

PROJECT REPORT ON INTERNSHIP FOR A PERIOD OF ONE MONTH

DECLARATION BY THE CANDIDATE

I hereby declare that the project report entitled "**Industrial Internship Report On Formulating An Electrolyte drink**" submitted by me to Dr. Preethi Sudha, Labriut Nutrients, Bangalore, in partial fulfillment of the requirement for the award of the degree of **B.Tech Biotechnology** is a record of bonafide **Industrial Internship** work carried out by me.

Place: Bangalore
Date:14/07/2023

Signature of the Candidate
Jeyavani S

Signature of the Director
Dr. Preethi Sudha

ELECTROLYTE:

AIM:

To prepare an electrolyte drink.

APPARATUS REQUIRED:

- Glass beaker
- Spatula
- Blender

INGREDIANTS:

- Anti-Caking agent
- Essential amino acid powder
- MCT oil powder 50%
- KSM – 66 Ashwagandha
- Stevia
- Color
- Vegan Friendly flavors (Blackcurrant, Strawberry-lemonade)

PROTOCOL DEVELOPED:

1. Take a clean glass beaker.
2. Weigh 0.03 g of anti-caking agent and add it to the beaker.
3. Weigh 0.75 g of vegan friendly flavour powder to it and make sure to not contaminate the sample by using unclean spatula.
4. Weigh 0.809 g of Essential Amino Acid powder and add it to it.
5. Weigh 0.3 g of MCT powder/KSM – 66 Ashwagandha and add to it.
6. Weigh 0.025 g of Stevia and add it to it.
7. Weigh 0.01 g of Color and add it to it.
8. Now mix the contents in a blender.
9. Add 100 ml of water to the blended mix.

METHODS

2. Moisture test:

Aim:

To estimate the amount of moisture in the sample.

Materials required:

- Sample
- Moisture meter machine
- Aluminium foil

Procedure:

1. Place the sample in the sample moisture dish which is balancing on a tip.
2. Place the samples until the red pointer aligns with the zero needle.
3. Note down the initial temperature of the moisture meter thermometer.
4. Close the moisture meter top holder slowly with care.
5. Switch on the machine and wait until the temperature of the chamber reaches to the range of 95 degree celsius to 100 degree celsius.
6. Once the temperature is attained, read the value shown on the meter that aligns with the redpointer.
7. Switch off the moisture meter after reading the value.

To prepare SDA media of 500ml.

Materials Required:

- Measuring cylinder
- Conical flask
- Autoclave
- Distilled water
- D-glucose
- Peptone
- Agar

Procedure:

6. In a conical flask, 20 g of D-glucose, 5 g of peptone and 7.5 g of agar is added to 500 milliliters of distilled or deionized water.
7. Adjust to pH 5.6 with hydrochloric acid and adjust final volume to 1 liter.
8. Heat to boiling to dissolve the medium completely.
9. Autoclave at 121°C for 15 minutes.
10. Cool to ~45 to 50°C and pour into petri dishes or tubes for slants.

Result:

Thus we prepared Sabouraud Dextrose Agar of pH 5.6-7.

2.3 Saline (0.8%):

Aim:

To prepare 0.8% saline of 500ml.

Materials Required:

- Measuring cylinder
- Conical flask
- Autoclave
- Distilled water
- NaCl

Procedure:

1. In a conical flask, 4 g of NaCl is added to 500 milliliters of distilled or deionized water
2. Heat to boiling to dissolve the medium completely.
3. Autoclave at 121°C for 15 minutes.
4. Cool to ~45 to 50°C and pour into petri dishes or tubes for slants.

Result:

Thus we prepared the Saline of 0.8% concentration.

3. Autoclaving:

Aim:

To perform autoclaving for the glasswares and the Nutrient agars.

Material Required:

- Autoclave machine
- Glasswares

Procedure:

14. After cleaning the objects to be sterilized, place them inside the sterilization basket. Attach the chemical or biological indicators within the basket.
15. Place distilled or RO water, sufficient enough to submerge the water immersion heater. You can observe the level of water in the autoclave with the help of a water level indicator (mostly glass tube).
16. Then, place the sterilization basket within the autoclave.
17. Close the lid and tighten the screws to prevent leakage.
18. Turn on the power supply.
19. Open the steam release valve to release the air trapped within the chamber.
20. Observe the indicator of the pressure gauge.
21. When the indicator of the pressure gauge stops to increase, close the steam release valve.
22. When the vapor pressure within a vertical autoclave reaches 15 psi (121°C), the pressure regulating valve will release steam to maintain the pressure.
23. Continue operating the machine for 15 mins.
24. After 15 mins of operation, turn off the machine.
25. Then open the steam release valve.
26. Once, the indicator of the pressure gauge goes to 0, remove the load of the autoclave.

Result:

The required material and equipments are autoclaved.

4. Solubility test

Aim:

To determine the solubility of sample.

Material required:

- Sample
- Glass beaker
- Stirrer
- Measuring cylinder

Procedure:

5. Using a graduated measuring cup, measure out 100 ml of water and pour into a beaker.
6. Measure out a teaspoon of sample and add it to the cup of water and stir using a stirrer.
7. If all of the sample disappears then the solute is said to have dissolved in the solvent and a solution is produced. An insoluble solute will settle out of the mixture. Insoluble solutes are usually found at the bottom of the cup or floating on the surface of the liquid.
8. Record the results of each test by writing the words "soluble" if the entire solid dissolves, "insoluble" if the solid does not dissolve, or "partially soluble" if some of the solid dissolves.

Result:

The solubility of the sample has been observed.

TRIALS:

BLACKCURRANT FLAVOR:

TRIAL 1:

Content	Weight (g)	Vendors
Anti caking agent (g)	0.03	
VM premix (g)	0.809	Spansules
Ashwagandha extract (g)	0.3	KSM-66
Stevia (g)	0.500	
Colour (g)	0.01	Indian platinum
Black currant flavour	0.75	Lux
Total	2.4	

The bitterness of the ashwagandha dominates the taste, thus we must increase the sweetness of the drink by

making it upto 1g of Stevia. It's color characterstic was Dark Almond-N brown (9883 from asian paints).

TRIAL2:

Content	Weight (g)	Vendors
Anti caking agent (g)	0.03	
VM premix (g)	0.809	Spansules
Ashwagandha extract (g)	0.2	KSM-66
Stevia (g)	1.000	
Colour (g)	0.01	Indian platinum
Black currant flavour	0.75	Lux
Total	2.8	

The sweetness of the drink equalizes the bitterness of the drink. This resulted in the best formulation of the drink. It's color characterstic was Pretzels-N orange (K289 from asian paints).

STRAWBERRY LEMONADE FLAVOR:

TRIAL 1:

Content	Weight (gms)	Vendors
Anti caking agent (g)	0.03	
VM premix (g)	0.809	Spansules
MCT powder	0.3	Vital herbs
Stevia (g)	0.500	
Colour (g)	0.01	Indian platinum
Strawberry lemonade flavour	0.75	Lux
Total	2.4	

The strawberry lemonade blend was in the ratio of 1:1 ratio to make it upto 0.75 gms, in this formulation the flavour of the lemonade dominated the strawberry and had strong lemonish smell.

TRIAL 2:

Content	Weight (gms)	Vendors
Anti caking agent (g)	0.03	
VM premix (g)	0.809	Spansules
MCT powder	0.3	Vital herbs
Stevia (g)	0.500	
Colour (g)	0.01	Indian platinum
Strawberry lemonade flavour	0.95	Lux
Total	2.6	

For trial 2 we added extra 0.2gms of strawberry flavor powder. It was tasty and had the perfect flavor blend and we fixed this formulation for this drink. It's color characterstic was Indian Cotton white (L165 from asian paints).

Vendor list for Electrolyte drink:

Content	Vendors	Phone Number	Sample recieved(g)	Cost/kg	COA Recieved	Vendor-2
Anti caking agent (g)		-	-	-	-	-
VM premix (g)	Spansules	7674063444		1000	yes	Bioven
Ashwagandha extract	KSM-66	40-2355-4386	-	-	-	-
Stevia (g)		-	-	-	-	-
Colour (g)	Indian platinum	9930825360	-	-	-	Kolorjet Chemicals
Vegan friendly flavour	Lux	9441236361	200	-	yes	Kerry
MCT powder	Vital herbs	8826884563	50 + 50	-	yes	Arobel INT

PROTOTYPES:

LABELS:



Batch No:
Mfg Date:
Expiry:
MRP:
 (Incl. of all taxes)



ELECTROLYTE

Drink



Black Currant

Hydration meets vitality with electrolytes

3.4 gms

NUTRITIONAL INFORMATION

Nutrients	QTY(g)	RDA%
Energy(g)	---	5.52
Protein(g)	---	13
Carbohydrate(g)	---	24
Added sugar(g)	---	---
Dietary fiber(g)	---	---
Fats(g)	---	0.9
Saturated fatty acid(g)	---	1.48
Monosaturated fatty acid(g)	---	3
Poly Saturated fatty acid(g)	---	---
Trans fatty acids(g)	---	0.15
Sodium	---	0.15

RECOMMENDED USAGE LEVEL:

Add the content to 250 ml of water and consume it.

Ingredients: Vitamins, Minerals, Black Currant flavour, Ashwagandha extract, Stevia, color
1122999000305

Manufactured by: Labriut Nutrients (OPC) Private Limited, No.8, First Floor, 1st Main Road, Govt P U College Road, Industrial Suburb, Peenya, Bangalore-560058, Karnataka, India.
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Batch No:
Mfg Date:
Expiry:
MRP:
(Incl. of all taxes)



ELECTROLYTE Drink



Strawberry lemonade

Hydration meets vitality with
electrolytes

3.4 gms

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Trans fatty acids(g)	-----	0.15
Sodium	-----	0.15



RECOMMENDED USAGE LEVEL:
Add the content to 250 ml of water
and consume it

Ingredients: Vitamins, Minerals, Strawberry
Lemonade flavour, Ashwagandha extract,
Stevia, color



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