

**ENCAPSULATION OF SODIUM BI CARBONATE AND USE IT FOR DIFFERENT FLAVOURED CARBONATED POWDER SOFT DRINKS PROCESSING**

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 **Roll No: 01/15**

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**and Engineering**

 **Department of Food processing & Engineering**

 **Faculty of Food Science & Technology**

 **Chittagong Veterinary and Animal Sciences University**

 **Chittagong-4225, Bangladesh**

**December 2016**

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**Amir Khasru Sikder**

**December 2016**

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**This is to certify that we have examined the above Master’s thesis and**

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**revisions required by the thesis examination committee have been made.**

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**December 2016**

***Dedication***

***I dedicate this small piece of work***

***to my beloved parents and sisters***

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Author

Amir Khasru Sikder

**LIST OF Abbreviations**

NMT - Not more than

nLT - not less than

QCD - Quality control deparTment

BSTI - Bangladesh standard testing institution

ADI - Acceptable daily intake

FDA - Food and drug administration

BFF - banga flavour & fragrance

BFAL - banga flavour application lab

LDP - low density polyethelene

SBC - SODIUM BI CARBONATE

bpfr - bangladesh pure food rules

RH -Relative Humidity

RDA - Recommended dietary allowance

PSD - pOWDER SOFT DRINKS

COA -CERTIFICATE OF ANALYSIS

sopqcm -STANDARD OPERATING PROCEDURE OF QUALITY CONTROL

 MANUAL

SBC -Sodium Bi Carbonate

MPN -MOST PROBABLE NUMBER

TVC -TOTAL VIABLE COUNT

PCS -PIECES

ENC. -ENCAPSULATIION

**ABSTRACT**

In this study, Sodium Bi Carbonate was encapsulated using spray dryer to avoid bursting of powder soft drinks within short time. Three different types carbonated powder drinks such as Energy; Cola & ENO powder soft drinks were prepared by using the encapsulated Sodium Bi Carbonate; three different flavours and other ingredients. Physical, Chemical & microbiological tests were done for encapsulated Sodium Bi Carbonate as well as for Energy, Cola & ENO PSD (Powder Soft Drinks) in laboratory. The analysis shows that the result of moisture, shelf life & fizzing time of encapsulated Sodium Bi Carbonate was 0.38, more than 10 months & 4-5 minutes respectively which was better than Australian Encapsulated Sodium Bi Carbonate (Fizz Powder). The analysis also shows that the panel test score for Energy powder soft drinks was 9.35 that were more than Cola & ENO powder soft drinks. The Tri angle test result of Energy Powder Soft drinks was also better than Cola & ENO Powder soft drinks. The initial moisture content of Energy Powder soft drinks was 0.66 % and after 10 months it was 0.98% that was better than Cola & ENO powder soft drinks. The oBrix, PH, ash content, acidity of Energy Powder Soft Drinks was 8.9, 3.35, 0.004 & 0.70 % respectively which was maintained the standards of Bangladesh Standard Testing Institute. The result of Total Viable Count Test was zero which indicates the product was safe for human consumption.

Keywords: Sodium Bi Carbonate, Encapsulation, Flavour, Fizz, Acidity, Moisture, Brix