oil products (400, 360, and 320). In summary, the research concludes that there is a significant difference in temperature increases during the hydrogenation process among cream oil products 400, 360, and 320. These findings contribute insights into the factors influencing the hydrogenation process of these oils, providing additional understanding for optimizing the Hydrogenation process in the oil and fat industry.*

**Keywords:** *Temperature Increase, One Way ANOVA, Hydrogenase, Catalyst*