GOUVERNEMENT DE VANUATU
MINISTÈRE DU COMMERCE ET DE L'INDUSTRIE
B.P. 6532, Port Vila
Bureau: +678 25978

VBS VANUATU BUREAU OF STANDARDS

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Office: +678 25978

Quality Analysis Report: Potato Chips (Post-Best Before Date)

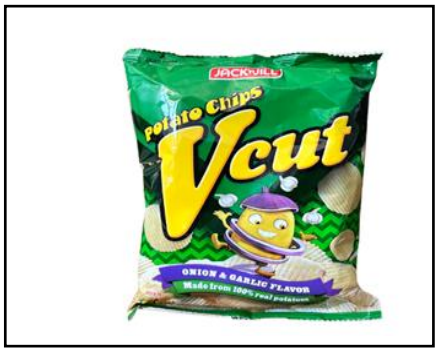
Date of Report: 4 December 2025

Brand: JACK n JILL

Product Name: Potato Chips Vcut (Fried)

Net weight: 60g

Best Before Date: 05 November 2025



1. Executive Summary

A sample of potato chips, currently one month past its labelled "Best Before" date of November 5, 2025, was analysed for key quality indicators: Total Fat, Peroxide Value (PV), Moisture Content, and Free Fatty Acids (FFA).

Overall Verdict: ACCEPTABLE (With Sensory Reserve) While the chemical markers for rancidity (PV and FFA) remain well within safe consumption limits, the Moisture content suggests a potential degradation in texture (loss of crispness). The product is chemically safe to eat but may be organoleptically degrading.

2. Laboratory Results & Interpretation

The following table compares the obtained results against general industry standards for fried potato crisps.

Parameter	Test Result	Industry Standard (Approx.)	Status
Total Fat	**35.3 %**	30% – 40%	**Normal**
Peroxide Value (PV)	**2.3 meQ/kg**	< 10 meQ/kg	**Good / Safe**
Moisture Content	**2.22 %**	< 1.5% - 2.0%	**Elevated**
Free Fatty Acids (FFA)	**0.39 %**	< 0.5%	**Acceptable**

3. Detailed Parameter Analysis

A. Fats

- Observation: The fat content is within the standard range for deep-fried potato chips.
- Implication: This indicates normal oil uptake during the manufacturing process. The fat percentage itself does not indicate spoilage, but it provides the substrate for potential oxidation.

B. Peroxide Value

- Definition: PV measures the extent of primary oxidation (initial stages of rancidity) in the oil.
- Analysis: A result of 2.3 meQ/kg is significantly below the standard rejection limit of 10 meQ/kg.
- Conclusion: Despite being a month past the best-before date, the oil has **not** undergone significant oxidative rancidity. Consumers are unlikely to detect off-Flavors associated with high PV.

C. Moisture

- Definition: Measures water content in the chip.
- Analysis: This is the most critical parameter in this report. Ideally, crisp potato chips should have moisture below 2.0% (often targeting 1.0%–1.5%).
- Conclusion: A value of 2.22% indicates moisture migration has occurred (possibly through packaging permeation over time).
- Sensory Impact: This level suggests the chips may have lost their "snap" or crunch and may feel slightly chewy or stale to the bite. This is a texture quality failure rather than a food safety failure.

D. Free Fatty Acids

- Definition**:** FFA measures hydrolytic rancidity (breakdown of fats into acids and glycerol), often caused by moisture or enzyme activity.
- Analysis: The result is 0.39% (calculated as oleic acid). The typical limit for fresh frying oil quality is often capped at 0.5%–1.0% depending on the regulation.
- Conclusion: The value is approaching the upper limit of "freshness" but is still acceptable. It does not indicate a soapy or bitter taste profile yet.

4. Conclusion and Recommendation

Based on the chemical analysis of the sample provided:

1. **Food Safety:** The product remains **safe for consumption**. The primary indicators of chemical spoilage (PV and FFA) are low enough that no toxic compounds or acute rancidity are present.
2. **Quality/Experience:** The consumer experience will likely be degraded. The elevated Moisture (2.22%) serves as the limiting factor, likely resulting in a stale texture.

Recommendation: While the product is safe, it may not represent the brand's intended quality standard due to texture degradation. If this is a commercial inventory decision, the stock should be cleared immediately or discounted, as moisture absorption will continue to rise, and FFA will likely accelerate due to the presence of that moisture.

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Prepared By: VBS Laboratory Team