



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

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for the degree of Master of Science in Food Processing
and Engineering**

**Department of Food processing & Engineering
Faculty of Food Science & Technology**

**Chittagong Veterinary and Animal Sciences University
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December 2016

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This is to certify that we have examined the above Master's thesis and have found that is complete and satisfactory in all respects, and that all revisions required by the thesis examination committee have been made.

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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.	-ENCAPSULATION

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 °Brix, P^H, 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